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

Prepared for: Enviro Waste Services Group Pty Ltd

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Benbow ENVIRONMENTAL

Engineering a Sustainable Future for Our Environment

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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	R T Benbow
name	Richard T Benbow
date	16 February 2021

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STUDY TEAM

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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
Benny Chen	ML Traffic	Traffic Impact Assessment Car Parking Certification
	Baini Design	Architectural Drawings
Giulio Ranieri	Style Developments	Equipment Plan, Elevations & Sections
Geraldine Dalby-Ball Jack Hastings	Ecological Consultants Australia	BDAR Waiver
Penny McCardle	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 under DA 2013/351 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.

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 increase in 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 high throughput enabling storage quantities to remain relatively low.

A 15,000 L vehicle takes approximately 15-20 minutes to unload or load, and smaller vehicles take 5-10 minutes to unload which equates to 3-4 trucks per hour. With an unloading rate of approximately 0.01 m^3/second, at 100,000 tonnes per annum this represents approximately 32% of the time and can thus be adequately undertaken within the 24/7 operational hours.

The processing times for each waste stream are presented in the following table:

Table 0-1: Waste Stream Processing Capacity

Waste Stream	Quantity	Processing capacity	% of the year
Waste Oil J120	30,000 tpa	6 L/s	16%
Residues from Industrial Waste N205	12,500 tpa	10 L/s	4%
Surfactants	12,500 tpa	10 L/s	4%
Grease trap waste	15,000 tpa	2 L/s	23%
Sewage sludge	30,000 tpa	8 L/s	12%
Stormwater			
TOTAL	**100,000 tpa**		**59%***

***Some of these liquids are processed simultaneously however a worst case summation is shown to demonstrate that even if simultaneous processing were not possible the site has the capacity to process all liquid waste one waste stream at a time.**

The processing capacity of the equipment is presented in the following table.

Table 0-2: Processing Equipment Capacity

Equipment Processing Capacity	Maximum processing capacity	% of the year
DAF	12 L/s	26%
Primary Filtration Box	10 L/s	32%
Secondary Filtration Bin	8 L/s	40%
Shredder	20 t/hr	5%

Therefore processing the liquids can be adequately undertaken within the proposed operational hours.

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. The odour assessment is based on site specific odour measurements.

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. VOC impacts were verified by undertaking site specific VOC measurements which were then modelled and found to be below the relevant criteria.

The majority 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. The site will not receive out-of-date dairy products. The site at 16 Kiora Crescent will not receive liquid food waste with offensive odours. There is no available data for odour emission rates generated from similar product destruction facilities. The lack of publicly available data on the odour emission rates these types of liquids is testament to the low odour risk. In the event offensive odours occur from product destruction operations, the waste will immediately be removed offsite.

Odour controls are in place at 14 Kiora Crescent. 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.

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.

Odour sampling was undertaken at the facility on the 25th January 2021. Eight odour samples were taken. Odour sampling was conducted by Ektimo Pty Ltd, a NATA accredited company to ISO/IEC 17025 – Testing. Odour concentration measurements were performed using dynamic olfactometry according to the Australian/New Zealand Standard: Stationary source emissions – *Part 3: 'Determination of odour concentration by dynamic olfactometry* (AS/NZS4323.3) by The Odour Unit Pty LTD, 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 significantly below the odour concentration limit of 7 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 would be 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.

The site's stormwater system is isolated. Surface and storm waters run off the roof areas into downpipes 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 isolated stormwater gutter at the front of the property. All onsite stormwater is treated onsite through settling tanks and then the DAF (dissolved air flotation unit) before release to trade waste.

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.

Stormwater sample collection and analysis for the purposes of characterisation of water quality was undertaken on 28 July 2020. Results of stormwater characterisation showed samples below the limit of reporting (LOR) or within the adopted and selected ANZECC criteria.

The proposal does not require discharge into surface waters or to groundwater. The disposal of waste fluids unable to be further recycled or utilised would either removed offsite by tanker to a licenced waste facility for disposal or deposited into trade waste.

The site contains no natural or artificial surface waterbodies. Storm events can produce surface water that flows across the site. Potentially, such water can collect surface pollutants deposited from site operations. This water is collected within the site's isolated stormwater pits and treated onsite. Overflow events may occur during heavy rain events. These occurrences are rare (once per year) and the first flush water would be captured onsite, leaving the uncontaminated stormwater to overflow into Council's stormwater system. Furthermore, the potential for contaminated stormwater to be released from site 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.

It is noted that water sensitive urban design measures referred to in the Holroyd DCP are relevant to site's that exceed 2,500 m^2 in area. The Enviro Waste site is less than 2,500 m^2 and therefore WSUD requirements under the DCP do not apply. Compliance with Holroyd DCP, Part A, Section 7.0 Stormwater Management is presented in section 3.3.2.

TRAFFIC AND TRANSPORT

A traffic impact assessment, car parking assessment and swept paths was undertaken by ML Traffic Engineers (Appendix 5) and a brief summary of findings is provided below. Vehicles transporting waste to and from the sites typically carry between 2,000L and 15,000L. An average of 38 trucks per day is expected for both incoming and outgoing waste streams. A maximum of 3-4 trucks per hour are expected for the proposed development.

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.

Due to site constraints, truck manoeuvring on site is a key issue for the proposed development (entering and leaving in a forward direction). The following changes were made to improve the internal swept paths:

- Removing the existing demountable office building;
- Connecting the driveways of the two lots to allow greater space for vehicle turning;
- Widen the driveway at 16 Kiora Crescent to allow greater space for vehicle turning.

Vehicles can enter and leave the facility in a forward direction without reversing onto the street. Widening of the driveway at 16 Kiora Crescent will avoid trucks needing to encroach on the nature strip and will be only on the driveway. Trucks only need to reverse onto Council land from 14 Kiora Crescent. Low pedestrian traffic is evident in this industrial area and cul-de-sac street, therefore, the safety risk is considered to be low.

Off-site truck parking is available at 27-49 Nelson Road, Yennora. The bunded rear external area at 16 Kiora Crescent will be used as a truck waiting bay for two trucks to assist in preventing queuing on the street. In addition a traffic management plan (Appendix 5) has been prepared to manage traffic and schedule trucks such that vehicle arrivals are staggered.

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.

An incoming waste procedure is provided in section 8.5.3.1.

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

An Aboriginal Cultural Heritage Assessment Report is provided as part of the EIS in Appendix 6.

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. This occurred over a number of weeks via email and phone calls in regards to various issues that were raised.

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 during the community consultation process.

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.

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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 under DA 2013/351 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 at the adjacent site at 16 Kiora Crescent. 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.

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 existing liquid waste recycling facility located at 14 Kiora Crescent, Yennora, and expansion to include 16 Kiora Crescent, with the entire 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 product destruction operation within the building at 16 includes receiving out-of-date liquids (food waste), shampoo/liquid soaps, shoes, clothes and makeup. The operational activities undertaken include:

- Unloading waste from pallet trucks;
- Separate liquids from packaging using a shredder; and
- Separating waste streams, liquids into IBCs and solids into designated bins.

The EIS addresses the requirements of the NSW Department of Planning Industry and Environment, NSW Environment Protection Authority, Environment Energy and Science Group, Transport for NSW, Cumberland Council and Fire and Rescue NSW.

1.2.1 Objectives of the Proposal

The main objective of the proposal is to increase the resource recovery facility's 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;
- Provide a service that allows for the collection and treatment of liquid waste from businesses within the Sydney Metropolitan and some regional areas; 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. Further discussion on market demand is provided in Section 15.1.

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.

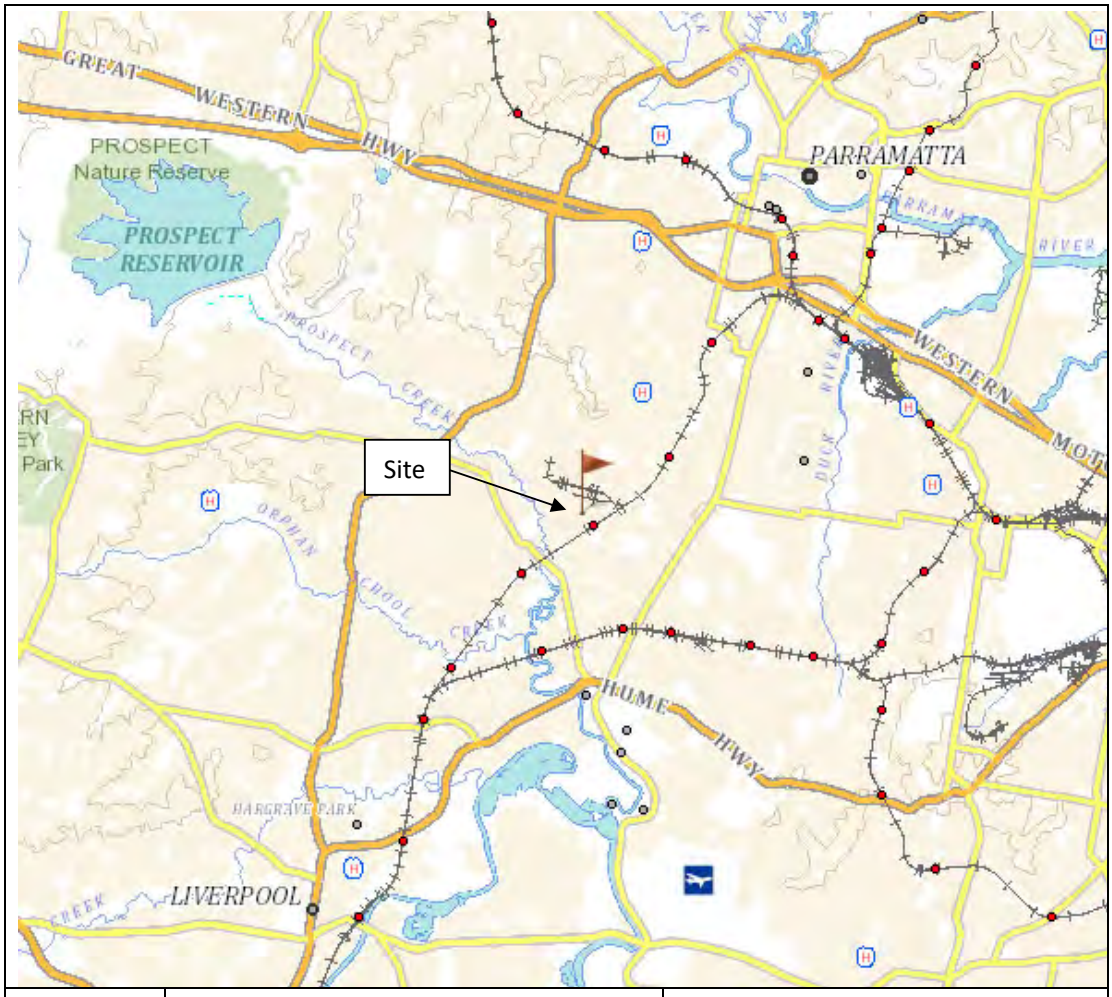
2. LOCATION AND SETTINGS

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.

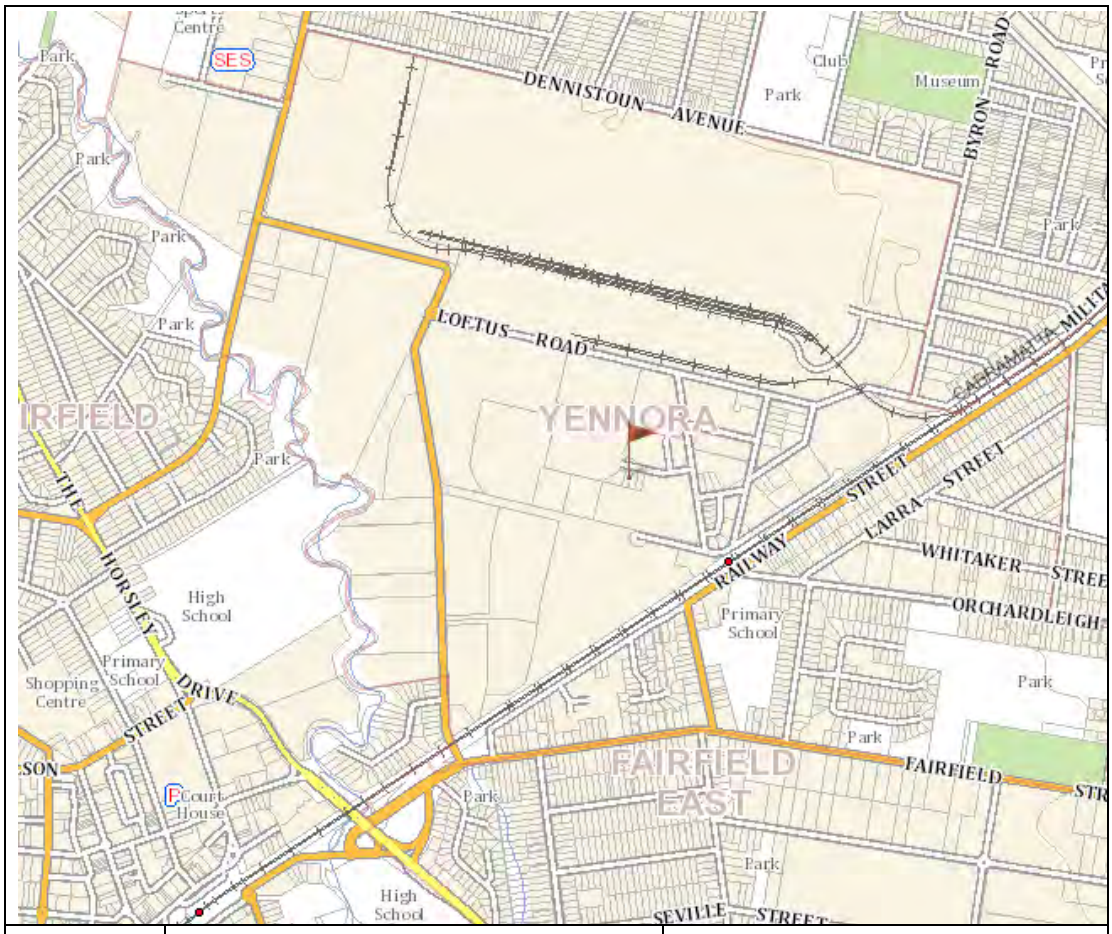
Figure 2-1: Site Location in a Regional Context



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
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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

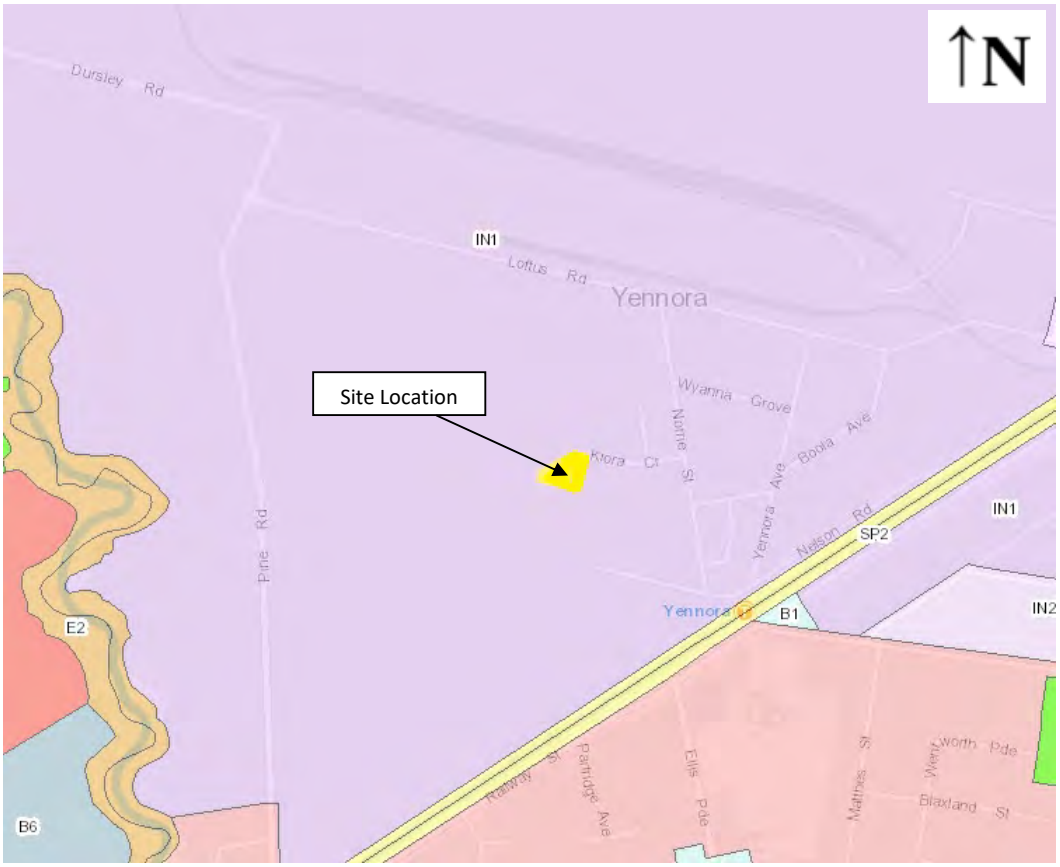
Both land parcels are situated in the IN1 – General Industrial land use zoning under the Holroyd LEP 2013 as shown in Figure 2-5.

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 Crescent 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 at 27-49 Nelson Road, Yennora.

Cumberland Council has visited the site of the proposed developments on 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 employees' jobs were terminated. It is also noted that additional machinery was located on 16 Kiora Crescent that is not included in the scope of this DA; this equipment has been removed offsite and use of this 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 water table, 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). An EPL Variation will be sought. This would include variation to the waste processing and storage quantities, waste types and change to the site address to include 16 Kiora Crescent.

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. Liquid waste treatment is inherently within the public interest as it is a basic service necessary for the ongoing operations of the state. Without waste facilities such as the proposed development waste would have to transported further and further away, encouraging illegal dumping.

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

Table 3-2: State and Regional Environmental Planning Policies

Policy	Comments
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
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, wastewater, 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. It is noted that water sensitive urban design (WSUD) measures referred to in the Holroyd DCP are relevant to site's that exceed 2,500 m^2 in area. The Enviro Waste site is less than 2,500 m^2 and therefore WSUD requirements under the DCP do not apply. Stormwater management is addressed in the following table (Table 3-6).
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		

Table 3-5: Holroyd DCP Requirements

Requirements	Compliance	Comments
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.
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.

Compliance with Holroyd DCP, Part A, Section 7.0 Stormwater Management is achieved and is demonstrated in the table below.

Table 3-6: Compliance with requirements of Holroyd DCP Part A, Section 7.0 Stormwater Management

Requirement	Comment	Complies?
7.1 Roof and Surface Water		
C1. Design the eave, gutter and downpipe systems to prevent overflows for storms up to the 5% Annual Exceedance Probability (AEP) storm event.	The buildings on site are already existing and no changes are proposed.	Yes

Requirement	Comment	Complies?
C2. Design box gutter and downpipe systems to prevent overflows for storms up to the 1% AEP storm event. Council's on-site detention policy may also require a design standard for storms up to the 1% AEP storm event.	Therefore these requirements are not relevant.	
C3. Discharge the drainage system to an open-grated surface inlet pit and then into Council's drainage system.		
C4. Design stormwater drainage pipelines to the following minimum standards:		
C5. Pits shall be installed to facilitate maintenance of stormwater pipes, orifice plates, and debris screens. Cleaning eyes will be permitted at pipe junctions, pipe change in direction or reflux valves.		
C6. All drainage systems draining to Council's drainage system or to a public road must have a grated drainage pit of not less than 450mm x 450mm within the site over the outlet pipe and adjoining the site boundary.	The drainage system does not drain to Council's drainage system or a public road.	Yes
C7. Runoff, whether generated on-site or by upstream properties, shall not be obstructed or redirected so as to alter flow distributions and velocities to the detriment of any other property.	Runoff is directed back into the facility.	Yes
C8. Where the efficiency of an existing drainage system (as outlined within Council's works specification for subdivisions and development) on the property will be compromised by the proposed development, modify the existing system to comply with this part of the DCP and to offset any adverse impacts.	There will be no changes to the existing buildings on site and negligible change to the impermeable site surfaces. The stormwater infrastructure does not need to be modified for the proposed development	Yes
C9. Mechanical means, such as pump out systems, will not be permitted for discharge of roof and surface water.	There is no pump out system proposed.	Yes
7.2 Stormwater Drainage-Acceptable Systems – Development Controls		
C1. Gravity fed drainage systems, consisting of a combination of underground pipes/conduits (i.e kerb and gutter etc) shall be implemented to discharge stormwater from a site. This may include discharge to natural watercourse or creek	Stormwater is not discharged from the site.	Yes
C2. Where a site slopes away from the street, drainage shall occur through access to, or the creation of, an easement to enable inter allotment drainage through properties downstream (i.e via gravity).	The site does not slope away from the street.	N/A

Requirement	Comment	Complies?
C3. Charged Systems are only acceptable for minor development types such as garages, shed, single and secondary dwellings and dual occupancies (not subject to OSD), where attempts to gain access to an easement for a gravity fed system have been unsuccessful, and subject to criteria in Section 7.3.	Not applicable	N/A
C4. Pump systems are permitted for basement car parks, for seepage and runoff from access ramps, and subject to criteria in Section 7.3.	Not applicable	N/A
7.3 Stormwater Drainage-Technical – Gravity Systems		
C1. Stormwater outlets discharging to the public road shall generally do so in front of the development site or to a point on the kerb requiring a pipeline less than 45 degrees relative to the front property boundary alignment.	Stormwater does not discharge to the public road.	N/A
C2. Stormwater outlets shall not be permitted to cross a public road. However, consideration may be given to the extension of Council's stormwater system to the site frontage, subject to compliance with the preceding clause.	There is no stormwater outlet.	N/A
C3. Discharge to a suitable natural watercourse or creek may be allowed subject to approval by Council. Approval and compliance with the standard guidelines from the NSW Office of Water and The NSW EPA are also required.	Not applicable	N/A
C4. Where stormwater is to discharge into a natural watercourse, bushland, or open space, full details of the proposed method of stormwater discharge shall be supplied to Council detailing the means of preventing scouring or erosion at the point of discharge.	Not applicable	N/A
7.3 Stormwater Drainage-Technical – On-site detention		
C5. On-site detention systems shall be provided for all new developments, except for single dwellings, extensions, additions and improvements on existing single residential lots.	The site is not a new development. Infrastructure already exists.	N/A
C6. Despite C5, on-site detention shall be required for development associated with single dwellings where this is specified by a restriction on the title of the property (generally only lots created after 1991) or where the impervious area of the site is increased beyond that permitted for single dwellings by this DCP.	Not applicable	N/A
C7. Any agreement, covenant or similar instrument which would otherwise prohibit or restrict an on-site detention system required by this DCP, does not apply.	Not applicable	N/A

Requirement	Comment	Complies?
C8. Fully documented On-Site Detention (OSD) drawings, prepared by a suitably qualified person, shall be submitted with the development application, along with a completed Holroyd City Council On-Site Detention drawing submission checklist.	Not applicable. OSD not required.	N/A
C9. Upon completion of a site stormwater drainage system and prior to occupation of the development, a suitably qualified and registered engineering consultant must certify that the stormwater system has been constructed and can be maintained in accordance with the approved design.	Not applicable. System exists.	N/A
C10. Where an on-site detention system is required, a restriction on use of land and positive covenant shall be registered on the title of the subject property, requiring that the on-site detention system constructed on the site: (i) not be altered, unless approved by Council; and (ii) (ii) be maintained in good working order.	Not applicable. OSD not required.	N/A
7.3 Stormwater Drainage-Technical – Charged Lines		
Not applicable		
7.3 Stormwater Drainage-Technical – Pump systems		
Not applicable		
7.3 Stormwater Drainage-Technical – General		
C13. Development shall not take place on any land unless arrangements satisfactory to the Council have been made for the carrying out of drainage works, on or for the land.	No drainage works is proposed	N/A
C14. Where development increases the flow of stormwater from the site, Council may require the upgrading / augmentation of the existing downstream drainage system, dependent upon the scale of the increase. This may be in the form of actual construction work to be carried out by the developer at the time of development, or in the form of a contribution to be determined by Council at the development application stage.	Stormwater is not released from the site. Therefore this is not applicable	N/A
C15. A hydraulic analysis may be required, to demonstrate that the development will not adversely affect any existing overland flow paths, if the development has: i) existing public drainage structures within the site; ii) ii) or existing public drainage structures on an adjoining property; iii) iii) or the site is located wholly or partially within a natural overland flow path	Not applicable.	N/A

Requirement	Comment	Complies?
C16. On sites where localised flooding has occurred, submission of a "stormwater master plan" may be required.	The site is not flood affected.	N/A
C17. Where a site includes either an existing or a proposed overland flow path, register a restriction on use of land and a positive covenant on the title of the subject property.	The site does not include an overland flow path.	N/A
C18. Stormwater quality control measures shall be provided in accordance with the current version of Council's Stormwater Management Plan.	Stormwater measures are included in the EIS.	Yes
C19. Where a stormwater quality control system is required under Council's Stormwater Management Plan, a restriction on use of land and positive covenant shall be registered on the title of the subject property requiring that the stormwater quality control system: i) not be altered, unless approved by Council; and ii) ii) be maintained in good working order.	A copy of Council's Stormwater Management Plan is not provided on Council website.	N/A
C20. Approval of engineering drawings and specifications for the construction of any stormwater drainage line will be required prior to release of development consent. Council will require the payment of a checking and inspection fee, which will be determined prior to release of development consent	A stormwater drainage line is not proposed.	N/A
C21. All engineering works, including those within public property, shall be designed and undertaken in accordance with the relevant aspects of the current version of Holroyd City Council's Specification for Subdivisions and Developments.	No engineering works are proposed.	N/A
C22. Where stormwater drainage is being constructed on public land, Council easements or adjoining private property, a bond and/or bank guarantee shall be lodged to cover that construction. The amount of the bond will be determined at the development application stage and payment is to be made prior to the release of the construction certificate.	Construction of stormwater drainage is not proposed.	N/A
7.4 Easements		
C1 – C8	Not applicable. There are no drainage easements on the site.	N/A

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. Details of the traffic issues raised by council are addressed in section 9.4.4.

- 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

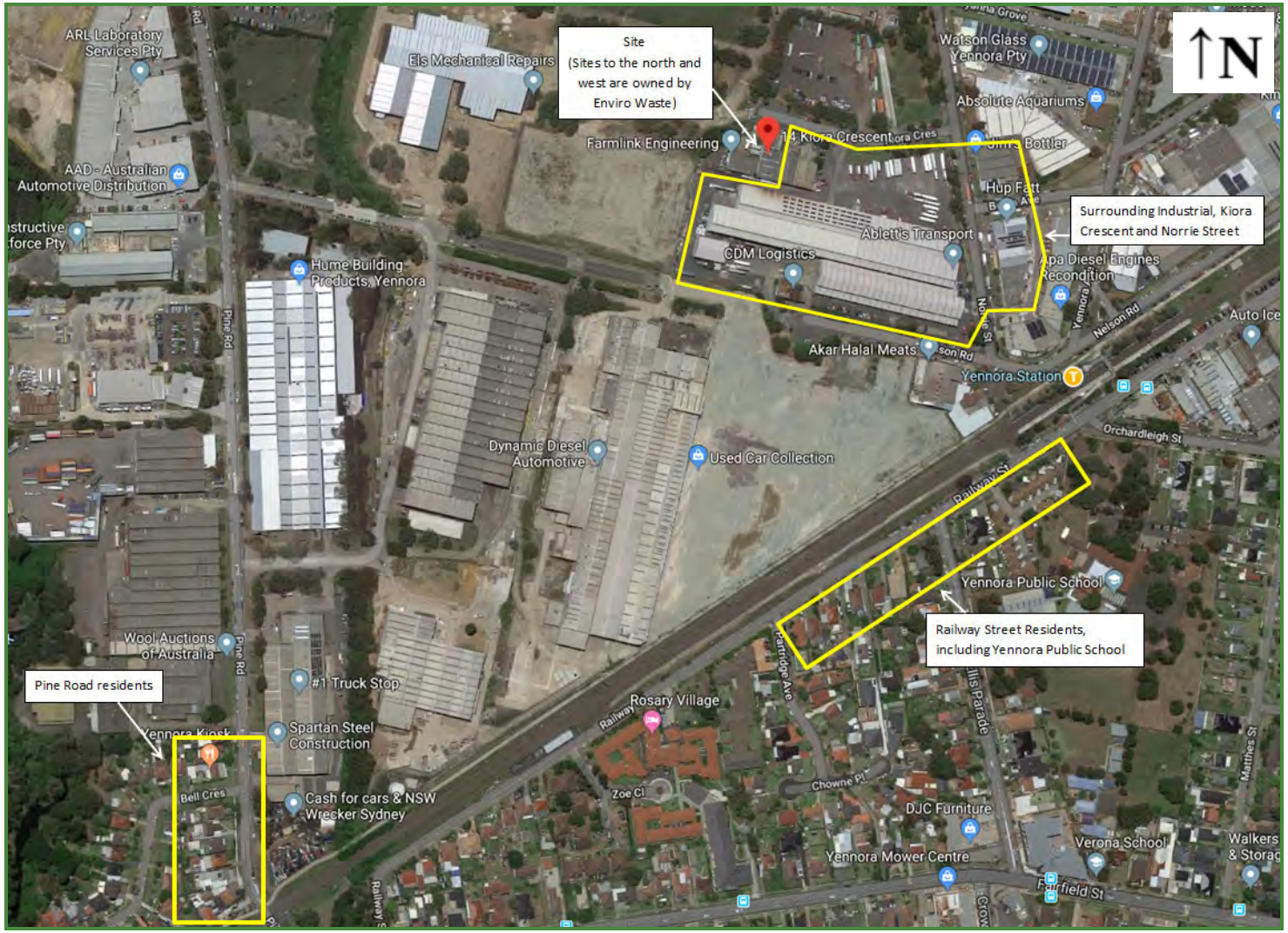
4.2 COMMUNITY CONSULTATION

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 NSW, 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 5-2 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	8-24
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 maneuvering 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	8-48
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	8-45

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	1-3
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	5-8
• 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	5-16

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	5-8
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	8-24 8-44

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 exceedances.	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.	6.3	6-4
• 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.	8.3	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 water table, 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 wastewater treatment measures that are appropriate to the type and volume of wastewater and are based on a hierarchy of avoiding generation of wastewater; 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	8-24

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	8-24

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 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 a 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	8-44

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 Crescent, 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	8-24

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	12-5
Trade Waste Agreement		
It is unclear whether the current trade waste agreement with Sydney Water accurately reflects the wastewater 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 riverbanks 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 under DA 2013/351 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. It is the intention to surrender existing council consent should the proposed development be approved.

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 increase in 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 high throughput enabling storage quantities to remain relatively low.

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 15,000 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.

A 15,000L vehicle takes approximately 15-20 minutes to unload or load, and smaller vehicles take 5-10 minutes to unload which equates to 3-4 trucks per hour. With an unloading rate of approximately 0.01 m^3/second, at 100,000 tonnes per annum this represents approximately 32% of the time and can thus be adequately undertaken within the 24/7 operational hours.

The processing times for each waste stream are presented in the following table:

Table 5-1: Waste Stream Processing Capacity

Waste Stream	Quantity	Processing capacity	% of the year
Waste Oil J120	30,000 tpa	6 L/s	16%
Residues from Industrial Waste N205	12,500 tpa	10 L/s	4%
Surfactants	12,500 tpa	10 L/s	4%
Grease trap waste	15,000 tpa	2 L/s	23%
Sewage sludge	30,000 tpa	8 L/s	12%
Stormwater			
TOTAL	**100,000 tpa**		**59%***

***Some of these liquids are processed simultaneously however a worst case summation is shown to demonstrate that even if simultaneous processing were not possible the site has the capacity to process all liquid waste one waste stream at a time.**

The processing capacity of the equipment is presented in the following table.

Table 5-2: Processing Equipment Capacity

Equipment Processing Capacity	Maximum processing capacity	% of the year
DAF	12 L/s	26%
Primary Filtration Box	10 L/s	32%
Secondary Filtration Bin	8 L/s	40%
Shredder	20 t/hr	5%

Therefore processing the liquids can be adequately undertaken within the proposed operational hours.

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).

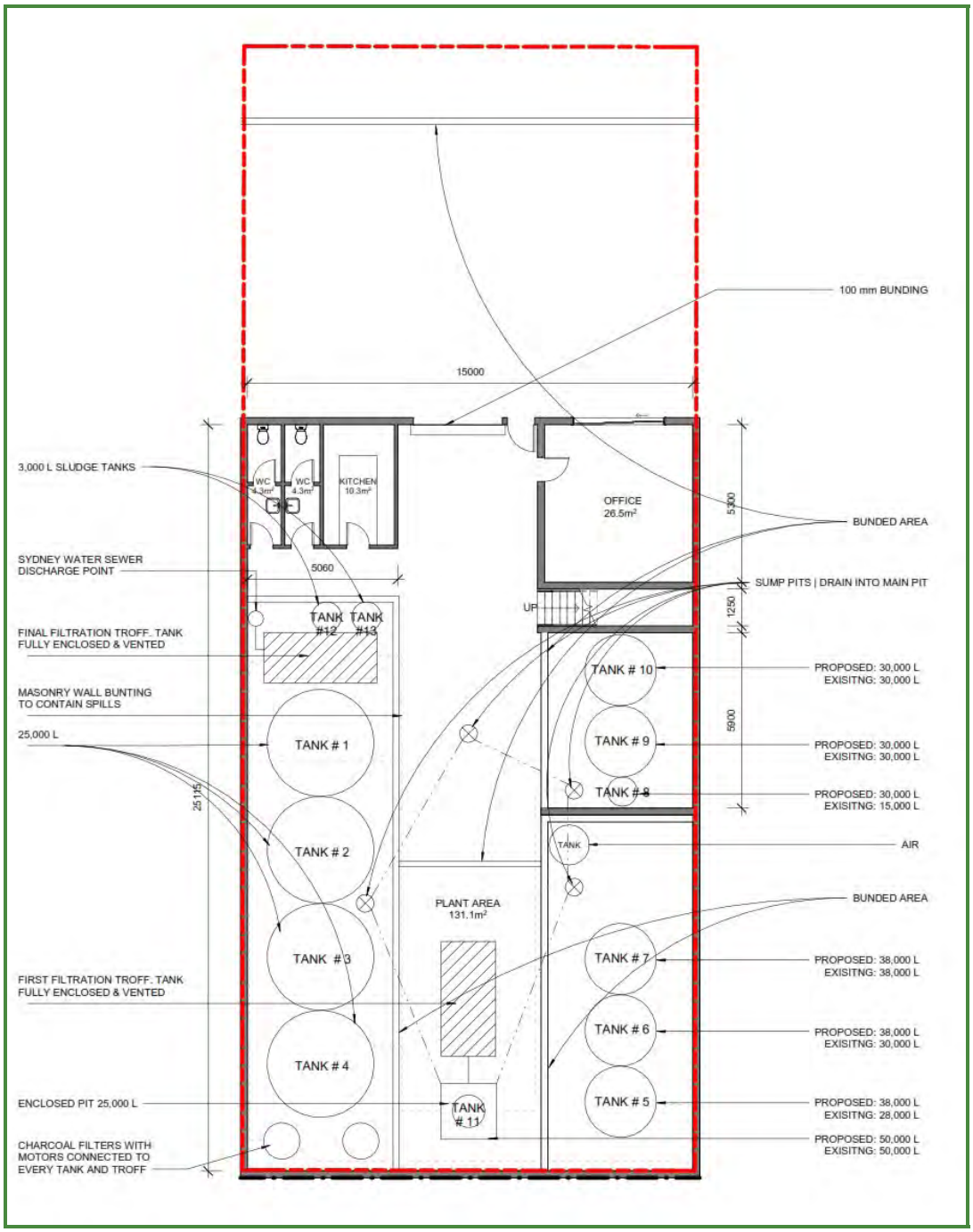
The operation of the facility involves the following activities to be undertaken on site:

- 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 Crescent 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)

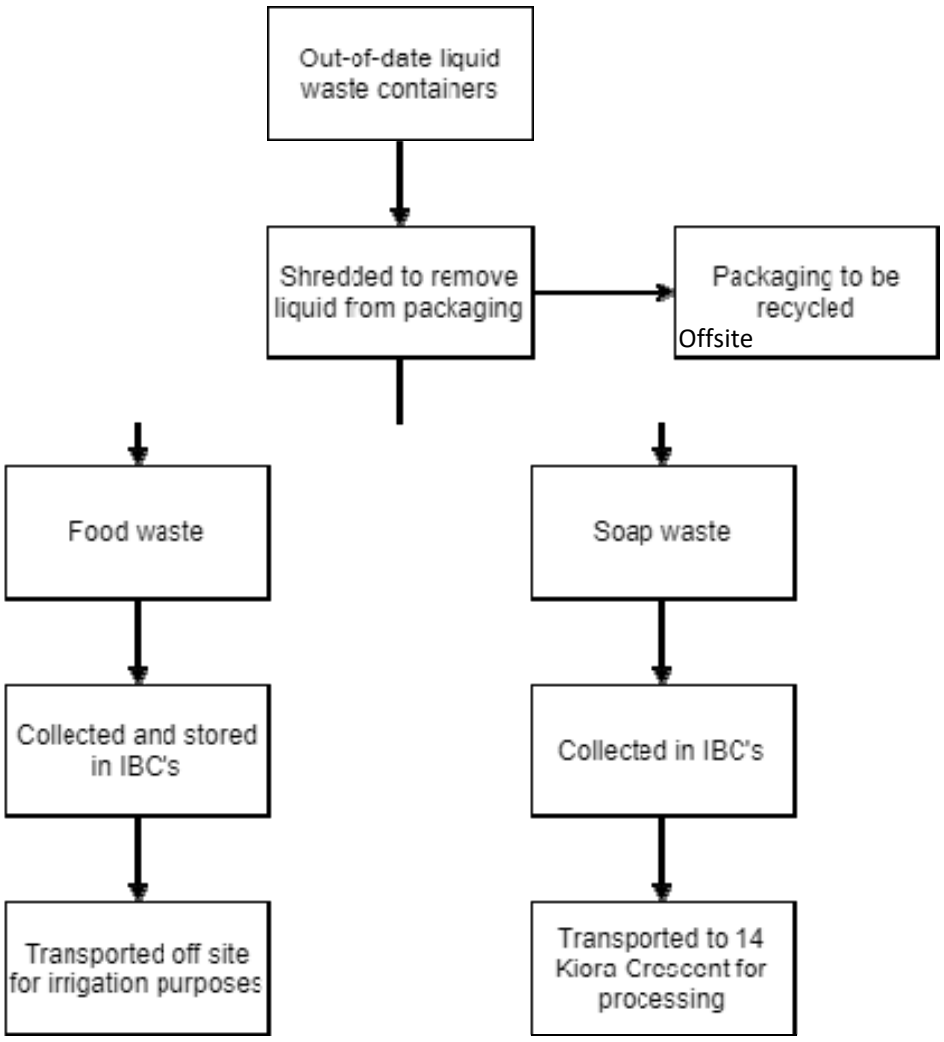
- Plastic: 950
- Cardboard: 950
- Aluminium: 950
- Liquid food waste: 4,600
- Liquid waste (other – for processing at 14 Kiora Crescent): 1,100
- Steel: 450
- Timber: 250
- Glass: 450
- Cloth: 200
- General solid waste: 100
  Total: 10,000

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.

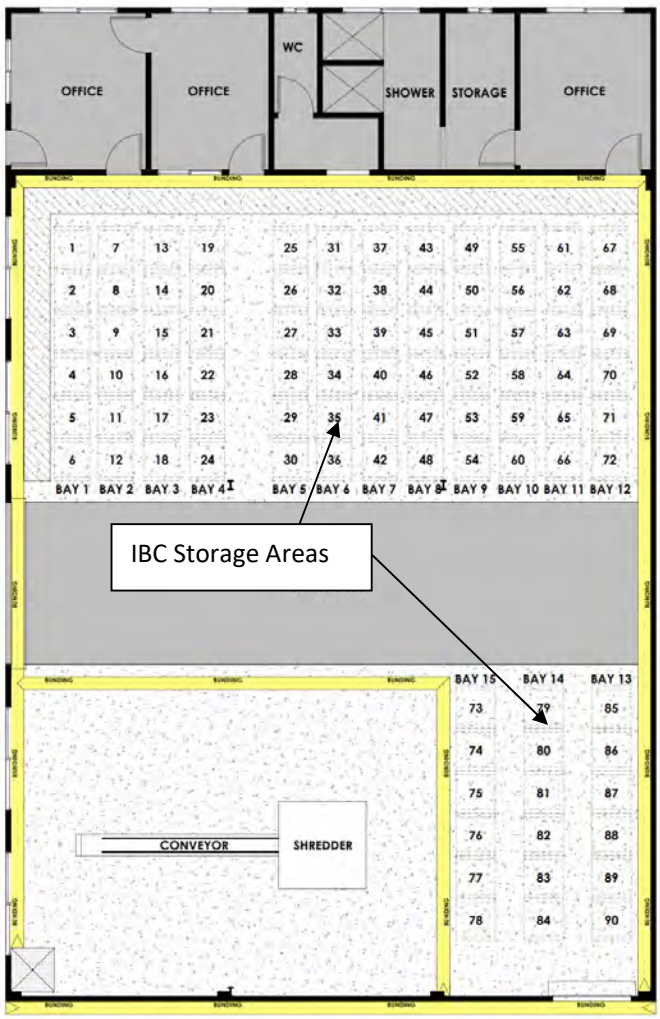
Car parking currently provided on 14 Kiora Crescent is impractical as truck paths cross car parking spaces. Car parking would be provided for the development at 16 Kiora Crescent. A bunded truck waiting bay would be established at the rear of 16 Kiora Crescent with ample room for two 10 metre rigid trucks to wait.

IBCs containing liquids to be transferred from 16 Kiora Crescent to 14 Kiora Crescent for further processing would be delivered via forklift. The transit path would be over the hardstand area in front of the buildings located at 14 and 16 Kiora Crescent. The quantity of waste anticipated to be transferred is a maximum of 1,100 tpa which is an average of 3 IBCs per day. There is ample IBC storage space at 16 Kiora Crescent to allow for flexible transfer of IBCs. Enviro Waste will

prioritise heavy vehicle movements over IBC transfer. IBC transfer between buildings will only occur when there are no trucks on site and when there are no scheduled trucks to come on site. This will cause minimal impact to incoming/outgoing heavy vehicles.

The proposed 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 Crescent Ground Floor Plan;
- 16 Kiora Crescent Ground Floor Plan;
- 14-16 Kiora Crescent Site Plan;
- 14-16 Kiora Crescent Drainage Plan;
- 14-16 Kiora Crescent Swept Paths;

- 16 Kiora Crescent Equipment Floor plan;
- 16 Kiora Crescent Sections; and
- 16 Kiora Crescent Equipment Elevations

5.4 CONSTRUCTION WORKS

No excavation or extensive construction work is necessary for the proposed development. The demountable building would be removed from 16 Kiora Crescent and this area would be sealed with concrete. 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 5-3 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.

The building works associated with the proposed development that are required to be completed includes:

- Upgrades to liquid waste storage tanks – Tanks 5, 6 and 8 would be replaced with larger tanks (see table 5-1 of the EIS);
- Removal of demountable structure;
- Works to fully seal hardstand area beneath demountable structure;
- Installation of rainwater tanks;

The works that have been completed at 16 Kiora Crescent include:

- Installation of shredder equipment;
- Internal and external concrete bunding.

Note: While this work has been completed it still requires approval and has been included in the QS report as requested by DPIE in an email dated 3/12/2020.

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 trade waste 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.

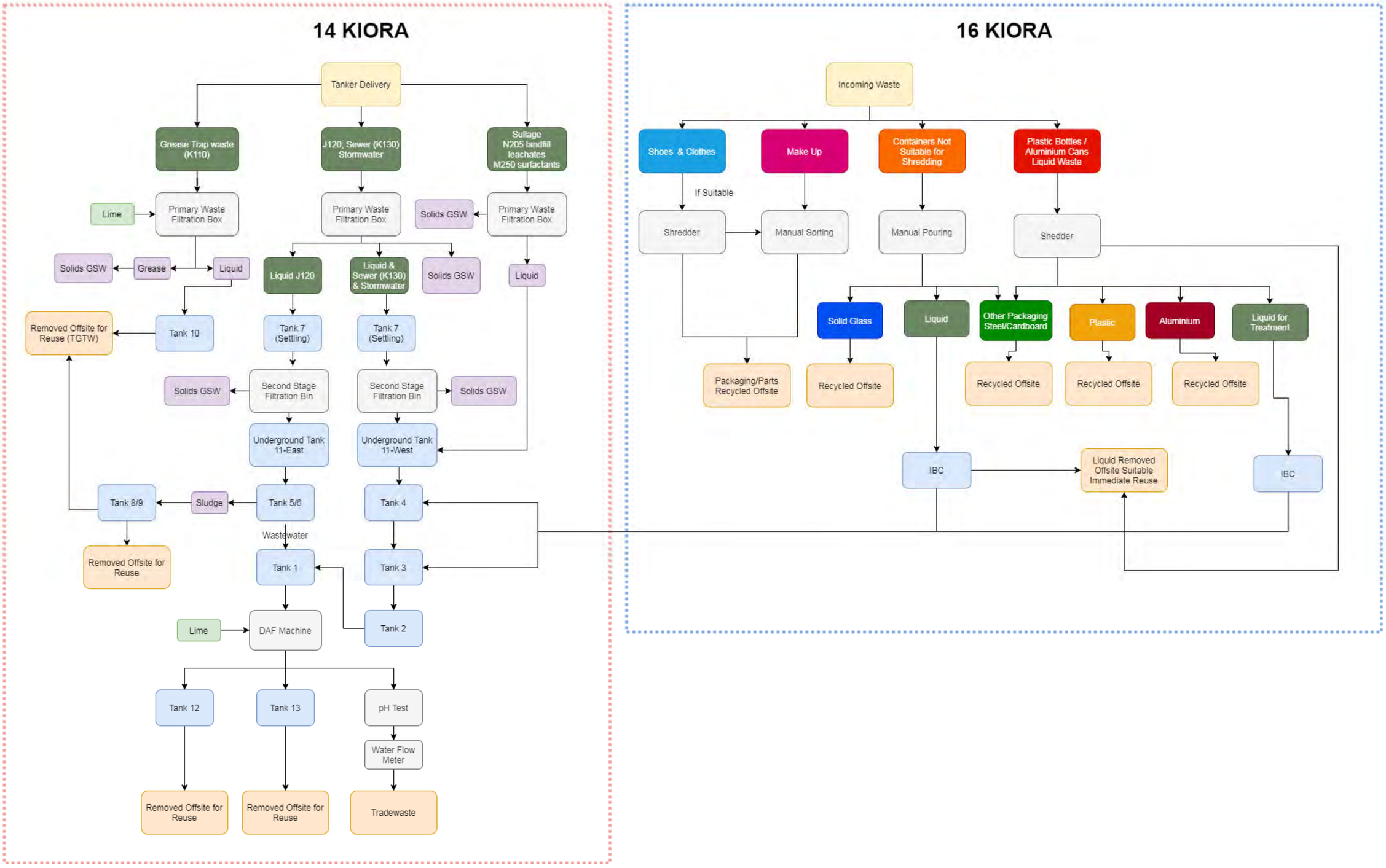
6. Before final treatment, the majority of the waste liquid destined for trade waste is pumped from the storage tanks into the DAF (Dissolved air flotation) which separates the solid and remaining oil from the water.

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 5-3: 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 5-3: 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 Trade waste 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

5.9.2.1 Existing Operational Hours

The current operational hours are:

7am to 7pm Monday to Friday, 7am to 12noon on Saturday with no work on Sunday.

5.9.2.2 Proposed Operational Hours

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. The site will employ 5 full time staff for the proposed development. These employment numbers do not include truck drivers. 7 truck drivers will also be employed.

Shift hours across the proposed 24/7 operations are expected to be:

- Morning Shift: 5am to 1pm;
- Afternoon 1pm to 7pm; and
- Night shift. 7pm to 5am. Night shift is typically maintenance and cleaning.

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. Trucks will enter the site via 16 Kiora Crescent only and exit via 16 or 14 Kiora Crescent. Cars will enter and exit via 16 Kiora Crescent.

A traffic impact assessment and car parking report was undertaken by ML Traffic Engineers, and a Traffic Management Plan was undertaken by BE these are included in Appendix 5. 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 majority of truck movements would be within the 6am to 7pm timeframe. Grease trap trucks would typically access the site between 12am to 4am. 4 trucks per hour is peak vehicle movements. If this were to occur every hour for a 24 hour period every day of the year the site would be processing 310,000 tpa (approximately 3 times the amount the site is seeking for approval). In reality the following average distribution would be typical of a standard 24 hour period which if distributed over the site's existing fleet would result in an 110,000 tpa.

Table 5-4: Truck Distribution

Time	Incoming trucks per hour	Outgoing trucks per hour
1:00	0.25	0.25
2:00	0.25	0.25
3:00	0.25	0.25
4:00	0.5	0.25
5:00	0.5	0.25

Table 5-4: Truck Distribution

Time	Incoming trucks per hour	Outgoing trucks per hour
6:00	1	0.25
7:00	1	0.25
8:00	2	0.25
9:00	2	0.5
10:00	2	0.5
11:00	2	0.5
12:00	2	0.5
13:00	2	0.5
14:00	2	0.5
15:00	2	0.5
16:00	2	0.5
17:00	2	0.5
18:00	2	0.25
19:00	1	0.25
20:00	1	0.25
21:00	1	0.25
22:00	0.5	0.25
23:00	0.5	0.25
0:00	0.25	0.25
Total	30	8.25
		38

Therefore, there would be 38 truck trips per day, with a maximum peak of 4 trucks in an hour. The facility would implement a truck scheduling procedure which would include a booking system for loads to be brought to the site to enable an even distribution of truck arrivals throughout the day to avoid queueing on the street. A truck waiting bay is to be established at the rear of 16 Kiora Crescent which would provide space for two 10 metre rigid trucks to wait if needed.
Meticulous consideration was given to truck access and manoeuvring on site to provide the most effective outcome and this is further discussed in Section 9.4.

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 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 27-49 Nelson Road, Yennora NSW, however as this will be a leased site this may change in the future. Approval would be sought as required.

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 processes 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 it is 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 treats liquid wastes. The site generates wastewater disposed of as trade waste and waste solid material from filter/separators. Waste is 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 principles 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

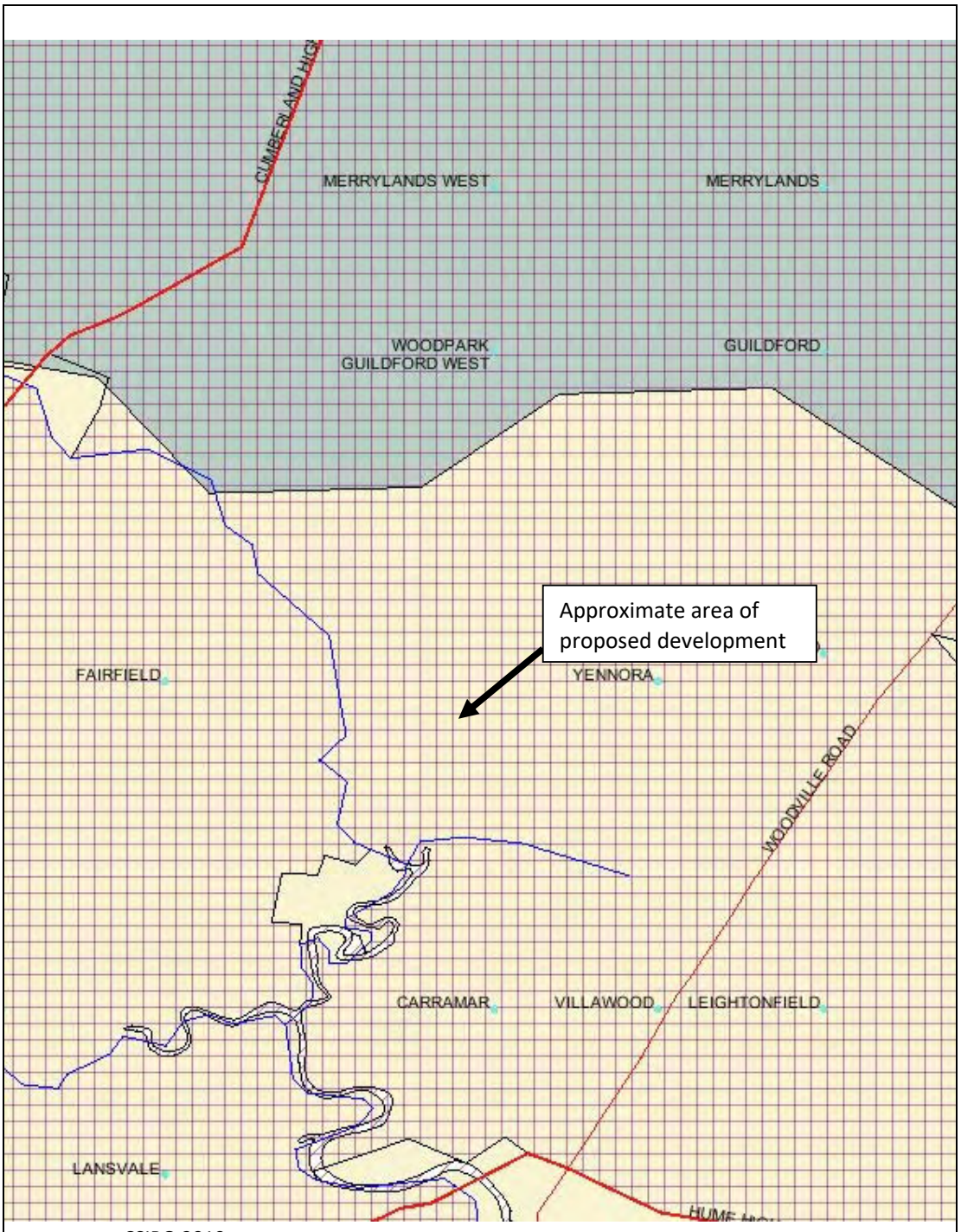
Acid Sulfate Soils are naturally occurring soils and sediments that formed under waterlogged conditions. They contain iron sulfide (predominantly pyrite), when water logged, or in an anoxic environment, ASS remain benign. However, if drained, excavated or exposed to air by a lowering of the water table, 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



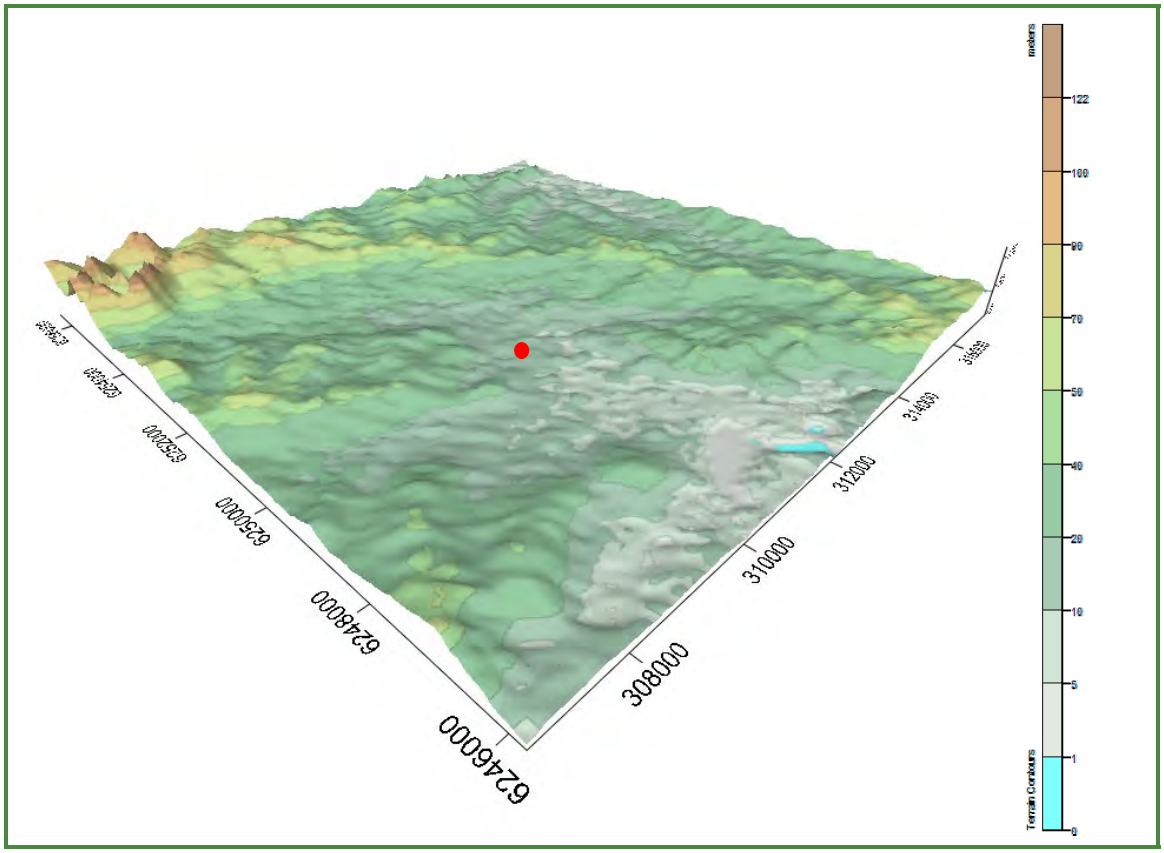
Source: ASRIS CSIRO 2019

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).

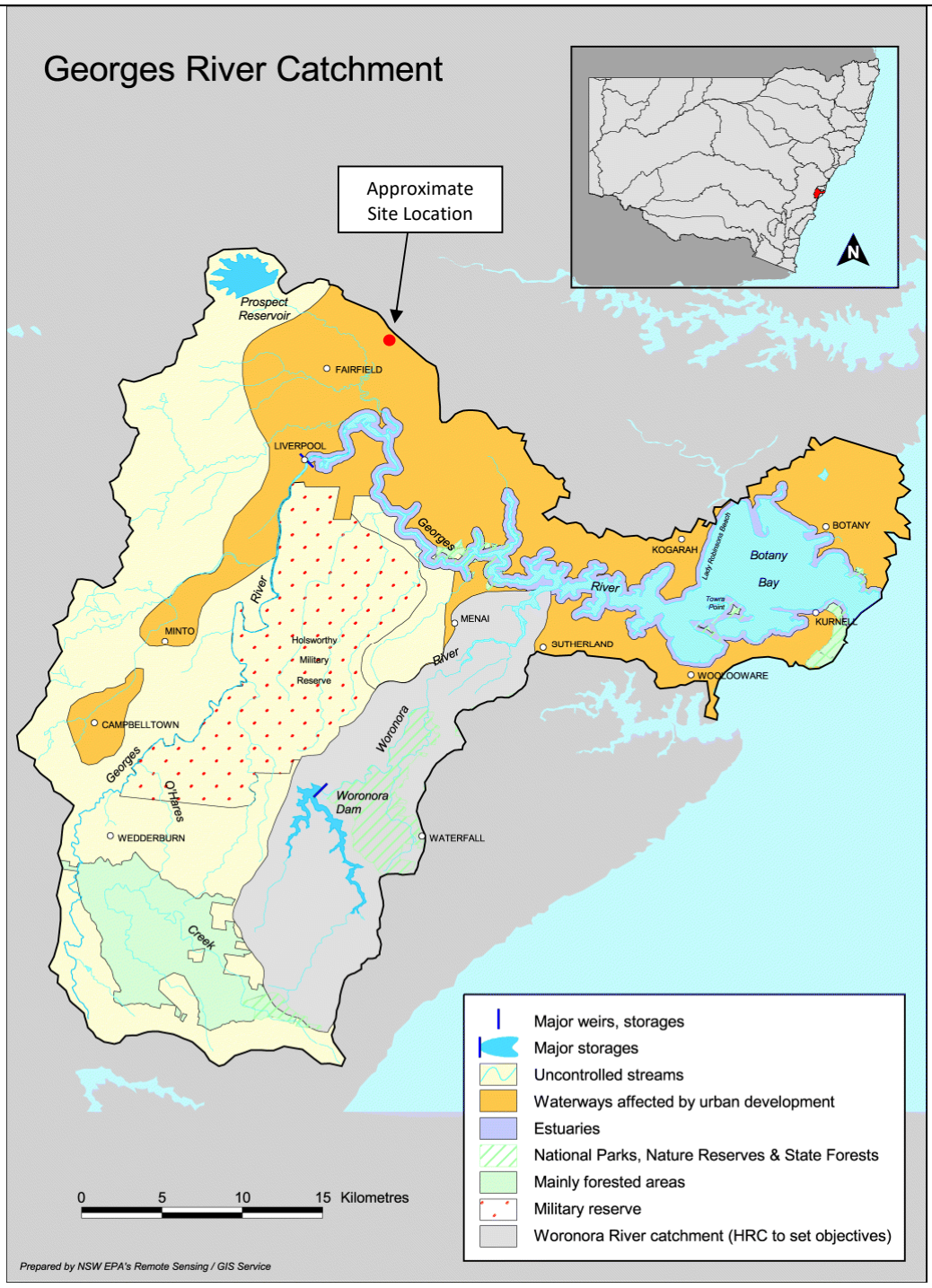
Figure 6-3: Nearest Waterways



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.

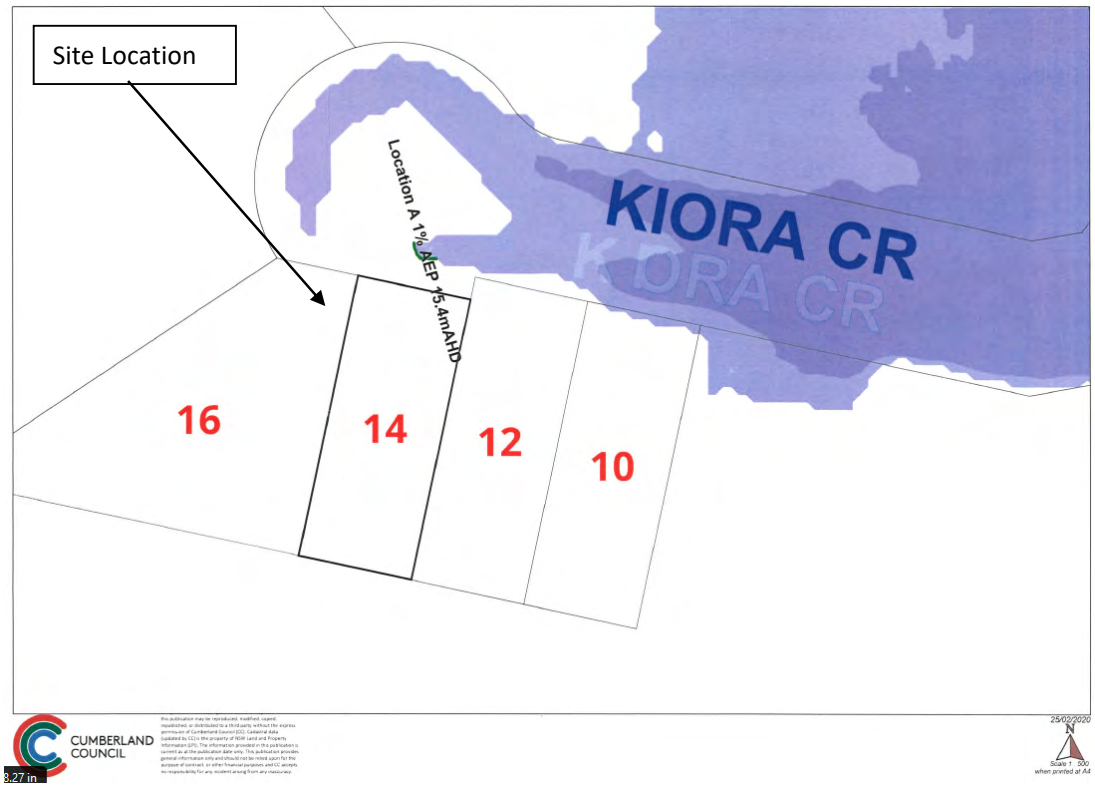
6.3.3 Flooding

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.

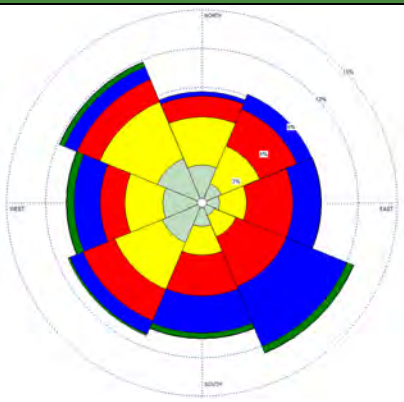
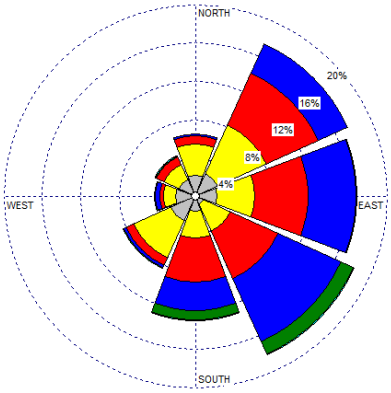
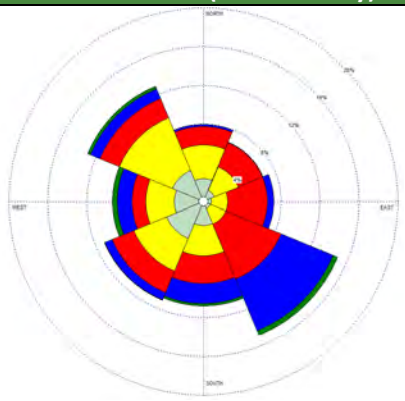
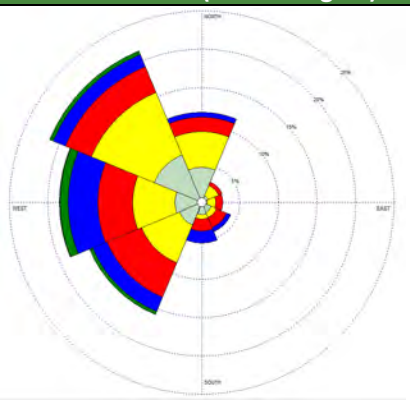
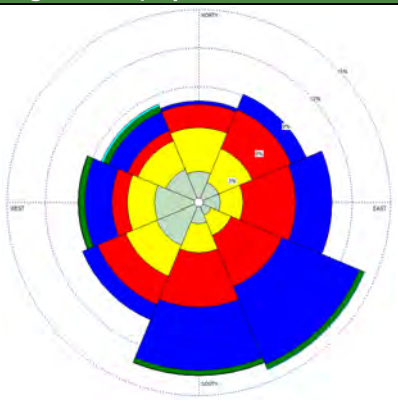
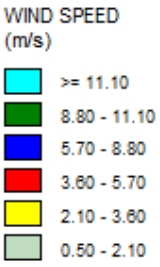
The average summer wind speed was estimated to be 3.68 m/s, with a calms frequency of 11.21%. North-easterly and south-easterly winds were found to be dominant both at a frequency of around 18%. Winds from the east were found to be present for approximately 16% of the time while the remainder of the 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. The odour assessment is based on site specific odour measurements. 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. VOC impacts were verified with site specific VOC measurements which were modelled and found to be below the relevant approved methods criteria.

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.

The site will not receive out-of-date dairy products. The site at 16 Kiora Crescent will not receive liquid food waste with offensive odours. There is no available data for odour emission rates generated from similar product destruction facilities. The lack of publicly available data on the odour emission rates these types of liquids is testament to the low odour risk. In the event offensive odours occur from product destruction operations, the waste will immediately be removed offsite.

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)).

Within the 2 OU contour there are 0 houses and therefore a population of 0. Therefore an odour concentration criterion of **7 OU/m^3** for residences ≤ ≈ 2 has been considered to be applicable.

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.

Odour sampling was undertaken at the facility on the 25th January 2021. Eight odour samples were taken. Odour sampling was conducted by Ektimo Pty Ltd, a NATA accredited company to ISO/IEC 17025 – Testing. Odour concentration measurements were performed using dynamic olfactometry according to the Australian/New Zealand Standard: Stationary source emissions – *Part 3: 'Determination of odour concentration by dynamic olfactometry* (AS/NZS4323.3) by The Odour Unit Pty LTD, 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 significantly below the odour concentration limit of 7 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.

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:

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

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 $CO_{2\text{-}e}$)
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 $CO_{2\text{-}e}$)
	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. There are no discharge points to natural waterways. Stormwater on site is isolated. Stormwater captured in the pits is processed through the facility.

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.

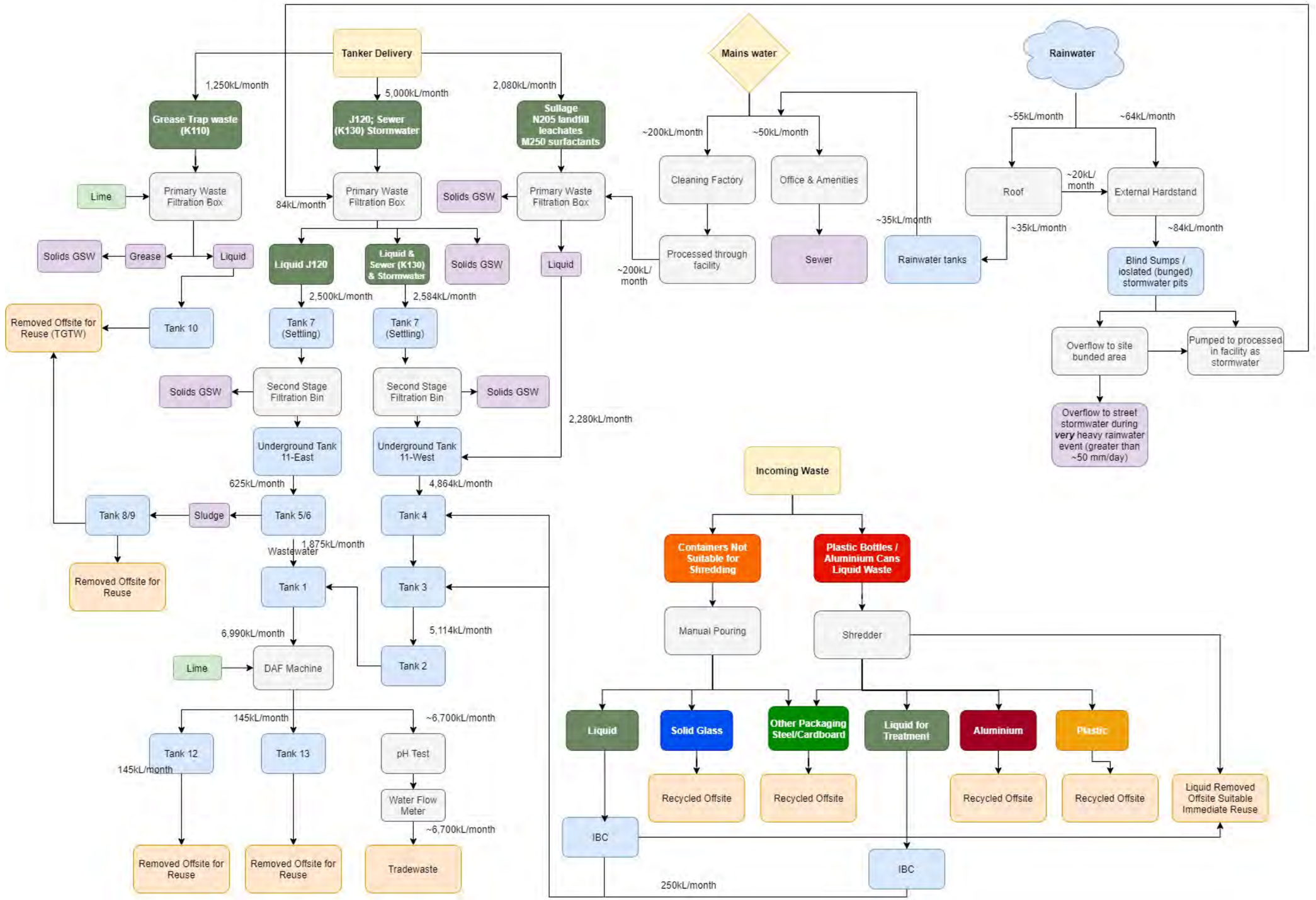
The subject site is situated within "Moderate Salinity Potential" zoned land. All proposed processing operations will take place within the existing buildings. The proposed increase in waste liquid capacity will not contribute to any increase in soil salinity as there is no pathway (exposed soil) onsite 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 in relation to flooding.

8.3.1 Site water balance

The water usage from the site is based on 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 trade waste.

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 pollutants to be released onsite through spills or leaks from operational activities such as, filtering, transfer or storage processes. 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 trade waste 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. All stormwater pits on site are isolated from the Council stormwater system. Stormwater collecting in pits on site is treated on site. The risk for contaminated stormwater to pollute nearby waterways and groundwater is extremely low.

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 Crescent and one sample from 16 Kiora Crescent.

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 are 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. Stormwater overflow into the Council's street system is a rare occurrence and may occur during an extreme weather event. During such an event, the majority of first flush stormwater would be captured and treated on site and the remaining clean overflow may on a rare occasion enter the street system. Based on water characterisation results, pollution to waterways is not expected to result. This is described further in the following sub-section.

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 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 then discharged to trade waste. 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. During such an event, the majority of first flush stormwater would be captured and treated on site and the remaining clean overflow may on a rare occasion enter the street system. Based on water characterisation results, pollution to waterways is not expected to result.

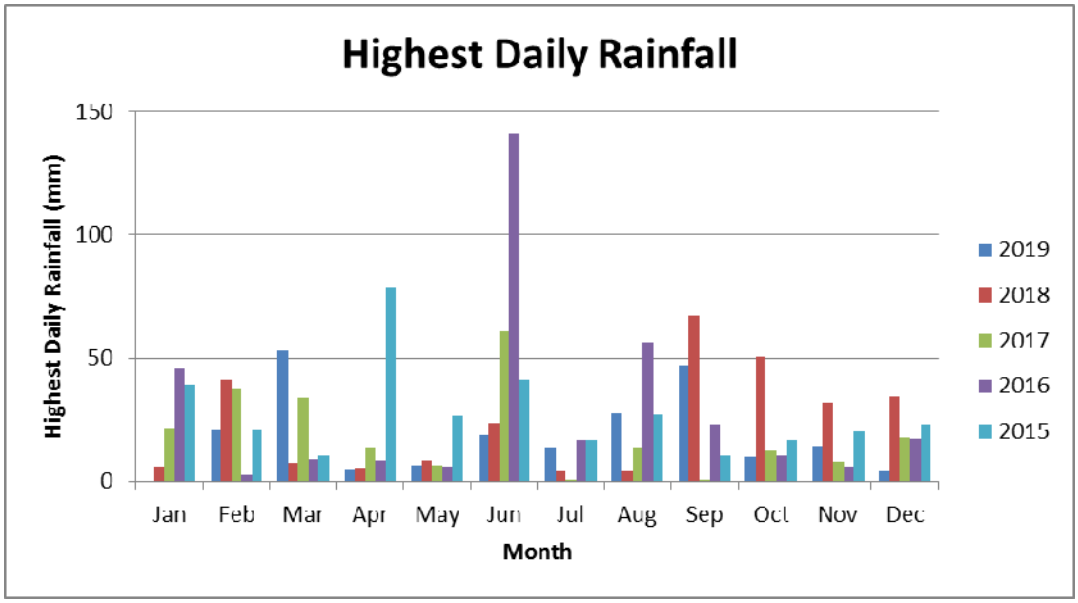
The Bankstown AWS shows that the mean number of days that exceed 25mm of rainfall is 8.5 per year and Figure 8-2 shows the highest daily rainfall events per month from the last 5 years showing rainfall events >50mm are rare.

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 overflow stormwater from a heavy rain event is likely to be clean as the first flush would be captured and treated on site; and
- The stormwater on site complies with the ANZECC criteria, so no discharge waters will cause pollution to waters;

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



8.3.5 Exposed Soils during Construction

Construction works for the proposed development is not expected to disturb soils onsite. As addressed in the Soil and Water Report in Appendix 4 given the history and nature of the site, it is considered highly unlikely that the minimal exposed soil will represent a risk to human health or the environment. The following mitigation measures will be undertaken during any construction that involves coming in contact with soil:

- PPE to be worn by all staff and contractor during construction works involving exposed soils. Required PPE is as follows:
  - P2 mask;
  - High visibility clothing;
  - Safety boots;
  - Safety glasses;
  - Impervious gloves.
- Exposed soils are to be kept lightly damp to prevent generation of dust.

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.

There are no trees on site. The tree present in the aerials is dated and was removed several years ago after it was hit by lightning. The only vegetation removal proposed is grass underneath the demountable offices and to allow for the widening of the driveway. The following photograph of the front of the site was taken on 19/01/2021 showing the tree is no longer present on the site.

Photograph 1: Front of 14-16 Kiora Crescent, Yennora taken 19/01/2021.



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.

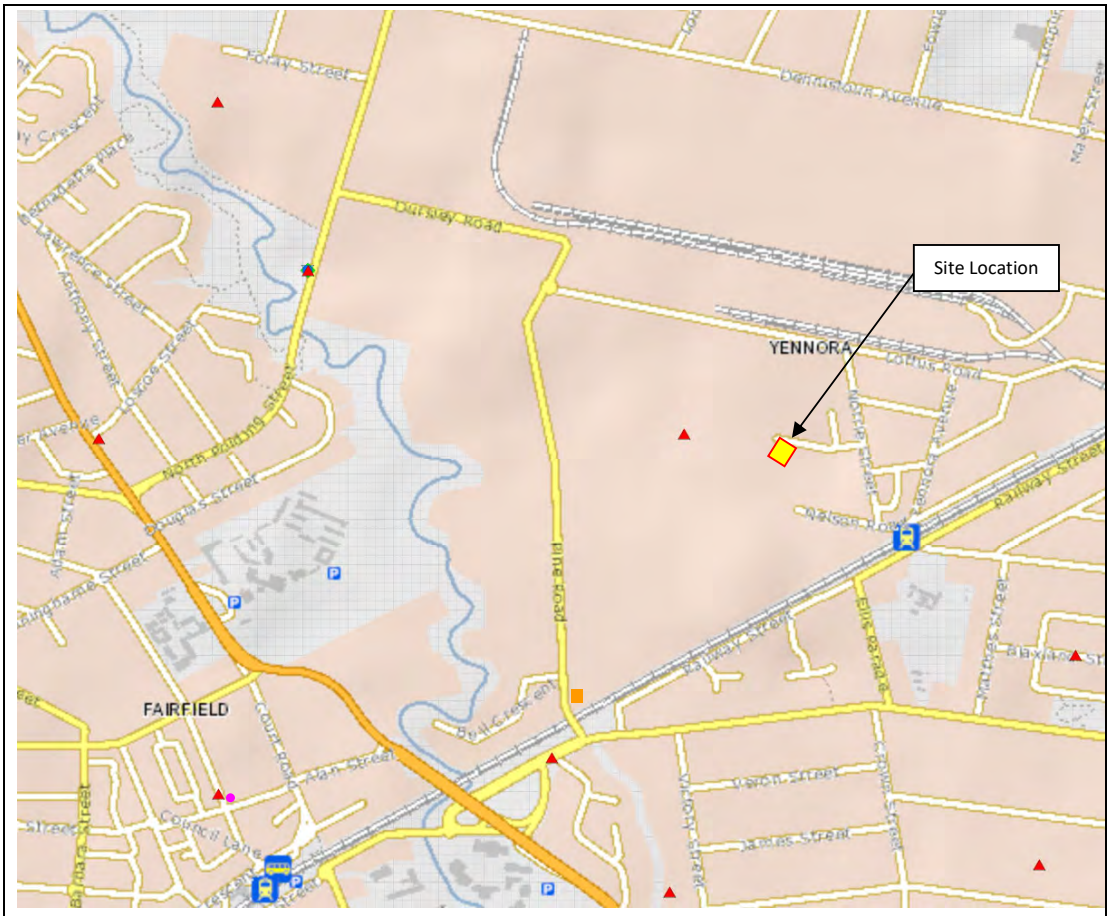
The targeted search shows one threatened species has been sighted within close proximity to the subject site. The vulnerable, protected Grey-headed Flying Fox was sighted 220 m west of the site (Figure 6-6) and in numerous other locations, further away. The vulnerable Large Bent-winged Bat was sighted 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 trade waste. The grease-trap waste is pumped to the treated grease trap waste tank (tank 10) and removed offsite as grease trap 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	Grease trap 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 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.
Wastewater	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. Waste oil sludge (K110) is tested and if waste meets the requirements of the RRO/RRE applied to land via injection typically at the Envirohills farm located at 670 Tiyces Lane Boxers Creek. If it does not meet the requirements of the RRO/RRE the waste is picked up by licensed waste contractor (typically AP bins or Sydney Waste Services).
Sewage Sludge	K130	Liquid waste	42kL/day	150 kL/wk	3,000 kL/year	Outgoing	Sewage sludge wastes will be removed by a licensed waste contractor, (typically AP bins or Sydney Waste Services). The licensed waste contractor would test and classify the waste. In the event the sewage sludge complies with the biosolids order and exemption the licensed waste contractor would find a site suitable for the application to land for the classification.
Oily solids from 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 by AP bins or Sydney Waste Services.

Table 8-12: Waste Generation

Waste Type/Source	Code	Classification	Maximum Quantity			Incoming/Outgoing	Management
			Daily	Weekly	Yearly		
Sewage/stormwater solids from 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 typically by AP bins or Sydney Waste Services.
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 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 2 of the Regulation provides requirements for payment of contributions by scheduled waste facilities. This applies to the facility.

Part 3 of the Regulation provides requirements for records, measurement of waste and monitoring at scheduled waste facilities. Under Division 2, Clause 36, a weighbridge is required to be installed at facilities required to pay waste contributions under Section 88 of the Act.

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.

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. Vehicles requiring a public weighbridge receipt, which do not use the public weighbridge will be rejected and materials will not be unloaded. This would be managed using the incoming waste procedure. A draft is provided in Section 8.5.3.1.

Waste Levy Guideline 2: Records provides guidance on how an occupier of a facility must record, keep and provide waste records. The facility would adhere to this guideline for records of waste.

8.5.3.1 Incoming Waste Procedure

The following provides an example of a draft incoming waste procedure that will be implemented at the facility. This is generally the procedure that is being undertaken at the existing site and will be formalised in the site's Environmental Management Plan upon approval.

8.5.3.1.1 Purpose

The purpose of this procedure is to facilitate the process of dealing with unauthorised or non-conforming waste brought onto the site. The procedure will enable confirmation of the identity of waste types within incoming tankers and loads brought onto site and deal with any unexpected or non-conforming wastes such as asbestos.

8.5.3.1.2 Definitions

For the purposes of the procedure, the following definitions of relevance:

Contaminated Material
Materials that contain substances that are of sufficient concentration to potentially cause harm to human health or the environment. (EPA Act)

Acceptable wastes
Acceptable wastes 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 (soft drink, energy drinks, alcoholic beverages, juices and similar types of products)
- Shampoo/liquid soaps
- Shoes
- Clothes
- Makeup

Not accepted / Non-conforming wastes
Not accepted at the site are any waste not listed above (non-conforming wastes) such as:

- Out-of-date dairy products;
- Liquid food waste with offensive odours;
- ENM and VENM or any fill material;
- Hazardous materials;
- Chemicals of any description;
- Asbestos;
- Fibro;
- Putrescible materials;
- Spent gas bottles;
- Fibreglass;
- Garden waste or vegetation;
- Batteries;
- Paint; and
- Any of the above mixed with accepted waste types.

Consignment authorisation (CA)
An approval issued by a waste receiving facility to a consignor for the movement of a specific type of waste to the nominated receiving facility for up to one year.

The CA must specify:

- The consignor of the waste
- The facility lawfully receiving the waste

- The waste code
- The period of validity of the CA

A CA must be created before waste can be transported from the producer to a receiving facility.

Transport certificate (TC)
TCs are created from the CA to accompany each waste movement. This may be a single waste movement or multiple waste movements within the Cas validity period. A TC can be used to record a waste movement.

8.5.3.1.3 Training Requirements

Training of personnel responsible for accepting incoming waste at the facility includes:

- Relevant requirements of the POEO Act including the waste regulation
- Waste Tracking Requirements and Waste Codes
- Requirements of any waste conditions in the facility's EPL
- Requirements of this incoming waste procedure

Other relevant environmental awareness training and details regarding maintenance of training records would be included in the site's Environmental Management Plan.

8.5.3.1.4 Waste Records

The site must comply with the Waste Levy Guidelines 2018 requirements for recording and reporting of trackable liquid waste as follows:

> *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.

This can be undertaken using Cas and TCs on the EPAs online waste tracking system.

Enviro Waste must retain the copy of the record referred to above for a period of not less than six 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.

8.5.3.1.5 Procedure

1. Incoming load is booked in via Enviro Waste's truck scheduling program

2. Driver obtains TC or relevant documentation (eg: test results) for waste load and checks all relevant information is included.
3. Driver uses CB radio to advise of approach and follows instructions provided by Traffic Control Officer. Traffic Control Officer advises whether the load is to be weighed on site or at a public weighbridge.

4. If load requires weighing at the public weighbridge, driver proceeds to 14 Sammut Street, Smithfield and obtains weighbridge receipt prior to entering the Enviro Waste site via 16 Kiora Crescent, Yennora.

5. If load can be weighed on site, driver proceeds to the site and enters via 16 Kiora Crescent, Yennora.

6. Upon receipt of load, documentation is checked and recorded and truck is directed to appropriate location for unloading.

7. If all relevant documentation is not provided or if load is found to be unacceptable or to contain non-conforming waste, it is rejected and directed to immediately leave the property.

8. Any non-conforming waste load is recorded in a reject loads register that is maintained at the site.

8.5.3.1.6 Contingency Plan

In the unlikely event that non-conforming waste enters the facility, any existing wastes incidentally contaminated by the non-conforming waste will also be removed offsite to a facility licenced to accept that waste type. Sampling and analysis would be undertaken where necessary. All equipment will be decontaminated where required, any contaminated wash water would be disposed of at a facility licenced to receive that waste type.

8.5.3.1.7 Reject Loads Register

Any non-conforming waste must be recorded in the rejected loads register and include the following details:

1. Date and time the load was rejected
2. Vehicle registration number including any trailers transporting the rejected load of waste both to and from the facility
3. The type of waste(s) in the rejected load of waste
4. The reason the load was rejected.

8.5.3.1.8 Other Non-conforming waste

Documentation for any sampling, testing and alternate disposal of the waste must also be maintained.

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);
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;
Bins	8,000	Solid waste (8 x 1m^3 bins)
Various	9,000	Waste within DAF, box filters etc.
TOTAL STORAGE	**477,000**	

The site would have a maximum waste storage capacity of 477 tonnes at any one time.

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. This includes recording of all loads in a register that is maintained on site. The register includes non-conforming loads that are rejected. A draft incoming waste procedure has been developed and is included in section 8.5.3.1.

All bulk liquid waste is tested prior to collection and then again after receipt. All non-conforming waste will be rejected and sent back to the generation site or to a facility licenced to receive that waste. It is extremely unusual to receive non-conforming waste on-site.

In the unlikely event that non-conforming waste enters the facility, any existing wastes incidentally contaminated by the non-conforming waste will also be removed offsite to a facility licenced to accept that waste type. Sampling and analysis would be undertaken where necessary. All equipment will be decontaminated where required, any contaminated wash water would be disposed of at a facility licenced to receive that waste type.

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.

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:

- 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 state-wide.

  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 Resource Recovery 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	Processed/Generated	Trigger Beneficial Reuse (Y/N)	Notes/Comment	Testing Regimes
Biosolids	The biosolids order 2014	The biosolids exemption 2014	**Processed: Yes** Incoming sewage sludge (K130) are received and processed, these are likely to meet the definition of the biosolids RRO/RRE. **Generated: Yes** Solids from the filtration bins/boxes and sludge's from tanks 12 and 13 will contain waste from the processing of K130s received may meet the definition of the biosolids RRO/RRE.	**Yes**	*The biosolids order means organic product that results from sewage treatment processes (sometimes referred to as sewage sludge).*	The RRE applies to when biosolids are being applied to land. Generated waste that meets the definition of biosolids will be tested by a licenced contractor. To comply with the biosolids order Enviro Waste, 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. The results of the test will be compared to the requirements of the NSW EPA Environmental Guidelines for *use and disposal of biosolids products* for classification. Once classified the waste will be sent to a site suitable for the receipt of that classification for land application. This process is undertaken by a licenced contractor, typically AP bins or Sydney Waste Services.

Table 15: Resource Recovery Exemption/Orders

Material	Order	Exemption	Processed/Generated	Trigger Beneficial Reuse (Y/N)	Notes/Comment	Testing Regimes
Liquid food waste	The liquid food waste order 2014	The liquid food exemption order 2014	**Processed: Yes** Incoming liquid food waste are received and processed, this is likely to meet the definition of the liquid food waste RRO/RRE. **Generated: Yes** IBCs of bulk liquid food waste are generated, this is likely to meet the definition of the liquid food waste RRO/RRE.	**Yes**		The order requires the generator, Enviro Waste, 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.* Enviro Waste tests the generated liquid food waste by filtration and visual inspection of samples for contaminants and tests the pH for corrosive properties. The ingredients list of the product received is reviewed to ensure it is suitable for application to land. The waste is applied to land via injection typically at the Envirohills farm located at 670 Tiyces Lane Boxers Creek.

Table 15: Resource Recovery Exemption/Orders

Material	Order	Exemption	Processed/Generated	Trigger Beneficial Reuse (Y/N)	Notes/Comment	Testing Regimes
Treated grease trap waste	The treated grease trap waste order 2014	The treated grease trap waste exemption 2014	**Processed: Yes** Incoming grease trap waste is received and processed, meets the definition of the grease trap waste RRO/RRE. **Generated: Yes** Grease trap waste is generated from received grease trap waste and sludge generated from processing J120 waste oil.	**Yes**		The order requires the generator, Enviro Waste or the licenced waste contractor collecting the waste must certify that 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 1 and Table 2 of the order. The waste is applied to land via injection typically at the Envirohills farm located at 670 Tiyces Lane Boxers Creek.

8.5.6 Machinery/Pollution Control Equipment Failure Contingencies

There is downtime every 6 months for cleaning purposes. Equipment maintenance is also required for machinery (pumps, shredder), daily cleaning of sump pits, filters and the bio trickling filter needs regular servicing. These activities are undertaken during slow periods of operations when few or no vehicles are delivering or picking up waste whenever possible. Night shift would typically be for maintenance and cleaning.

In the event of a breakdown of machinery, onsite technicians will attempt to repair the equipment immediately. Outside engineering technicians will be called in the event the equipment cannot be repaired in-house.

There are redundant pumps present on site to operate in the event of pump failure.

In the event of shredder failure that cannot be repaired in a short period of time, manual labourers will be hired to manually pour out all liquid waste from bottles/cans etc into IBCs.

In the event of bio trickling filter failure. Onsite technicians will attempt to service/clean the filter; outside engineering technicians will be called in the event the equipment cannot be repaired in-house. If this cannot be repaired in a short period on time, a new bio trickling filter will be purchased and installed. Operations will cease while and pollution control equipment is being repair.

Contingency plans for failure of machinery and pollution control equipment will be presented in the site's revised Emergency Plan.

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

Table 8-16: Chemical Storage

Product Name	Un No.	ADG/GHS	GHS Signal Word	Quantity Storage Capacity	Storage Type	Storage Location
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
	100 kg	Liquefied gas kept in or on premises	None	None	No
	100 kg	Other toxic gases	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
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 Crescent Evacuation Plan and Fire Services Locations

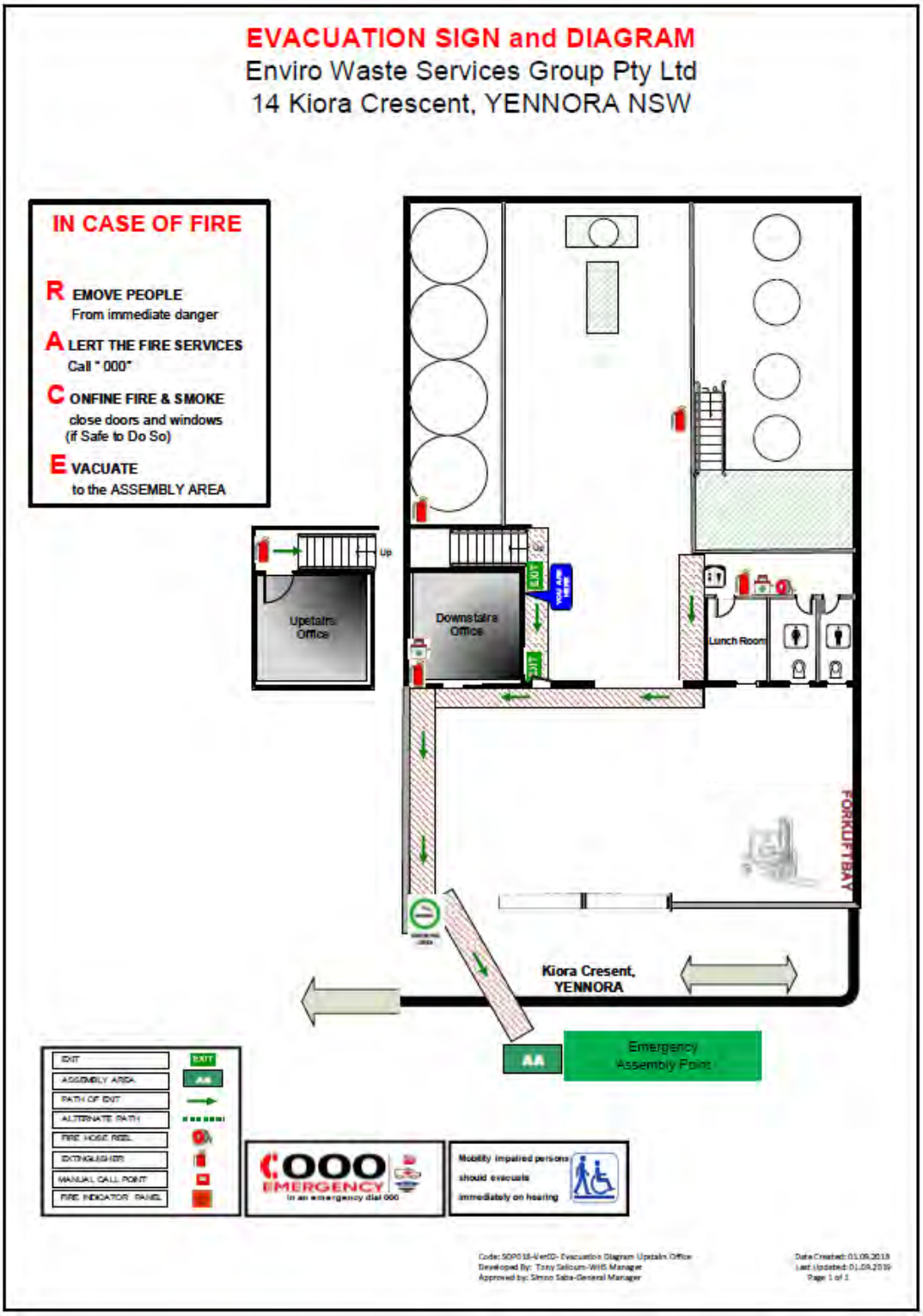
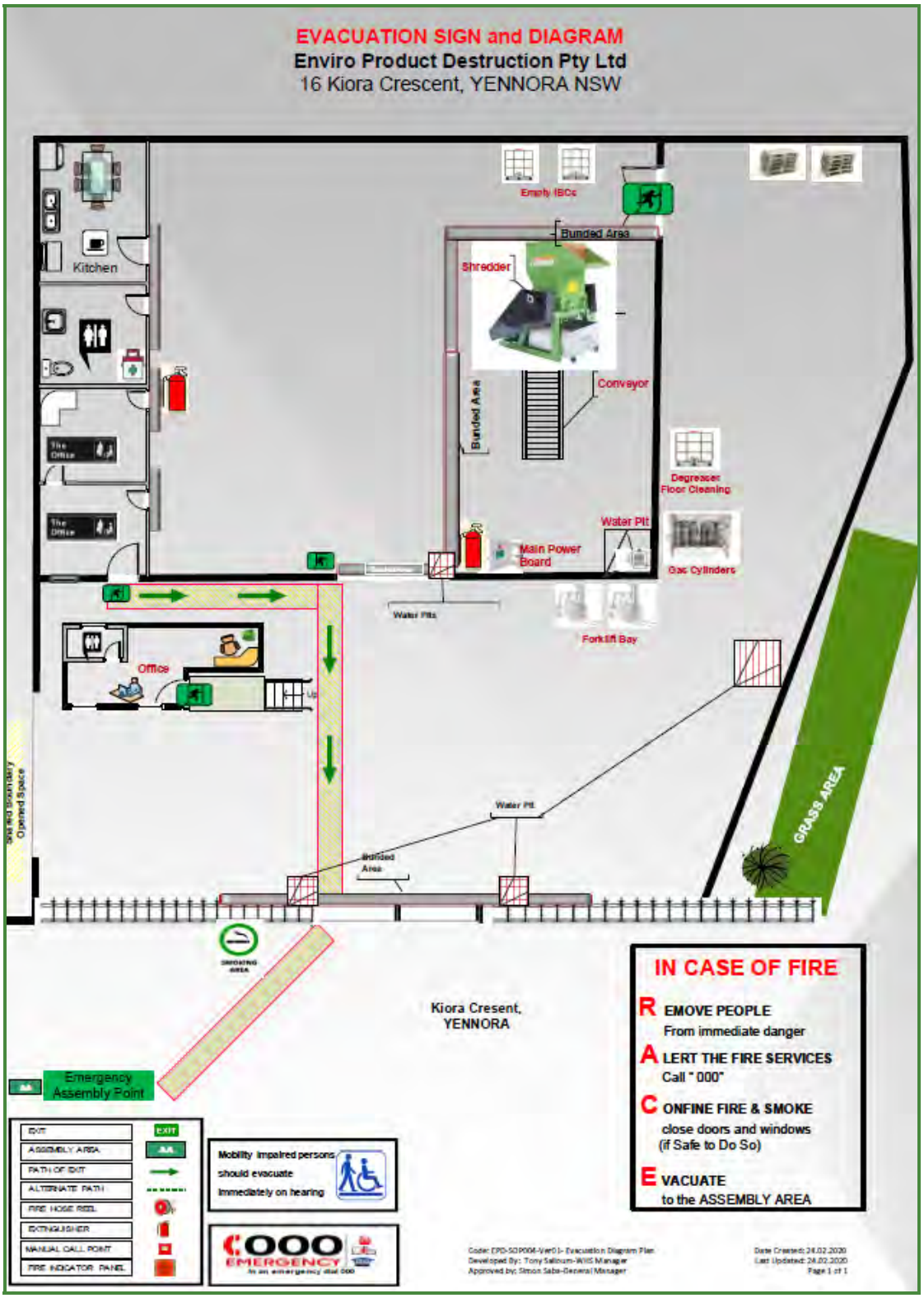


Figure 8-5: 16 Kiora Crescent Evacuation Plan and fire Services Location



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 Crescent 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.

8.6.3.4.1 Contaminated Fire Fighting Water Risk Assessment

Potential contamination risk is provided below.

Consequence Estimation

This aspect involves the analysis of events carried forward from the hazard identification process in order to quantify their potential on-site and off-site impacts. In this case, these events typically include fire and the potential effects on people, the environment, damage to property and the financial loss as a result of this damage.

Categories of consequences have been defined in terms of environmental, health and financial impacts and include the following:

WHAT ARE THE WORST CASE SCENARIO CONSEQUENCES?

CONSEQUENCES OR IMPACT

Level	Descriptor	Description
1	Insignificant	Confined on-site impacts able to be promptly rectified. No injuries. Financial loss less than $2,000
2	Minor	Confined impacts requiring short term recovery with potentially little or no off-site impacts. First Aid treatment. Financial loss $2,000 to $20,000
3	Moderate	Confined impacts requiring medium term recovery both on-site and off-site. Medical treatment required. Financial loss $20,000 to $200,000
4	Severe	Unconfined impacts requiring long term recovery and leaving residual damage both on-site and off-site. Extensive injuries, loss of product capability. Financial loss $200,000 to $1M
5	Catastrophic	Widespread impact requiring long term recovery and leaving major damage both on-site and off-site. Death. Financial loss more than $1M

Likelihood Estimation

This aspect involves determining how likely an event is to occur. Likelihood is the chance that something might happen and is defined for the purposes of this assessment in the following table.

HOW LIKELY IS AN EVENT TO OCCUR?

LIKELIHOOD

Level	Descriptor	Description
A	Almost Certain	Very likely. The event is expected to occur in most circumstances.
B	Likely	Strong possibility. The event will probably occur in most circumstances.
C	Possible	The event might occur at some time.
D	Unlikely	Not expected. There is a slight possibility the event could occur at some time.
E	Rare	Highly unlikely. The event may occur only in exceptional circumstances.

Level of Risk

The level of risk is defined by the following table.

Likelihood	LEVEL OF RISK Consequence				
	Insignificant 1	**Minor 2**	**Moderate 3**	**Severe 4**	**Catastrophic 5**
A (almost certain)	**III**	**II**	**I**	**I**	**I**
B (likely)	**III**	**II**	**I**	**I**	**I**
C (possible)	**III**	**II**	**II**	**I**	**I**
D (unlikely)	**III**	**III**	**II**	**II**	**II**
E (rare)	**III**	**III**	**III**	**II**	**II**

The Class I area shown in red indicates a high level of risk which is intolerable and where risk reduction is required. This requires the reduction of frequency and/or consequence.

The Class II area shown in yellow indicates a moderate level of risk. Whilst the risk is not unacceptable, there should be practical measures taken to lower the risk if economically viable. For risks where further mitigation is not economically viable, judgment needs to be exercised as to whether the level of risk is acceptable or not. This area is the beginning of the "As Low as Reasonably Practicable" (ALARP) region which means that while risk of an accident may be tolerable, steps still need to be taken to reduce the risk level to as low as reasonably practicable. A risk that satisfies ALARP would be considered acceptable.

The Class III area shown in green indicates a low level of risk and is broadly considered to be acceptable. Further risk mitigation may not be required/appropriate. However, low and accepted risks should be monitored and routinely reviewed to ensure that they remain acceptable. Few risks remain static. This area includes ALARP as well as what are known as trivial or negligible risks.

The following table presents the potential contamination risks associated with a fire event.

Table 8-19: Contaminated Fire Fighting Water Risk Matrix

Event	Likelihood	Consequence	Risk Level
Contaminated firefighting water being released into the stormwater system and then the into the nearest water course.	Likelihood of fire: **Rare** Likelihood of contaminated firefighting water entering the stormwater system in the event of a fire: **Possible** Likelihood of contaminated firefighting water failing to be intercepted before entering the nearest water course: **Rare**	Consequence of fire: **Severe** Consequence of contaminated firefighting water entering the stormwater system in the event of a fire: **Moderate** Consequence of contaminated firefighting water failing to be intercepted before entering the nearest water course: **Moderate**	Risk Level of fire: **II** Risk Level of contaminated firefighting water entering the stormwater system in the event of a fire: **II** Risk Level of contaminated firefighting water failing to be intercepted before entering the nearest water course: **III**

The risk rating of contaminated firefighting water entering the entering the stormwater system, failing to be intercepted before entering the nearest water course is **low (III).**

Risks associated with a fire on site are to be "As Low as Reasonably Practicable" (ALARP).

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 Crescent 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 and summarised as follows. No sites or PADs (Potential Archaeological Deposit) were identified in the project area, there are no impacts to the archaeological record, conservation/protection is not required, further investigations are not justified, AHIP (Aboriginal Heritage Impact Permit) is not required. It is recommended persons responsible for the management of onsite works will ensure that all staff, contractors and others involved in construction and maintenance related

activities are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010, under the National Parks and Wildlife Act 1974; and Should any Aboriginal objects be uncovered during works, all work will cease in that location immediately and the Environmental Line contacted.

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

This section provides details regarding road, traffic, transport, access and parking as a result of the proposed development.

9.4.1 Traffic Generation

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 to 38 a day (38 arrivals and 38 departures).
- 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. The car parking assessment and traffic management plan are also provided in Appendix 5.

9.4.2 Traffic Access and On-Site Traffic Control

Due to site constraints, truck manoeuvring on site is a key issue for the proposed development (entering and leaving in a forward direction). The following changes were made to improve the internal swept paths:

- Removing the existing demountable office building;
- Connecting the driveways of the two lots to allow greater space for vehicle turning;
- Widen the driveway at 16 Kiora Crescent to allow greater space for vehicle turning.

With these above measures, vehicles can enter and leave the facility in a forward direction without reversing onto the street. Widening of the driveway at 16 Kiora Crescent will avoid trucks needing to encroach on the nature strip and will be only on the driveway. Trucks only need to reverse onto Council land from 14 Kiora Crescent. Low pedestrian traffic is evident in this industrial area and cul-de-sac street, therefore, the safety risk is considered to be low.

Off-site truck parking is available at 27-49 Nelson Road, Yennora. The bunded rear external area at 16 Kiora Crescent will be used as a truck waiting bay for two trucks to assist in preventing queuing on the street. In addition a traffic management plan (Appendix 5) has been prepared which includes traffic entrance and egress procedures, truck driver training, truck scheduling program and the responsibilities of the traffic control officer.

9.4.3 Car Parking

The proposed Liquid processing facility is provided 7 car spaces versus 14 car spaces required by Council's DCP requirement.

The liquid processing facility is an uncommon (or unique) use. A number of measures including the removal of the demountable offices has been undertaken to improve the car parking situation. No changes to the building footprint are proposed. The site has never been capable of accommodating 14 carparks. Furthermore, the facility would employ a total of 5 personnel. Therefore seven (7) car parking spaces is more than adequate for the proposed use. Visitors arriving by car are a rare event.

9.4.4 Cumberland Council Consultation

A letter to council was sent on the 6th of the October 2020 seeking advice on this matter (Ref:191251_Let5_Rev2 provided in attachment 10). Advice from council was received via email on 15th October 2020 provided in attachment 10. The advice presented by Council has been considered, resulting in several site changes. Following receipt of this advice (which was the same

as stated in the original comments within the SEARs), Benbow Environmental phoned Senior Development Engineer, Bala Sudarson for advice to discuss potential viable solutions that may satisfy Council comments. However after seeking feedback from the traffic team, Council responded by advising that they could not provide any alternative solutions to those proposed, nor were they capable of supporting the on-site traffic manoeuvring presented in the proposed development.

The current site constraints are well known and it has been stated quite a number of times to the Department and Council in ongoing consultation for the proposal that due to these existing site constraints, it is not feasible to meet all the requirements for vehicles turning completely within the site while entering and exiting in a forward direction.

This is the case for many industrial sites in Yennora, most notably the majority of industrial developments along:

- Larra Street;
- Railway Street;
- The Promenade;
- Whitaker Street;
- Clarke Street;
- Guernsey Street; and
- Carrington Road.

The number of small industrial sites that are currently in operation and are highly unlikely to meet the requirement for trucks to enter and leave in the forward direction with trucks manoeuvring entirely within the site is in excess of 100.

Despite being unable to meet all requirements for internal swept path movements, consideration has been given to requirements and alternatives. This has resulted in a number of changes to the proposal have been made in an attempt to accommodate as many of these requirements as possible. This is demonstrated in the following table:

Table 9-2: Consideration of internal truck movements

Council issue	Comment	Meet Requirements
• Proposed swept path analysis is not acceptable. The swept path analysis shows that the turning path encroaches into Council footpath and nature strip.	The following changes were made to improve the internal swept paths: • Removing the existing demountable office building; • Connecting the driveways of the two lots to allow greater space for vehicle turning; • Widen the driveway at 16 Kiora Crescent to allow greater space for vehicle turning. With the above changes in place, the swept paths will not encroach onto the nature strip (there is no footpath).	Yes
• Reverse manoeuvring in Council's land is not acceptable. It will compromise the safety. Vehicles should enter and leave the site in a forward direction.	The above site changes will assist in improving the manoeuvrability of trucks on site. Vehicles can enter and leave the facility in a forward direction without reversing onto the street. Widening of the driveway will avoid trucks needing to encroach on the nature strip and will be only on the driveway. Trucks only need to reverse onto Council land from 14 Kiora Crescent (not 16 Kiora Crescent). Low pedestrian traffic is evident in this industrial area and cul-de-sac street, therefore, the safety risk is considered to be low.	No
• Proposed 4 point turn truck manoeuvring movement is not acceptable. Manoeuvring shall be limited to three point turn.	The layout of the buildings does not allow for a 3 point turn. A 4 point turn is required to enable a truck to enter and leave in a forward direction without reversing onto the street. This requirement is unable to be met without making major changes to the development.	No
• Truck swept path interferes with the car parking space.	This has been resolved by removing the existing demountable building and changes to the original site layout to allow for 7 additional car parking spaces on site.	Yes

Table 9-2: Consideration of internal truck movements

Council issue	Comment	Meet Requirements
• Parking space not available within the site for the delivery trucks to prevent any queuing or on street parking of trucks/delivery vehicles. Increase in traffic movement will have adverse impact on street traffic and the adjoining developments.	The following changes will resolve this issue: • Bunding the rear external area at 16 Kiora Crescent for the purpose of using this as a truck waiting bay; • 24/7 operations which will allow the trips to be spread out; • Implementing a truck scheduling program to prevent queuing on the street. • Offsite truck parking is now available at 27-49 Nelson Road, Yennora.	Yes

The above changes has allowed for improved on site manoeuvring of vehicles and three(3) of the five(5) original Council requirements to be met. Trucks can enter and leave the site in a forward direction without encroaching on the nature strip. There is space for 7 on site car parking spaces and truck swept paths do not interfere with car parking spaces.

During consultation with Council, it has become clear that Council are reluctant to provide exceptions to the requirement to enter and leave in the forward direction with all trucks turning within a 3 point turn entirely within the site as this would set an unhelpful precedent. Never-the-less it does not change the fact that it is not possible to comply with this on the site.

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. vapours, noxious fumes) and dust or particulate matter were considered negligible or deemed absent from the proposed development, and therefore required no further assessment. Site specific VOC measurements were undertaken and modelled, the results were all below the relevant criteria.

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 1.55 OU at industrial receptor 12 Kiora Crescent, Yennora. All sensitive receptors considered in the assessment, including residents and childcare centres, were below 0.20 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.

The nature and extent of mitigation measures listed below are considered suitable to provide a sufficient level of protection to the environment from potential impacts of the proposed use of the facility and have been identified through the EIS process in response to outcomes of each assessment. Furthermore, many of the existing mitigation measures already in place at the facility were considered adequate to handle increases in processing quantities as they were originally designed for a larger facility.

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.

Table 12-1: Summary of Potential Impacts, Environmental Safeguards and Control Measures

Potential Impacts	Safeguards and Control Measures
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.
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.

Table 12-1: Summary of Potential Impacts, Environmental Safeguards and Control Measures

Potential Impacts	Safeguards and Control Measures
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.
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. All environmental and emergency plans and procedures including the Environmental Aspects and Impacts register will be updated following approval.

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 Enviro Waste'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.

15.1.1 Site Suitability

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.

15.1.1.1 Market Demand

The facility started as a small liquid waste treatment facility and has since expanded to incorporate other liquid wastes types as a result of increasing needs of existing customers. The original plant was designed with a larger capacity than what was originally approved with the intention to enable the facility to commence operations at smaller volumes similar to a "pilot" plant before increasing throughput tonnages nearer to maximum plant capacity.

There is little publicly available information regarding market demand and projections for liquid waste in NSW. The data and research available tends to focus on solid waste. There are a number of factors that have led to business decisions for the expansion of the Enviro Waste site. These are discussed below.

There has been a recent increase in J120 waste requiring treatment due to:

- Runoff from carparks is no longer classified as stormwater but rather J120.
- Spills and incidents containing oil are also classified as J120. This represents a very large market for the J120 liquid waste type.
- Enviro Waste is the one of only a few facilities located in the Sydney metro area that can accept J120.

Additionally, a lot of liquid waste was previously being sent overseas in bladder shipping containers. As a result of the Federal Governments push to prevent the export of Australia's waste, this has led to increased liquid waste requiring treatment in Australia. In addition, the

Covid-19 pandemic has resulted in the drive toward increased manufacturing in Australia that will require a facility to accept liquid waste to be treated.

The recent commencement of infrastructure projects to construct roads and tunnels in NSW has resulted in increased liquid waste generation requiring treatment including J120, M250 and stormwater.

The market for different types of liquid waste fluctuates with time, for example, Covid has affected the frequency of the grease trap waste with less and less grease trap waste due to a decrease in grease trap waste being generated from restaurants. The demand for grease trap waste is expected to increase following the pandemic.

Liquid wastes to be processed at 16 Kiora Crescent including shampoos/liquid soaps and out of date beverages make up a small proportion of the total quantity of liquid waste proposed to be accepted at the site, less than 9%. Of the proposed annual processing quantity of 110,000 tonnes, 10,000 tonnes would be out of date product. Some of this includes solid wastes. 91% of the liquid waste to be received as part of the proposed development is of a type already approved. Therefore, the "diverse range of liquid waste types" only extends to two new types to be received at the site – the shampoo/soap and out of date beverages. These two new waste types do not fall under a waste code for wastes that must be tracked. Companies that manufacture or sell these products require a facility to send product that has expired or is defective. As a liquid waste facility, Enviro Waste regularly receives requests to assist businesses with these waste types.

NSW government Population Projections predict that NSW is expected to grow on average by over 100,000 people each year until 2041, indirectly resulting in increases in liquid waste generation throughout the state.

The facility at 14 Kiora Crescent was developed with the intention to process the proposed quantities of liquid waste and therefore was appropriately designed. It is for the above reasons that justify the significant increase in production quantities.

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.

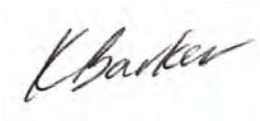
The use of a site that is already developed with buildings and infrastructure in place is a major advantage. Being readily able to meet the demand for liquid waste recycling without the construction of a new site is also a benefit of this site.

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



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APPENDICES

EIS Appendix 1: Site Plans, Swept Path Diagrams and Equipment Technical Drawings

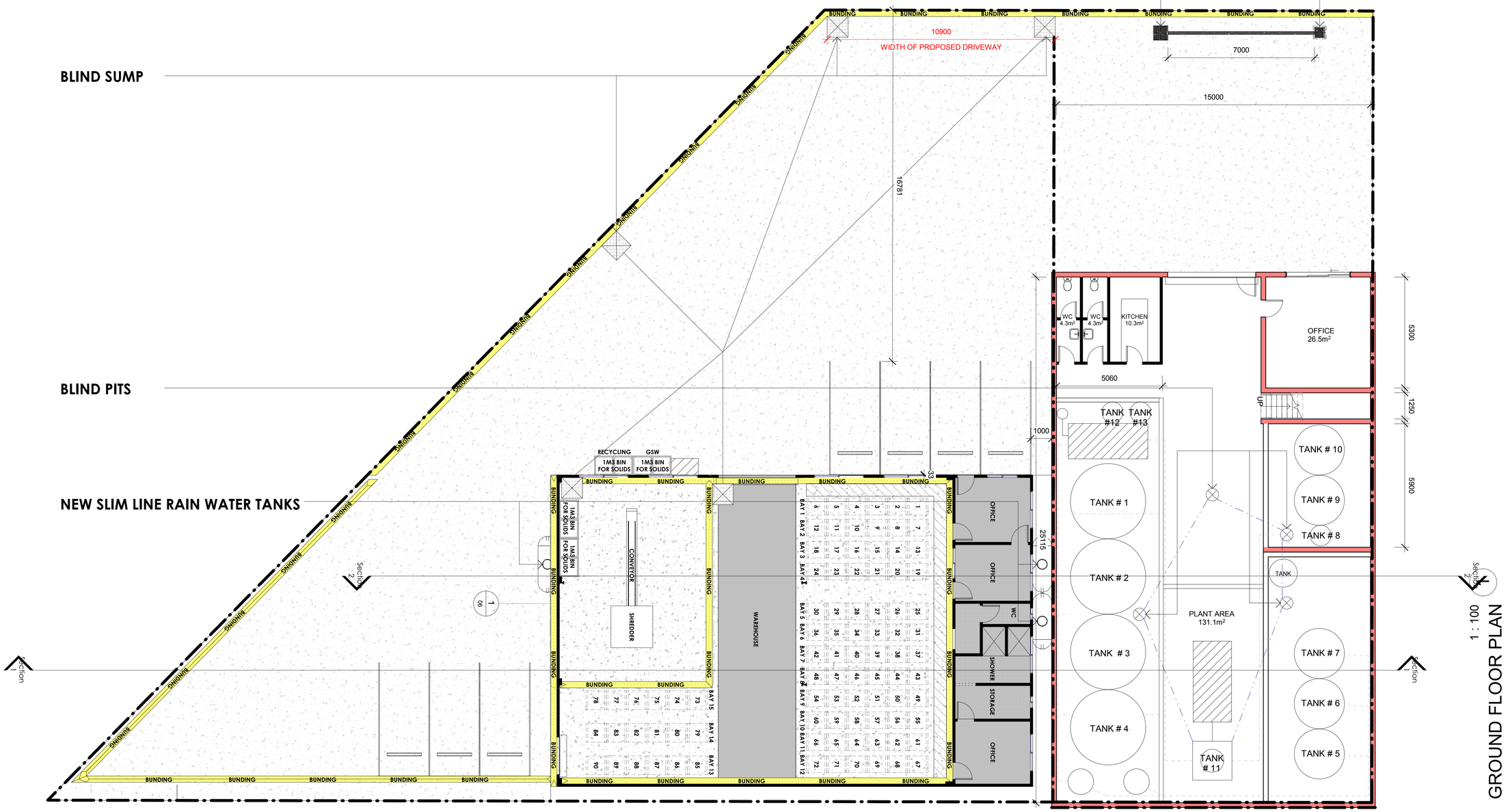
BUNG - CLOSING OFF DISCHARGE OUTLET

ISOLATED STORMWATER PITS AND GRATES

BLIND SUMP

BLIND PITS

NEW SLIM LINE RAIN WATER TANKS



REV	DESCRIPTION	DATE	BY
A	APPLICATION FOR APPROVAL	26 06 20	

FOR DA APPROVAL

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PROJECT TITLE
PROPOSED INDUSTRIAL ALTERATION AND ADDITION
14 - 16 Kiora Crescent, Yennora

DRAWING TITLE
FLOOR PLANS

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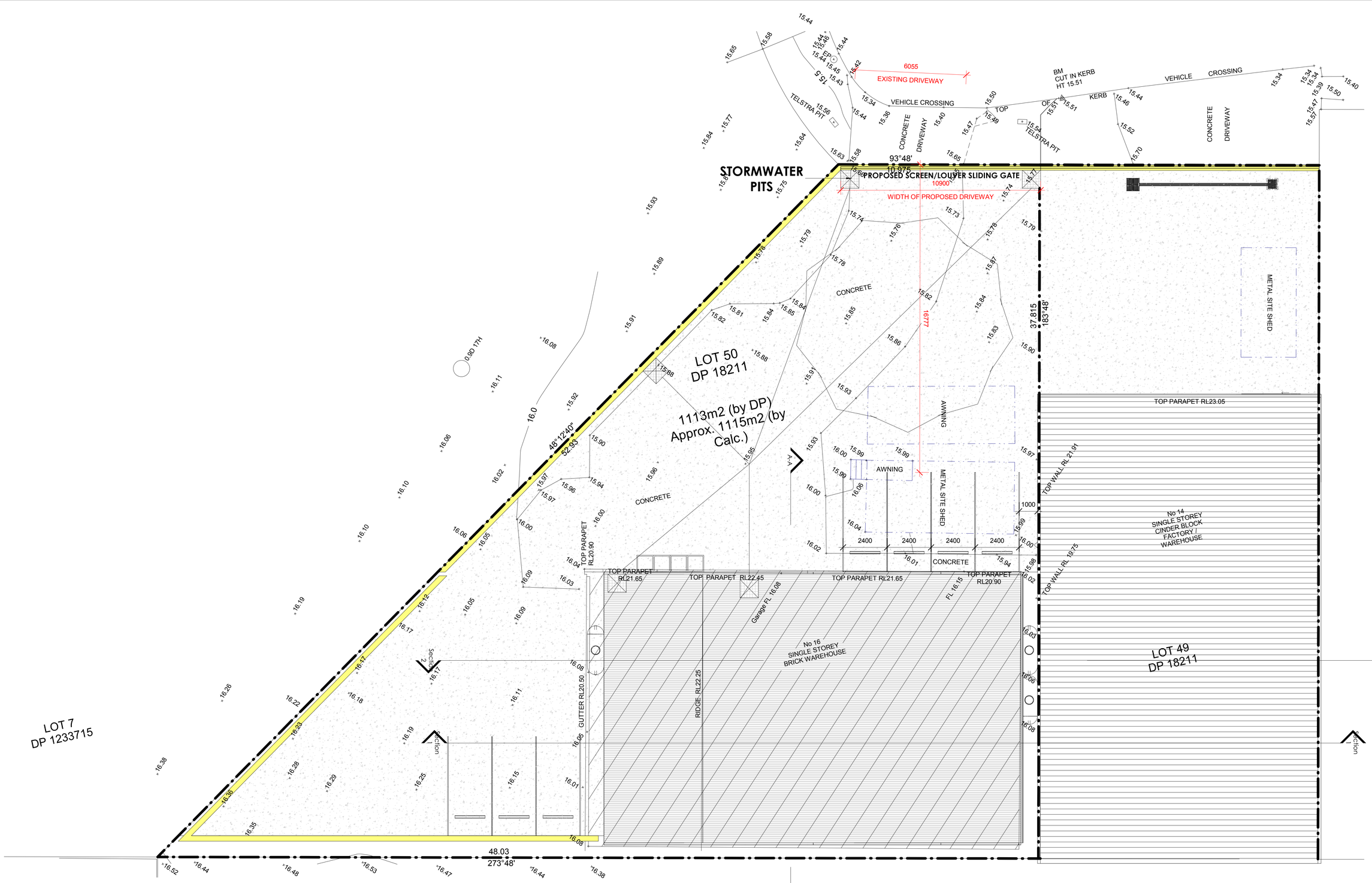

1 : 100 (1) SITE PLAN

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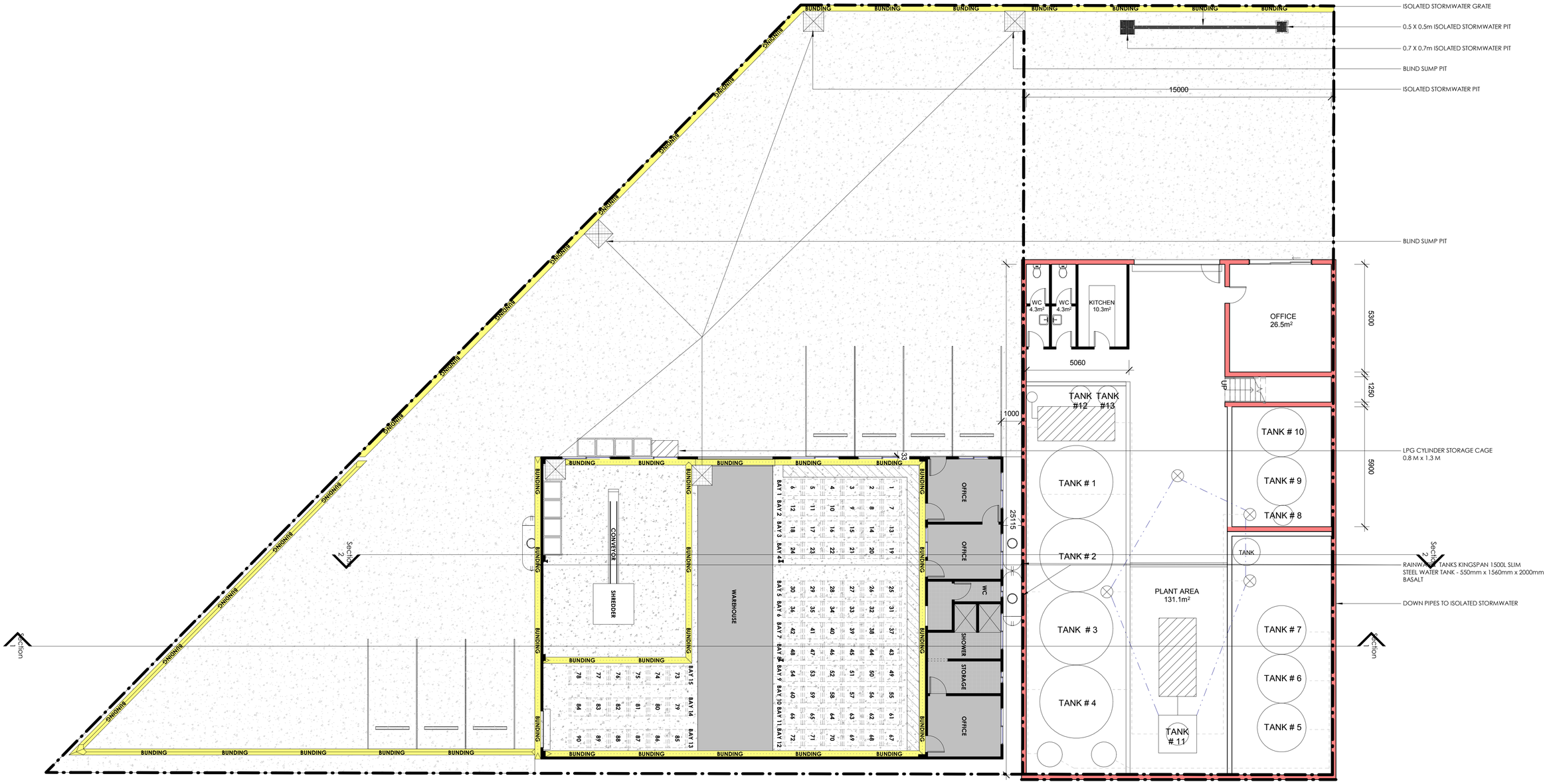

1 DRAINAGE PLAN
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DRAINAGE PLAN

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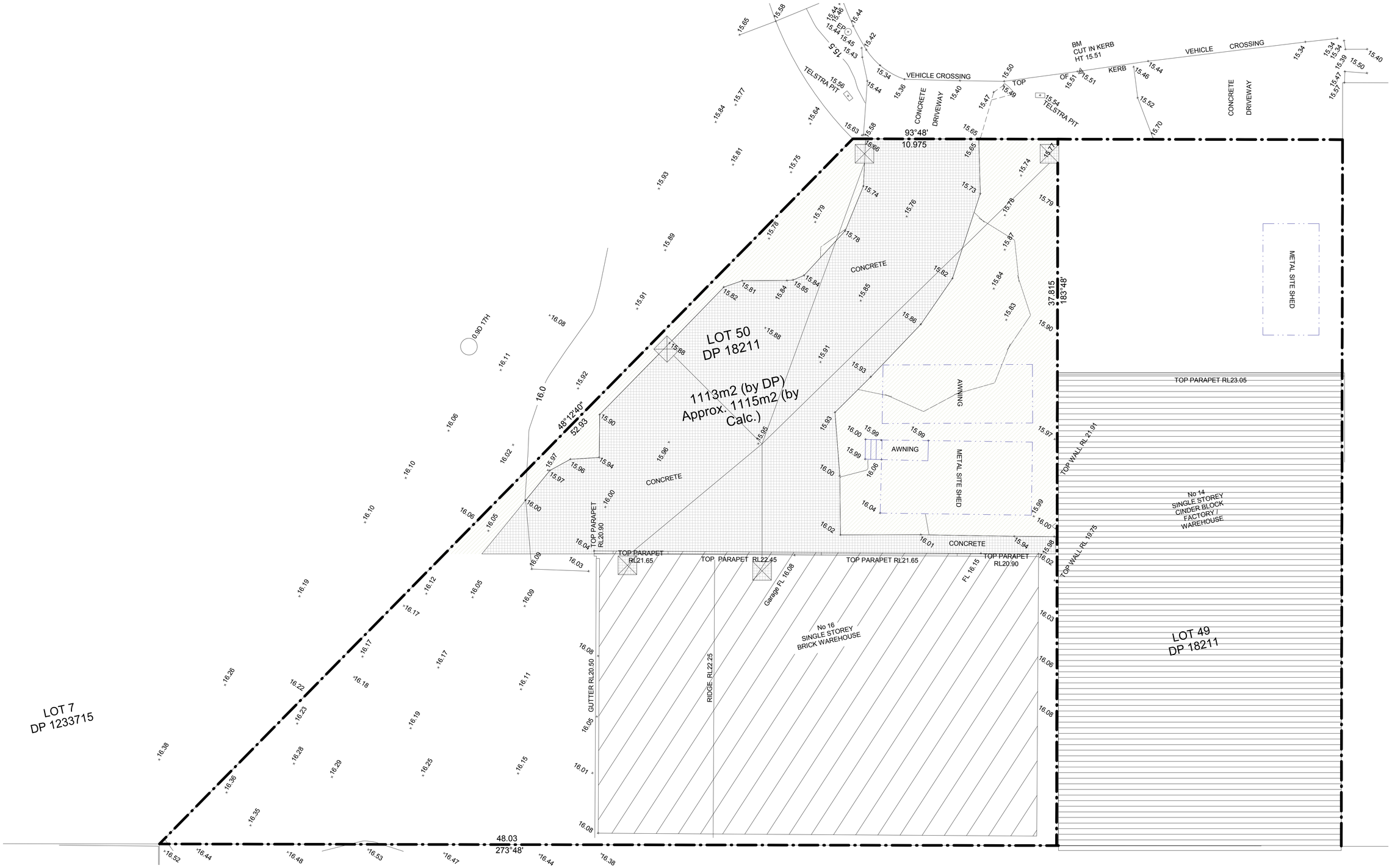

1 : 100 **1** DEMOLITION PLAN

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TO BE DEMOLISHED

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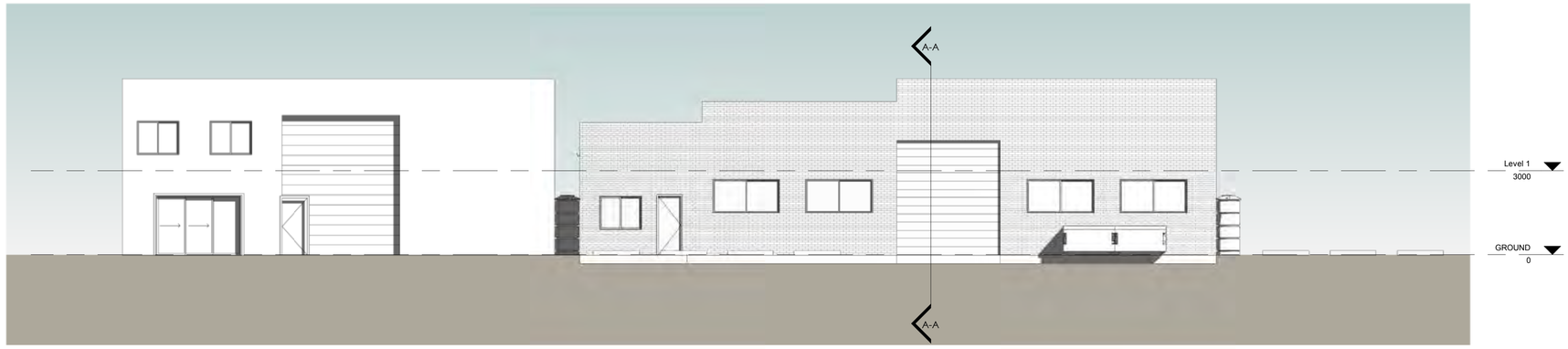

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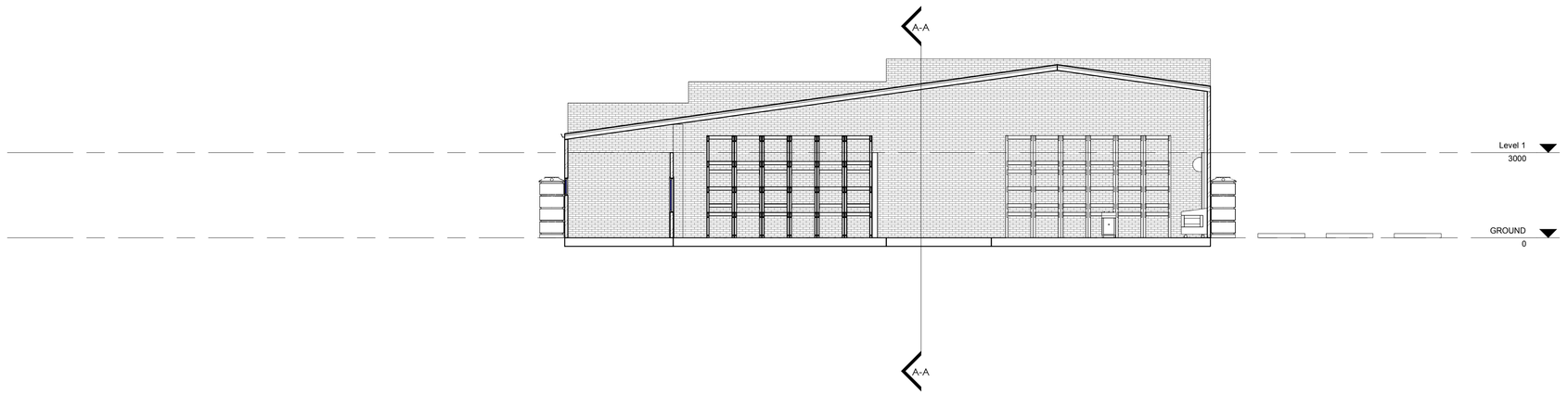

3 Section 2

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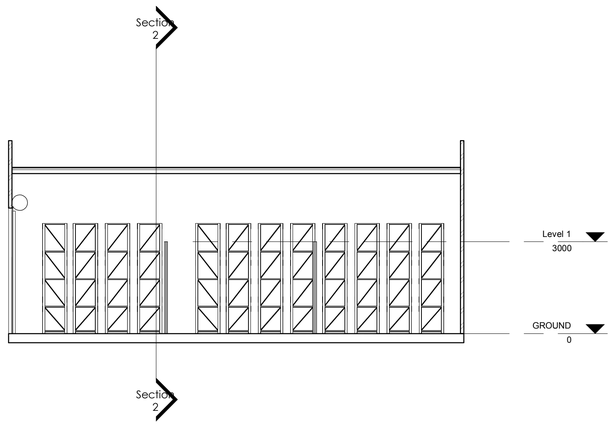

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PROJECT TITLE
PROPOSED INDUSTRIAL ALTERATION AND ADDITION
14 - 16 Kiora Crescent, Yennora

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ELEVATIONS . SECTIONS

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1 SHREDDER DETAIL
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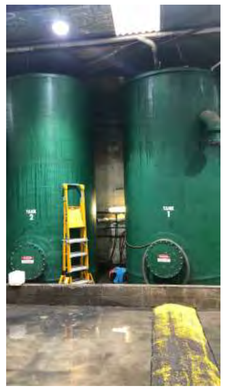


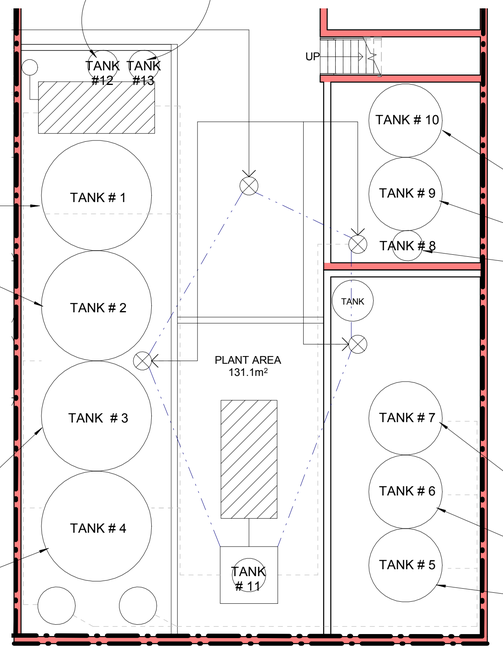
TANKS 1 & 2



TANKS 12 & 13



TANKS 3 & 4



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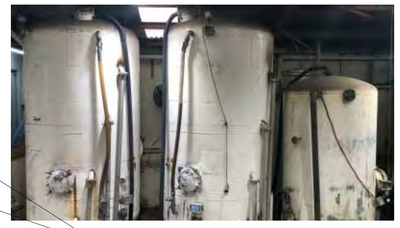

TANKS 8, 9 & 10



TANKS 5, 6 & 7

Tank 1
Liquid & sewer (K130) & stormwater
Sullage N205 landfill leachates M250 surfactants
Liquid J120

Tank 2
Liquid & sewer (K130) & stormwater
Sullage N205 landfill leachates M250 surfactants

Tank 3
Liquid & sewer (K130) & stormwater
Sullage N205 landfill leachates M250 surfactants

Tank 4
Liquid & sewer (K130) & stormwater
Sullage N205 landfill leachates M250 surfactants

Tank 5/6
Liquid J120

Tank 7 (settling)
Liquid J120
Liquid & sewer (K130) & stormwater

Tank 8/9
Liquid J120

Tank 10
Liquid grease trap waste

Tank 11-east
Liquid J120

Tank 11-west
Liquid & sewer (K130) & stormwater
Sullage N205 landfill leachates M250 surfactants

Tank 12
Liquid & sewer (K130) & stormwater
Sullage N205 landfill leachates M250 surfactants
Liquid J120

Tank 13
Liquid & sewer (K130) & stormwater
Sullage N205 landfill leachates M250 surfactants
Liquid J120

REV	DESCRIPTION	DATE	BY

DRAFT

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PROJECT TITLE
PROPOSED INDUSTRIAL ALTERATION AND ADDITION
14 - 16 Kiora Crescent, Yennora
DRAWING TITLE
TANK & SHREDDER DETAIL

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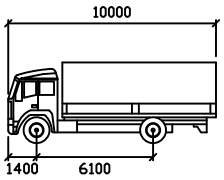

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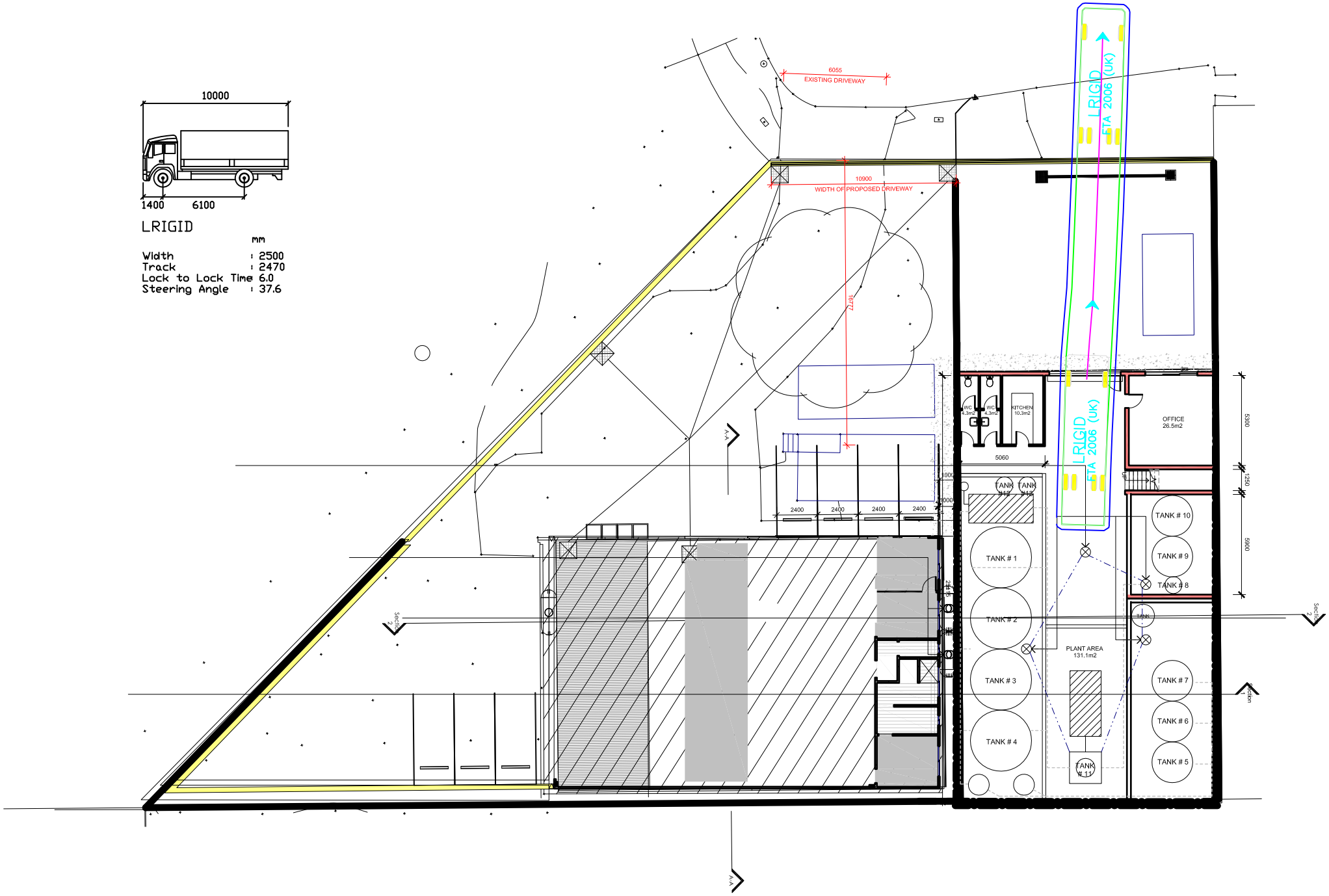
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TANK # 1
TANK # 2
TANK # 3
TANK # 4
TANK # 5
TANK # 6
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TANK # 8
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TANK # 10
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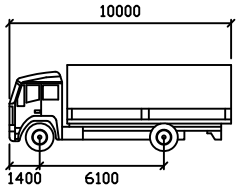
Section 1
Section 2
Section 3



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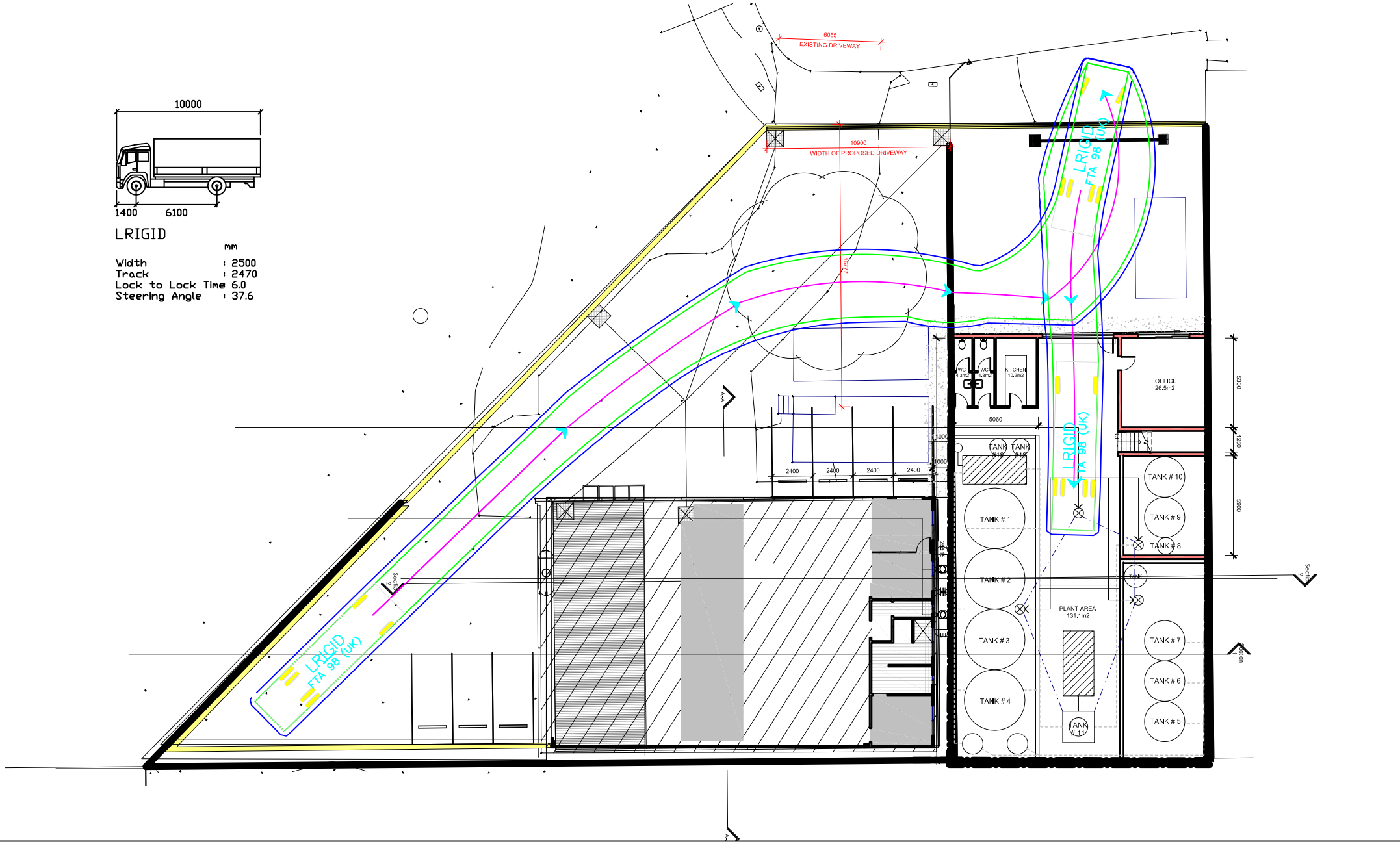
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Steering Angle : 37.6
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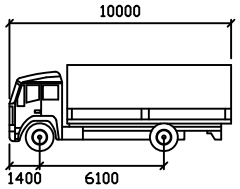
10900
WIDTH OF PROPOSED DRIVEWAY
LRIGID
FTA 98 (UK)
WC 4.3m2
WC 4.3m2
KITCHEN 10.3m2
OFFICE 26.5m2
5060
TANK # 10
TANK # 9
TANK # 8
TANK # 1
TANK # 2
TANK # 3
TANK # 4
PLANT AREA 131.1m2
TANK # 7
TANK # 6
TANK # 5
TANK # 11
2400
2400
2400
2400
5300
1250
5900
Section



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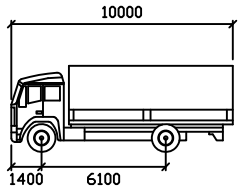

LRIGID

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Width	: 2500
Track	: 2470
Lock to Lock Time	6.0
Steering Angle	: 37.6

6055
EXISTING DRIVEWAY

10900
WIDTH OF PROPOSED DRIVEWAY

LRIGID
FTA 98 (UK)

WC
4.3m2

WC
4.3m2

KITCHEN
10.3m2

OFFICE
26.5m2

5060

2400
2400
2400
2400

TANK
#18

TANK
#18

TANK # 1

TANK # 2

TANK # 3

TANK # 4

TANK # 10

TANK # 9

TANK # 8

TANK

PLANT AREA
131.1m2

TANK # 7

TANK # 6

TANK # 5

TANK
11

5300

1250

5900

Section 2

Section 1

22730

REAR BOUNDARY

NO 14

OFFICE

STORAGE

SHOWER

W/C

OFFICE

OFFICE

BUNDING

BUNDING

BUNDING

BUNDING

BUNDING

STORAGE AREA

WAREHOUSE
NO. 16
LOT 50

STORAGE AREA

MATERIAL INWARD

SLIDING DOOR TO EXTERNAL CONCRETE AREA

A03 F

A02 A–A

A03 D

FEED POINT

MAIN COMPACTOR BODY

BUNDING

COMPACTOR OUTPUT TO BIN BELOW

BIN

CONTAINER CONVEYOR BELT

BULK BAG FOR EMPTY CONTAINERS

CONTROL PANEL

G A03

IBC LIQUID CONTAINER UNDER CONVEYOR

A03 A

A03 E

INCLINE CONVEYOR FOR EMPTY CONTAINERS TO BULK BAG

INCLINE CONVEYOR

B A03

LIQUID CONTAINER AT BASE OF CONTAINER BELT

CONTENTS PUMPED TO IBC UNDER MAIN CONVEYOR

FEED POINT

H A03

C A03

ROLLER DOOR

33

9750 INTERNAL BUND

14895 O/A

7015

SUMP PIT WITH PUMP AND HOSE CONNECTED TO IBC CONTAINER

A02 B–B

HOSE LINE FROM CONTAINER TO IBC UNDER INCLINE CONVEYOR

IBC CONTAINERS TO BE TRANSPORTED TO LIQUID PROCESS FACILITY IN NEIGHBOURING BUILDING VIA FORKLIFT

KIORA CRESCENT

PROPOSED EQUIPMENT PLAN

SCALE 1: 100

NOTE: PLANS ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND ENGINEERING BUILDING PLANS

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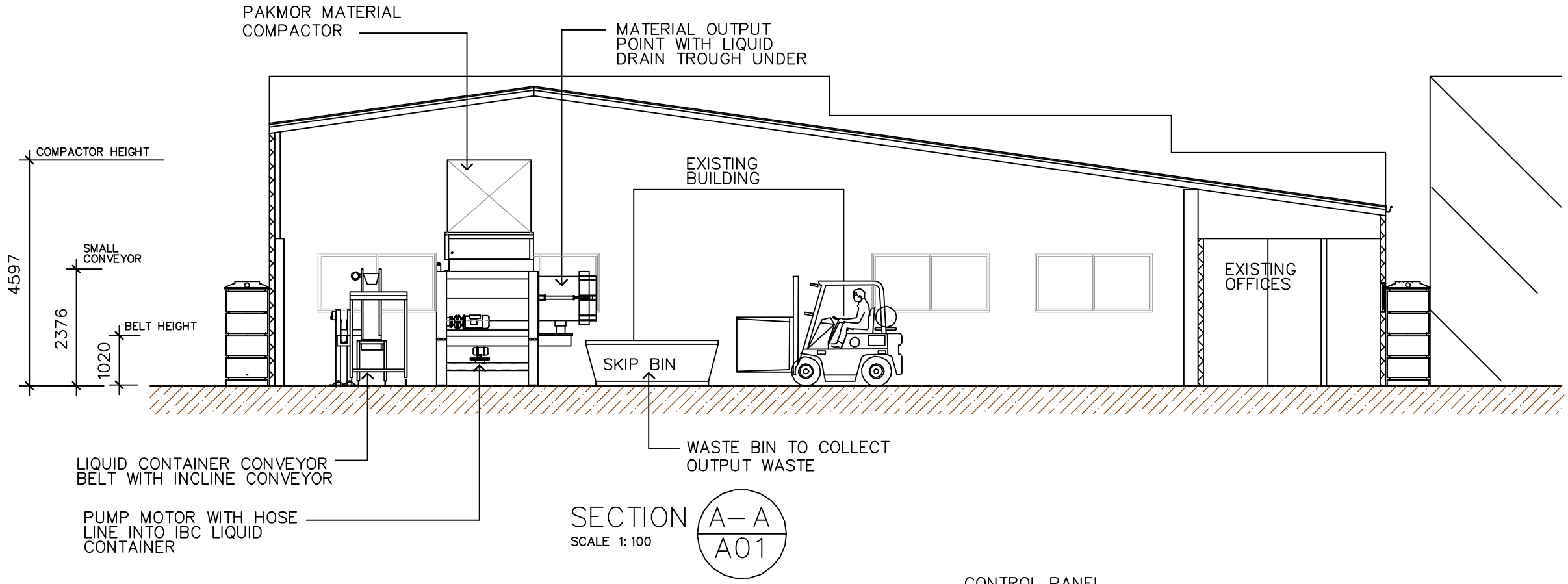
CLIENT	ENVIROWASTE SERVICES GROUP
SCALE	1: 100
TITLE	FLOOR PLAN
JOB NO.	1020/20
SHEET NO.	A01
ISSUE	A

A3 SHEET



SECTION A–A
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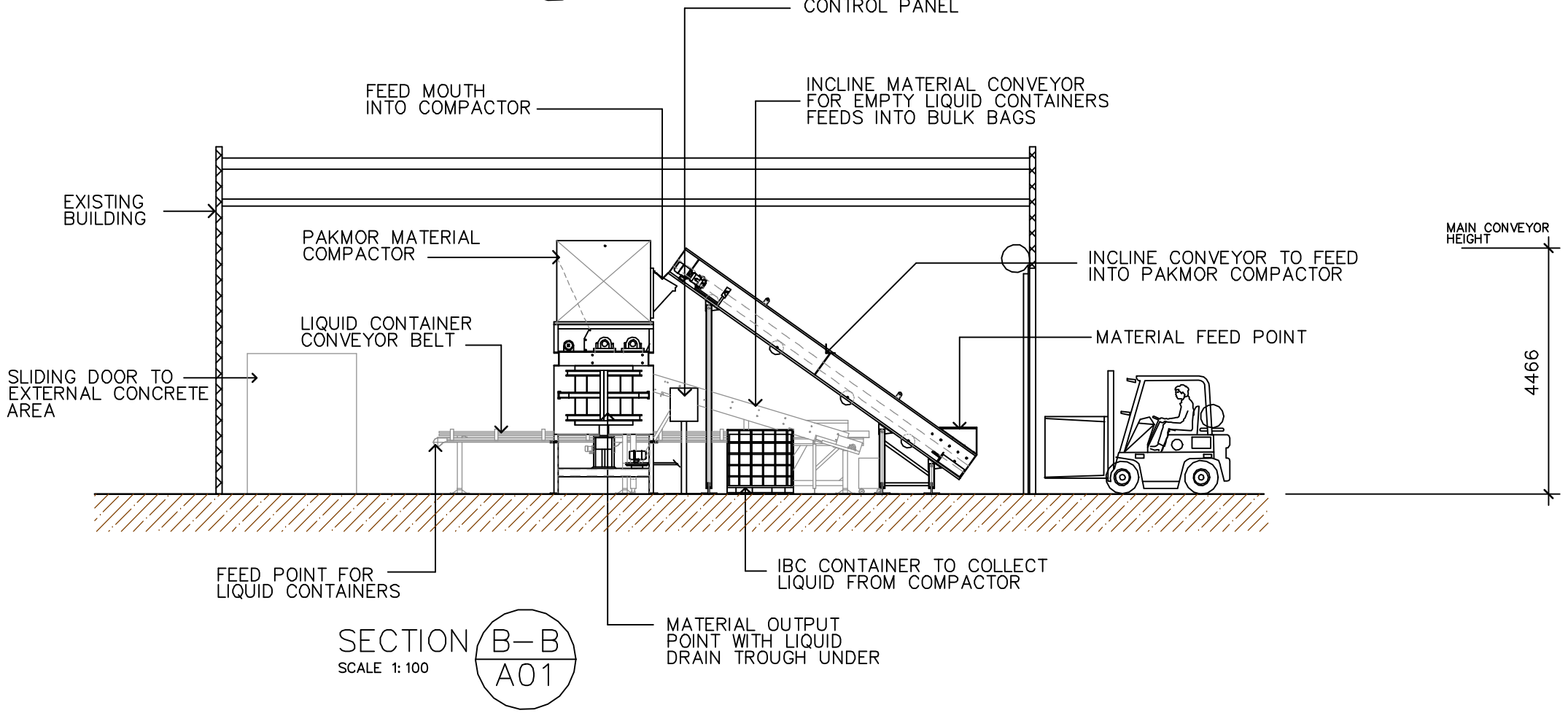

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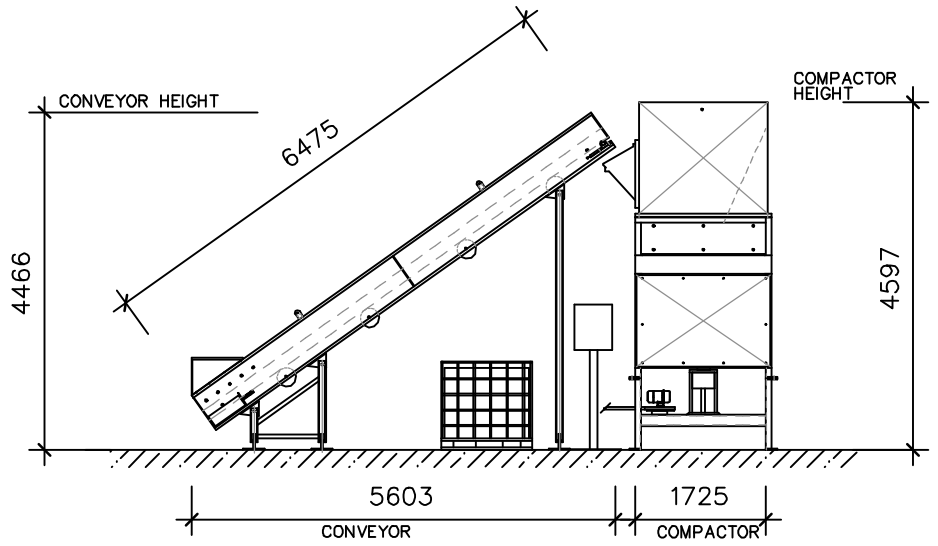
A3 SHEET



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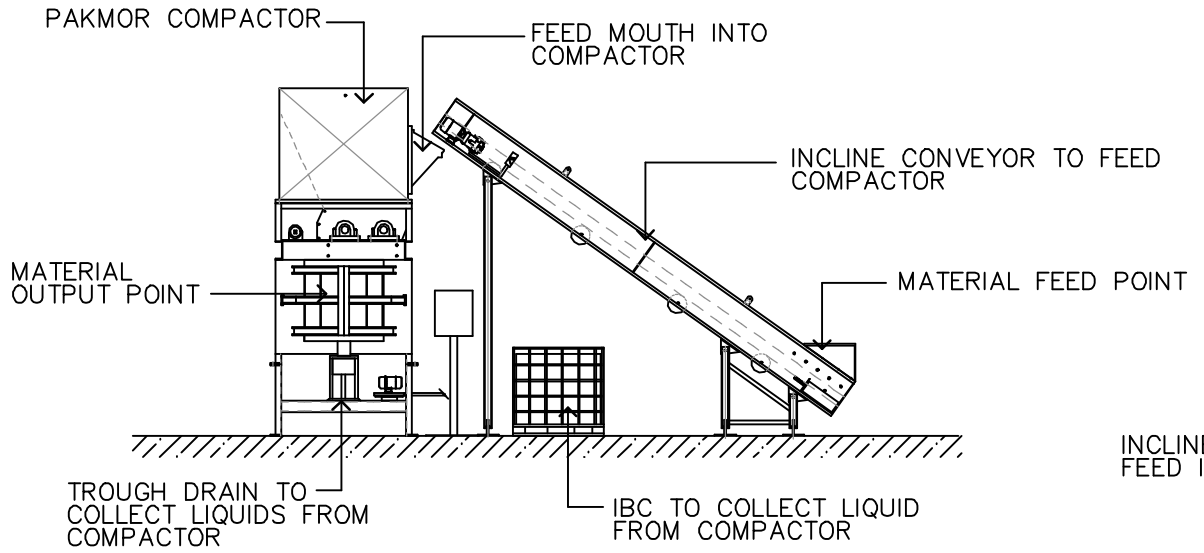

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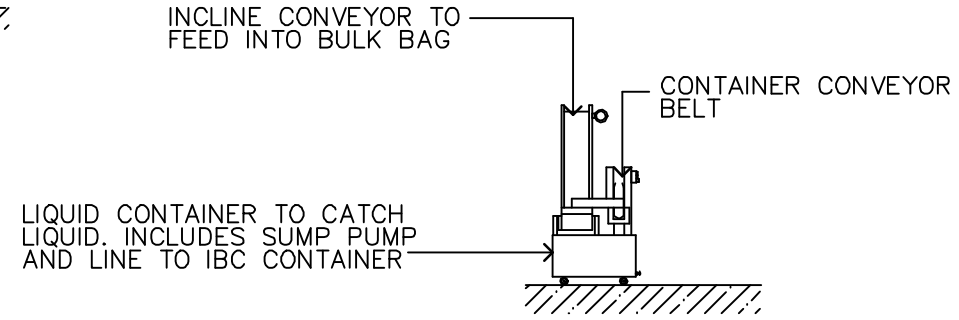

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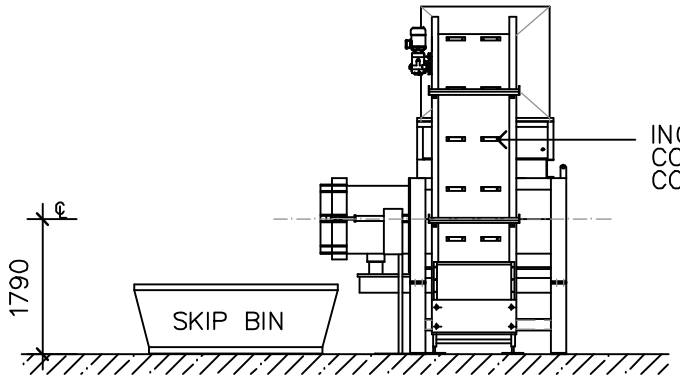

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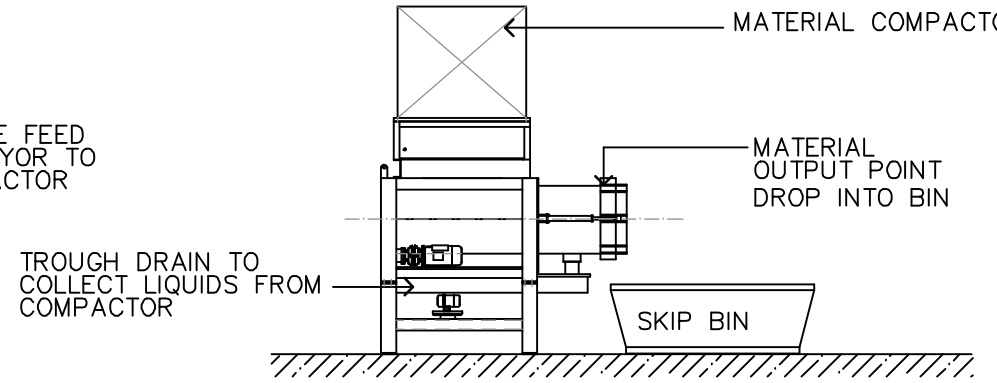

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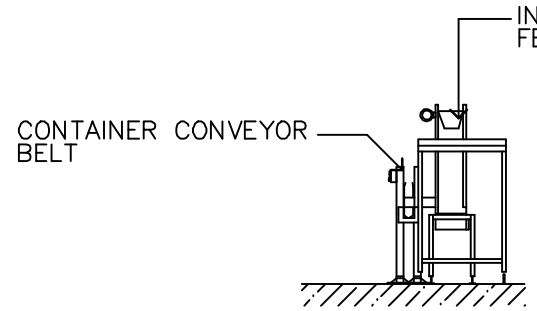

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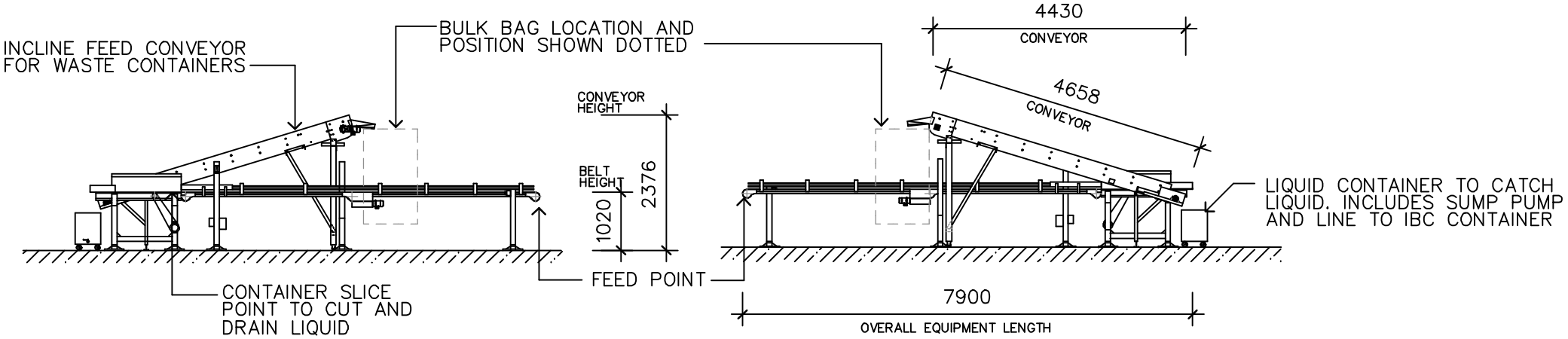

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EQUIPMENT ELEVATION (E A01)
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A3 SHEET

ODOUR IMPACT ASSESSMENT REPORT
FOR ENVIRO WASTE SERVICES GROUP PTY LTD
14-16 KIORA CRESCENT, YENNORA NSW

Prepared for: Enviro Waste Services Group Pty Ltd

Prepared by: Kate Barker, Environmental Scientist
Matthew Taylor, Environmental Scientist
R T Benbow, Principal Consultant

Report No: 191251_AQIA_Rev5
February 2021
(Released: 16 February 2021)

Benbow
ENVIRONMENTAL

Engineering a Sustainable Future for Our Environment

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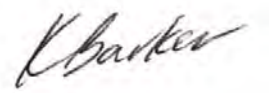
Kate Barker	Environmental Scientist		16 February 2021
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Attachments

Attachment 1: The Odour Unit Report and VOC Sampling Report

1. INTRODUCTION

Benbow Environmental has been engaged by Enviro Waste Services Group Pty Ltd to undertake an odour impact assessment for a proposed liquid waste processing facility to be located at 14-16 Kiora Crescent, Yennora NSW 2161. The assessment determines the predicted odour contribution from the proposed site operations at the nearest sensitive receptors. Source odour concentrations used in this assessment are site specific measurements.

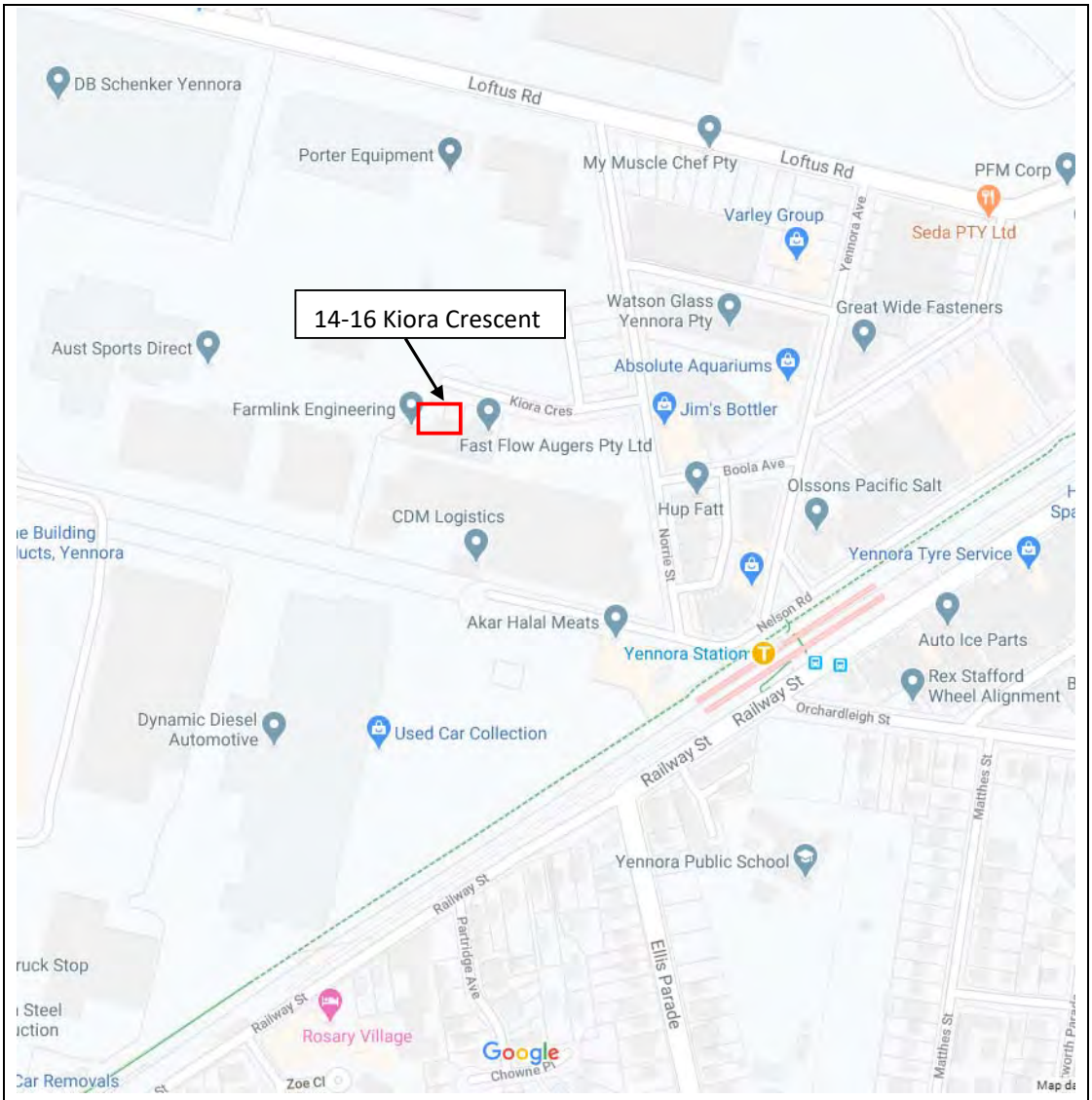
This odour assessment has been prepared in accordance with the NSW EPA guidelines *"Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales"* (2016) and *"Assessment and Management of Odour from Stationary Sources in New South Wales"* (November 2006).

2. PROPOSED DEVELOPMENT

2.1 SITE LOCATION

The development is located on two properties identified as a 575 m^2 site at 14 Kiora Crescent, Yennora NSW 2161 (known as Lot 49 DP18211) and a 1,113 m^2 site at 16 Kiora Crescent, Yennora NSW 2161 (known as Lot 50 DP18211). Both sites are within the Cumberland local government area. The site location is shown in Figure 2-1 and the site aerial is presented in Figure 2-2.

Figure 2-1: Site Location



Source: Google Maps 2020

N Not to scale	LEGEND: Site	Benbow Environment 25-27 Sherwood Street NORTHMEAD NSW 2152

Figure 2-2: Site Aerial



Source: Six Maps 2020

↑N Not to scale	LEGEND: Site boundary	Benbow Environment 25-27 Sherwood Street NORTHMEAD NSW 2152

2.2 LAND USE

The site is situated in IN1 – General Industrial land use zoning under the Holroyd LEP 2013 as shown in Figure 2-3. 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.

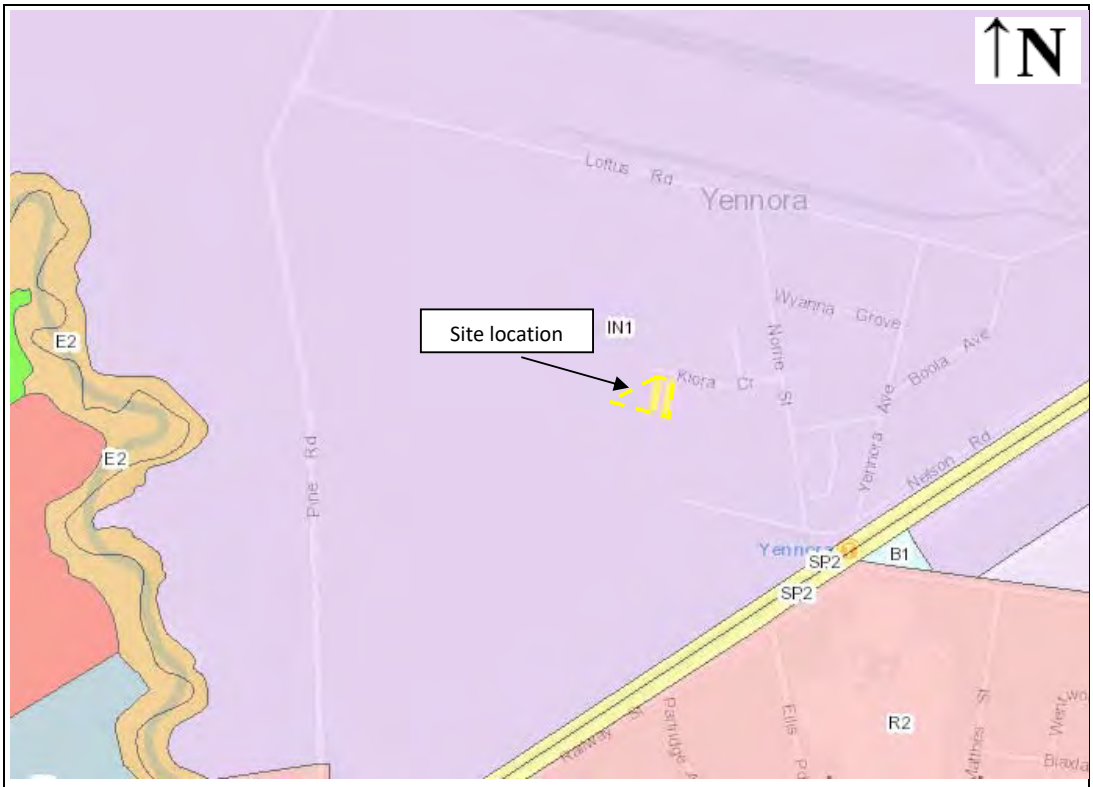
The T5 – Leppington railway line is located 325 m to the south east of the site. The Horsley Drive is located 1.02 km to the south west of the site and Prospect Creek is located 735 m to the south west.

The closest residential area is 330 m south-southeast of the site boundary.

2.3 EXISTING ODOUR ENVIRONMENT

The proposed development is within an existing industrial area. Industrial facilities surrounding the development include mechanical and automotive repairs, several logistics facilities and transport services. Existing odour within the area is typical of an industrial environment and expected to be higher than residential developments. There is no background data available for background odour levels in NSW.

Figure 2-3: Surrounding land use zoning



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

LEGEND:
Site location

- 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

Figure 2-4: Site Location



Source: Google Maps 2020

↑N Not to scale	LEGEND: Site	Benbow Environment 25-27 Sherwood Street NORTHMEAD NSW 2152

Figure 2-5: Aerial Photograph of the Site and Surrounding Area



Source: Six Maps 2019

↑N Not to scale	LEGEND: Site	Benbow Environment 25-27 Sherwood Street NORTHMEAD NSW 2152

2.4 NEAREST IDENTIFIED SENSITIVE RECEPTORS

Table 2-1 provides the list of the identified sensitive receptors in a range of directions that have the potential to be affected by the processes at the subject site. The nearest residential receptor is approximately 330 m south-southeast of the site boundary.

Table 2-1: Nearest Potentially Affected Receivers Considered

Receptor ID	Address	Lot & DP	Approximate distance to site boundary (m)	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	7 Kiora Crescent, Yennora	Lot 50 DP 1233715	Adjacent W	Industrial
R16	27-49 Nelson Road, Yennora	Lot 1 DP 746982	Adjacent S	Industrial
R17	1 Norrie St, Yennora	Lot 9 DP 1233715	130 m N	Industrial

Figure 2-6: Nearest Potentially Affected Receivers Considered



2.5 DESCRIPTION OF THE PROPOSAL

The proposed development involves increasing processing quantities at the existing liquid waste recycling facility located at 14 Kiora Crescent, and use of the neighbouring site at 16 Kiora Crescent for out-of-date liquid product/food waste destruction, improved vehicle access, truck manoeuvring and car parking.

The proposed development seeks approval to increase its current processing quantities from 900 tonnes per annum to 110,000 tonnes per annum, and increase the maximum quantity to be stored at any one time from 110 tonnes to 477 tonnes. These increases in handling capacity will be divided between properties at 14 and 16 Kiora Crescent. 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.

2.6 PROCESS DESCRIPTION

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 on by a licenced waste contractor to be further processed, predominantly as grease trap waste.

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.

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, which is connected 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.

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 (1000 L container). Any packaging unsuitable for handling are manually poured into IBCs. Packaging is recycled. The liquid waste is either sent offsite for reuse or further processed at within the 14 Kiora Crescent Building.

2.7 PROPOSED SITE ACTIVITIES AND SITE USE

The proposed site activities and site use are described for the two properties below.

14 Kiora Crescent

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).

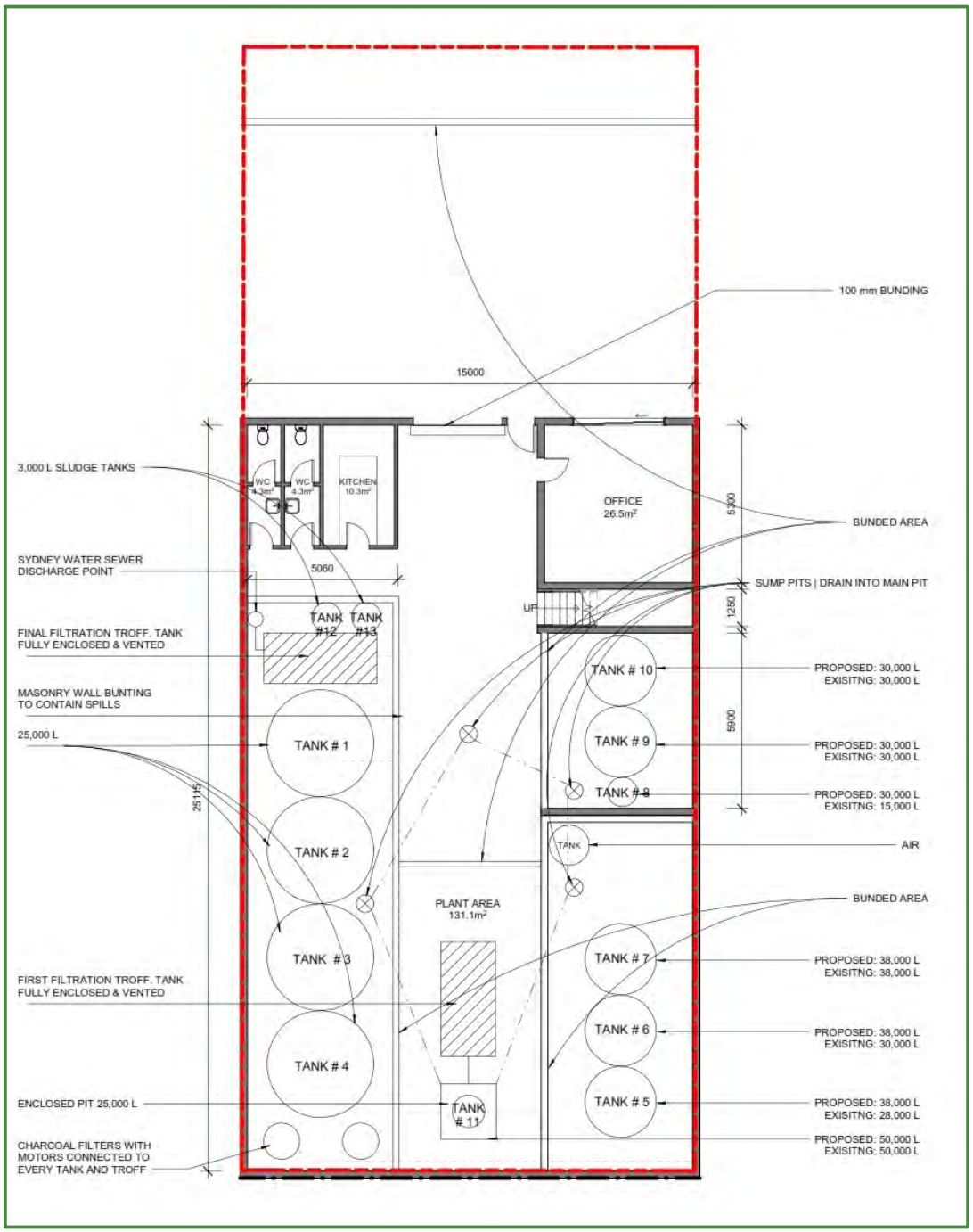
The operation of the facility involves the following activities to be undertaken on site:

- 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.

Figure 2-7 shows the proposed site plan and layout (including tank quantities) at the 14 Kiora Crescent site.

Figure 2-7: Proposed floor plan for 14 Kiora Crescent



16 Kiora Crescent

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 tonnes

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 tonnes

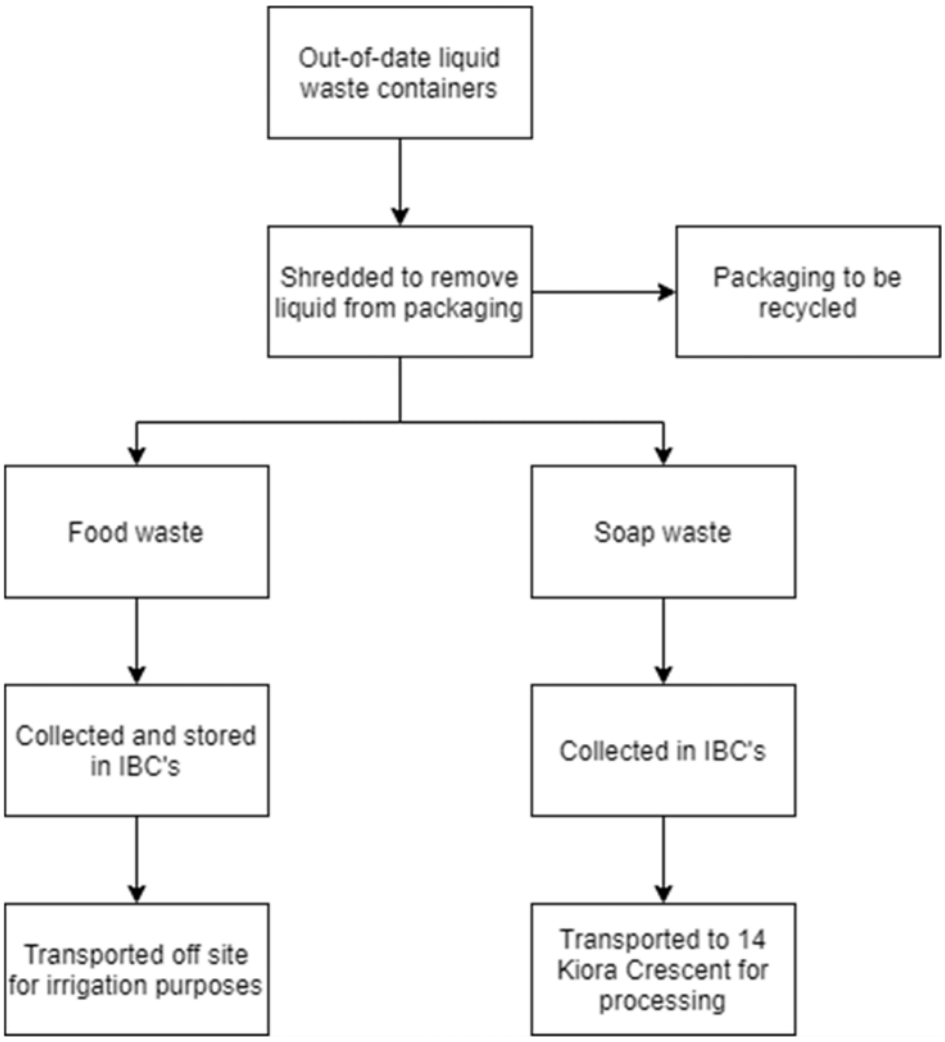
The destruction and disposal of out-of-date liquid products/food wastes would involve the following:

- 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).

  The site at 16 Kiora will not receive out-of-date dairy products nor receive liquid food waste with offensive odours. There is no available data for odour emission rates generated from similar product destruction facilities. The lack of publicly available data on the odour emission rates these types of liquids is testament to the low odour risk. In the event offensive odours occur from product destruction operations, the waste will immediately be removed offsite.

Figure 2-8 shows the process diagram for out-of-date liquid product destruction at 16 Kiora Crescent.

Figure 2-8: Process diagram of liquid product waste destruction

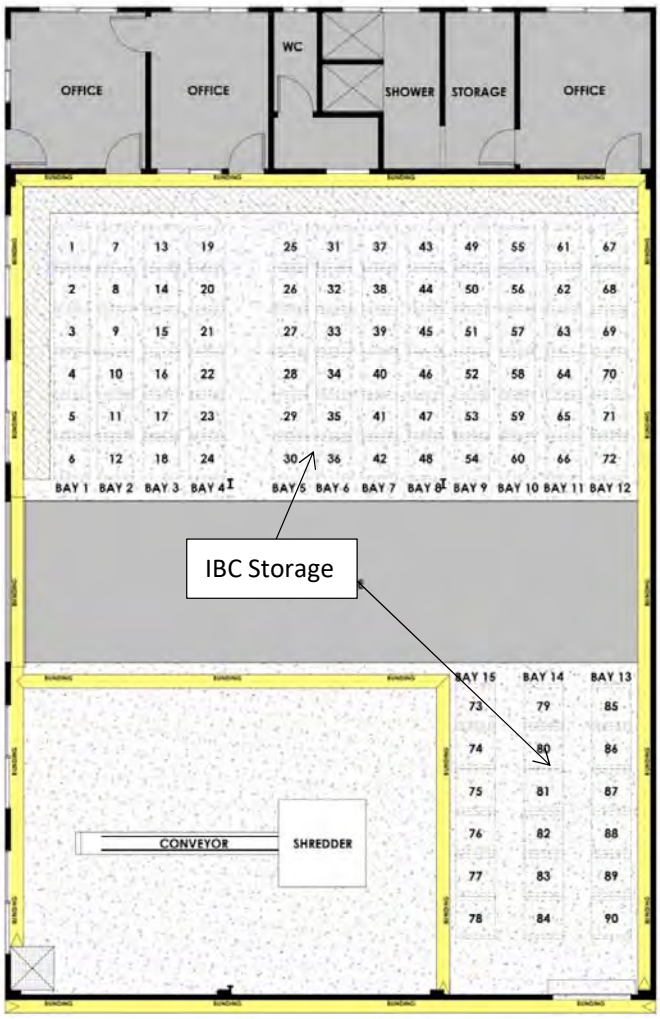


Additionally, the site at 16 Kiora Crescent would also provide improved access and manoeuvring arrangements and reduce the requirement for trucks to use the street for manoeuvring purposes.

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 2-9.

Figure 2-9: Proposed floor plan for product destruction processes at 16 Kiora Crescent



2.8 HOURS OF OPERATION

The facility proposes to operate 24 hours a day, seven days a week.

3. METEOROLOGY AND LOCAL AIR QUALITY

3.1 PROJECT SITE REPRESENTATIVE METEOROLOGY

The nearest weather monitoring station within proximity to the subject site is the Bankstown AWS operated by the Bureau of Meteorology. This monitoring station is located approximately 5.2 kilometres away to the south-southeast of the subject site and was considered to be the most representative of meteorological conditions due to the vicinity, completeness and latest data available for assessment.

Available long term meteorological trends from Bankstown AWS were compared to annual data for a five consecutive years (2013-2018). The year 2015 was selected as the most representative year and was used to make inferences about meteorological conditions at the site in this section.

3.2 WIND ROSE PLOTS

Wind rose plots show the direction from which the wind is coming with triangles known as "petals". The petals of the plots in Figure 3-1 summarise wind direction data into 8 compass directions ie. north, northeast, east, southeast, etc.

The length of the triangles, or "petals", indicates the frequency that the wind blows from the direction presented. Longer petals for a given direction indicate a higher frequency of wind from that direction. Each petal is divided into segments, with each segment representing one of the six wind speed classes. Thus, the segments of a petal show what proportion of wind for a given direction falls into each class.

The proportion of time for which wind speed is equal to or less than 0.5 m/s, when speed is negligible, is referred to as calm hours or "calms". Calms are not shown on a wind rose as they have no direction, but the proportion of time that they make up for the period under consideration is noted under each wind rose.

The concentric circles in each wind rose are the axes that denote wind frequencies. In comparing the plots it should be noted that the axis varies between wind roses, although all wind roses are the same size. The frequencies shown in the first quadrant (top-left quarter) of each wind rose are stated beneath the wind rose.

3.3 LOCAL WIND TRENDS

Seasonal wind rose plots for this site utilising Bankstown AWS 2015 data have been included as Figure 3-1.

Based on the information presented from the 2015 data for Bankstown annual average wind speeds of 2.97 m/s and a calms frequency of 15.92% were estimated. Annual winds from the south and northwest were found to be dominant and were present for approximately 13% and 12% of the time.

The average summer wind speed was estimated to be 3.39 m/s, with a calms frequency of 12.55%. Northeast and south east winds were found to be dominant at a frequency of around

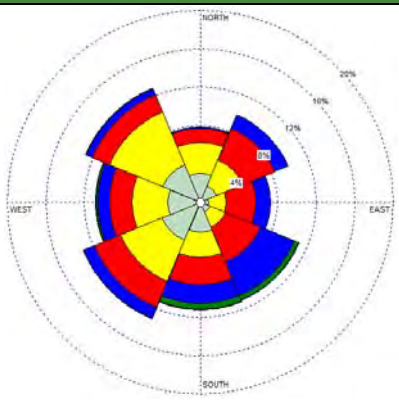
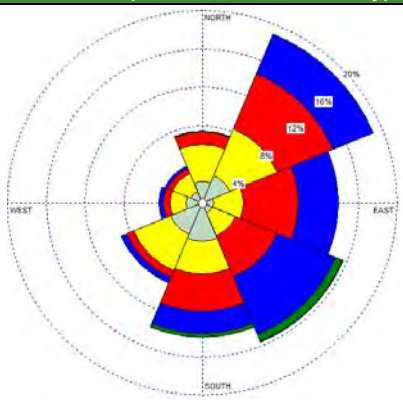
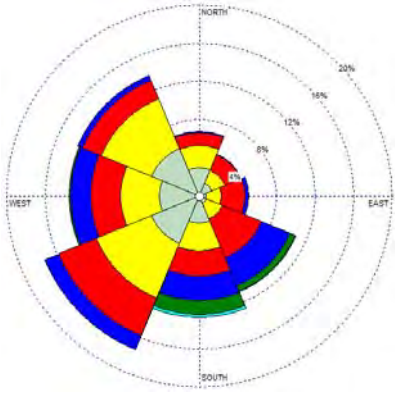
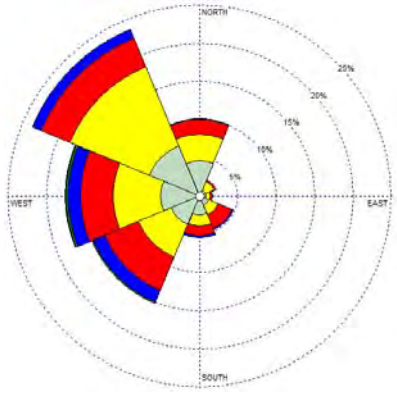
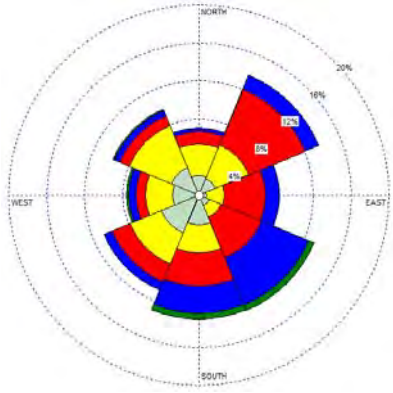
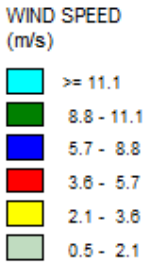
19% and 16%. Winds from the east and south were found to be present for approximately 14% of the time each while the remainder of the wind directions have contributions of less than 26%.

In autumn, dominant winds are blowing from the southwest (18%). All other wind directions occurred at frequencies less than 14%. The average autumn wind speed was 2.98 m/s with a calms frequency of 15.31%.

The winter season data showed the prevalence of winds from the northwest, west and southwest at frequencies of approximately 24%, 17% and 15% respectively. All other wind directions occurred at frequencies less than 10%. The average winter wind speed was determined to be 2.38 m/s with a calms frequency of 19.16%.

In the springtime, average wind speeds of 3.12 m/s with a frequency of calms of 16.62% were recorded. Dominant winds were found to be present from the south, southeast and northeast (~13% each). The rest of the wind directions were found to be present at frequencies less than 11%.

Figure 3-1: Wind Rose Plots for the Referenced Meteorological Station – Bureau of Meteorology Bankstown AWS (2015)

All Seasons	Summer Season (December – February)
	
Average Wind Speed: 2.97 m/s Calms Frequency: 15.92% Axis Frequencies: 4%, 8%, 12%, 16%, 20%	Average Wind Speed: 3.39 m/s Calms Frequency: 12.55% Axis Frequencies: 4%, 8%, 12%, 16%, 20%
Autumn Season (March – May)	**Winter Season (June – August)**
	
Average Wind Speed: 2.98 m/s Calms Frequency: 15.31% Axis Frequencies: 4%, 8%, 12%, 16%, 20%	Average Wind Speed: 2.38 m/s Calms Frequency: 19.16% Axis Frequencies: 5%, 10%, 15%, 20%, 25%
Spring Season (September – November)	**Legend**
	
Average Wind Speed: 3.12 m/s Calms Frequency: 16.62 % Axis Frequencies: 4%, 8%, 12%, 16%, 20%	

3.4 TERRAIN AND STRUCTURAL EFFECTS ON DISPERSION

The meteorological condition known as katabatic flow (or katabatic drift) is often identified as the condition under which maximum environmental impacts from primarily ground-based sources are likely to occur. Katabatic flow is simply the movement of cold air down a slope, generally under stable atmospheric conditions. Under such circumstances, dispersion of airborne pollutants is generally slow and the associated impacts can reach their peak.

Katabatic flow is unlikely to affect the impact of emissions from the subject site at the identified receptors as the terrain is relatively flat in the area surrounding the site and receptors. Figure 3-2 with all axes equally scaled, shows the terrain as it actually exists when viewed in a conventional three-dimensional view.

Figure 3-3 shows the terrain with the z-axis (i.e. vertical axis) exaggerated by a factor of 10 (i.e. a given distance on the x-axis or y-axis appears three times as great on the z-axis) in order to provide a clearer description of the topography. A coloured scale bar shows elevations corresponding to the colours used in the figures. It should be noted that these figures are an approximation of the actual terrain, based on terrain information that have been digitised from local contour terrain maps.

Figure 3-2: Local Topography of Site, no vertical exaggeration

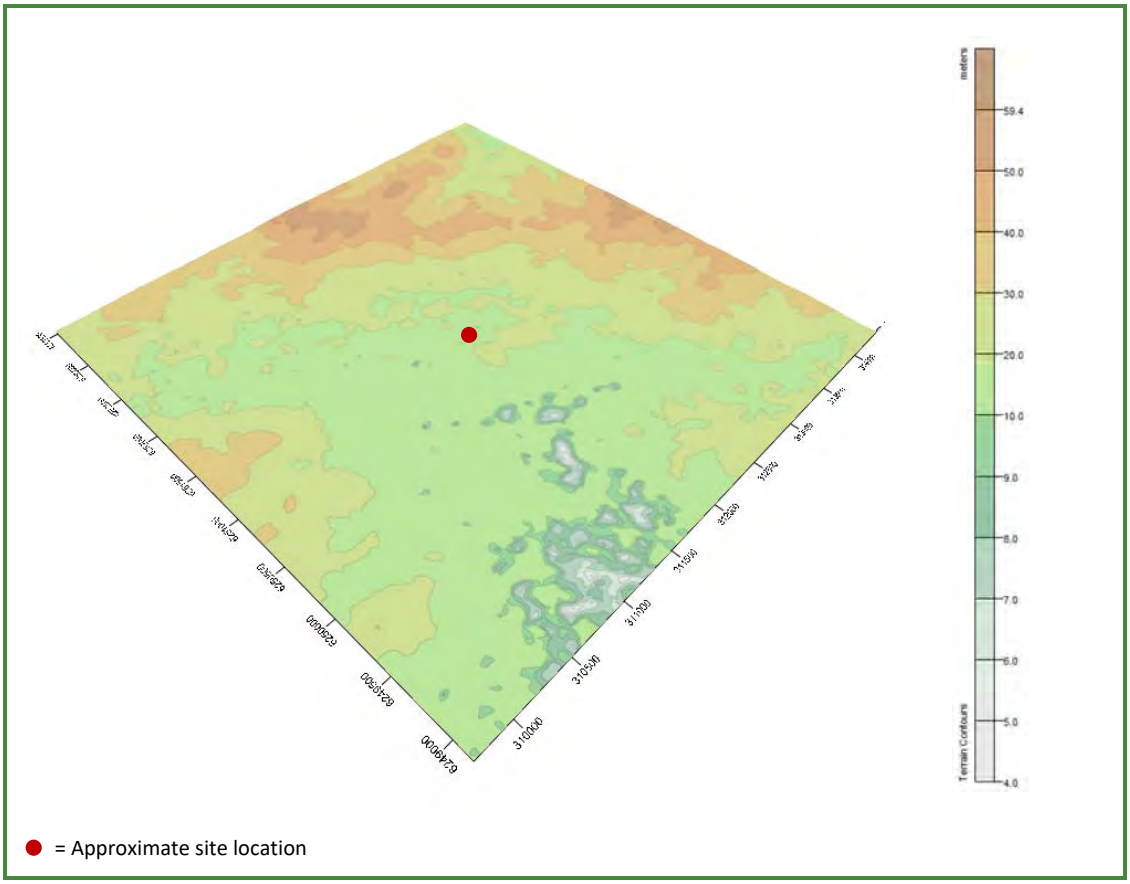

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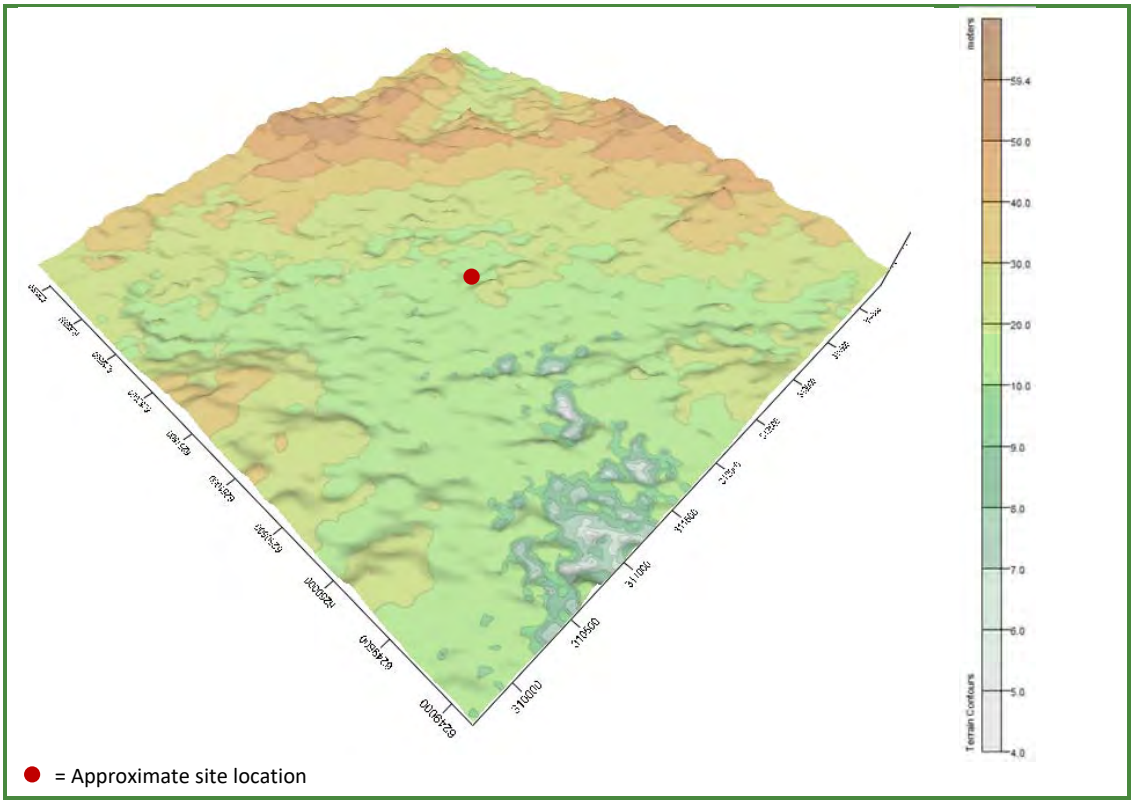
Figure 3-3: Local Topography of Site, factor of 10 vertical exaggeration



4. AIR QUALITY CRITERIA AND GUIDELINES

4.1 PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) applies the following definitions relating to air pollution:

> ***"Air pollution"*** *means the emission into the air of any air impurity.*
>
> *While "air impurity" includes smoke, dust (including fly ash), cinders, solid particles of any kind, gases, fumes, mists odours, and radioactive substances*

The following sections of this Act have most relevance to the site:

- *Section 124 Operation of Plant - other than domestic plant*

  The occupier of any premises who operates any plant in or on those premises in such a manner as to cause air pollution from those premises is guilty of an offence if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupier's failure:

  (a) to maintain the plant in an efficient condition, or

  (b) to operate the plant in a proper and efficient manner.

- *Section126 Dealing with Materials*

  (1) The occupier of any premises who deals with materials in or on those premises in such a manner as to cause air pollution from those premises is guilty of an offence if the air pollution so caused, or any part of the air pollution so caused, is caused by the occupiers failure to deal with those materials in a proper and efficient manner.

  (2) In this section:

  deal *with materials means process, handle, move, store or dispose of the materials.*

  Materials *includes raw materials, materials in the process of manufacture, manufactured materials, by-products or waste materials.*

- *Section 127 Proof of causing pollution*

  To prove that air pollution was caused from premises within the meaning of Sections 124 – 126, it is sufficient to prove that air pollution was caused on the premises, unless the defendant satisfies the court that the air pollution did not cause air pollution outside the premises.

- *Section 128 Standards of air impurities not to be exceeded*

  (1) The occupier of any premises must not carry on any activity, or operate any plant, in or on the premises in such a manner as to cause or permit the emission at any point specified in or determined in accordance with the regulations of air impurities in excess of:

  (a) The standard of concentration and the rate, or

  (b) The standard of concentration or the rate.

  Prescribed by the regulations in respect of any such activity or any such plant.

  (2) Where neither such a standard nor rate has been so prescribed, the occupier of any premises must carry on any activity, or operate any plant, in or on the premises by such practicable means as may be necessary to prevent or minimise air pollution.

- *Section 129 Standards of air impurities not to be exceeded*

  (1) The occupier of any premises at which scheduled activities are carried on under the authority conferred by a licence must not cause or permit the emission of any offensive odour form the premises to which the licence applies.

  (2) It is a defence in proceedings against a person for an offence against this section if the person establishes that:

  (a) The emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of the licence directed at minimising the odour, or

  (b) The only persons affected by the odour were persons engaged in the management or operation of the premises.

  (3) A person who contravenes this section is guilty of an offence.

The proposed development is required to comply with this Act.

4.2 PROTECTION OF ENVIRONMENT OPERATIONS (CLEAN AIR) REGULATION 2010

In accordance with Part 5 of the *Protection of the Environment Operations (Clean Air) Regulation 2010* (herein referred to as the Clean Air Regulation 2010), the activities and plant would belong to Group 6 (Standards for scheduled premises) as it is to be *commenced to be carried on, or to operate, on or after 1 September 2005 as a result of an environment protection licence granted under the Protection of the Environment Operations Act 1997 pursuant to an application made on or after 1 September 2005*.

Schedule 4 of the Clean Air Regulation 2010 provides standards of concentration for scheduled premises for general activities and plant. Schedule 4 does not list any standards of concentration for emissions of odour.

4.3 NSW Environment Protection Authority Guidelines

The document, "*Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*" (AMMAAP) published by the NSW Environment Protection Authority (NSW EPA) provides guidance on methodology and thresholds that are to be used for the air impact assessment of a proposed development. This odour impact assessment has been conducted in accordance with these guidelines, summarised in Table 4-1.

Table 4-1: 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)). The criterion for the scenario is described in Section 7.3.

The VOC criterion is described in section 6.3.

5. AIR QUALITY IMPACT MITIGATION MEASURES

The majority of sources of impacts will be generated within the building located at 14 Kiora Crescent: 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.

The deodoriser system is explained in Section 5.4.

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 (aka smell of orange juice). The operational processes at this site would sufficiently mitigate air quality impact risk, these include:

- Indoor operations; and
- Deodoriser.

Further assessment of 16 Kiora Crescent is not warranted on the basis that there were no odour generating processes and the liquids are not left to putrefy or generate odorous emissions. Our experience with similar facilities is similar to the operations intended at this site – no odour controls or detailed assessment is needed. Good housekeeping practices are expected.

5.1 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.

5.2 STACK

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

5.3 BUILDING

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

5.4 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.

6. EMISSIONS TO AIR

6.1 POTENTIAL EMISSION SOURCES

Potential sources of emissions to air include odour from liquid wastes, chemical compounds (e.g. volatile organic compounds (VOCs), vapours, noxious fumes) and dust or particulate matter.

Odour from unprocessed liquid wastes received and stored on the site is identified as the primary potential source of emissions to air. These liquids are pumped directly into tanks within the facility and emissions of odour may occur from these wastes during processing and handling. Identified odour emission sources are discussed below.

VOCs are a potentially released to air and are discussed below.

Vapours and/or noxious fumes have the potential to be released to air during liquid waste handling and transfer. Specific chemical compound emissions to air associated with the proposed development is considered negligible as contaminants have low vapour pressures. As the recycling processes does not include heating it is unlikely that more harmful pollutants are generated. Furthermore as discussed in Section 5, potentially hazardous chemical compounds are vented through a biotrickling filter that degrades these compounds before being emitted to air. The specific reduction efficiency varies on average between 80-99% depending on the contaminant. Additionally, all operations take place within the building where control measures mitigate the release of emissions to air.

Dust and particulate matter associated with the activities and processes on site are considered negligible. The nature of the wastes and materials handled are liquid and therefore do not generate dust or particulate matter. Additionally, the site is covered in sealed hardstand, therefore wheel generated dust from vehicle movement is considered negligible.

6.2 ODOUR EMISSION SOURCES

There are three points of odour emission that are identified in the recycling process:

- Solids filter;
- Biotrickling filter (BTF) system vent/stack; and
- Dissolved Air Floatation (DAF) treatment tank.

The solids filter emits odour during periods that it is opened for cleaning. There are two Solids filters but typically only one is opened for cleaning at a time. All displaced air from tank filling is vented through a biotrickling filter (supplied by Gebel Tanks). There are two pumps for the air transport system through the vents and BTF system, each pump results in a 7 m^3/min (0.117 m^3/s) maximum flow rate from the BTF vent. Under normal operations one pump is running and the second is a backup. It is very rare that both pumps operate at the same time.

Emissions of the solids filter and the DAF treatment tank both are both through the roller door of the building and one exhaust vent on the roof. The odour emissions for both sources has been calculated individually and modelled as a cumulative volume source to account for all emissions from the building.

Types of odour are dependent on the various wastes, including:

- Cooking oil;
- Industrial waste;
- Surfactants;
- Grease trap waste; and
- Sewage sludge.

Odour sampling of similar types of waste have been used in this assessment to determine emission rates for modelling.

6.2.1 Odour Sampling

Odour sampling was undertaken at the facility on the 25th January 2021. Eight odour samples were taken. Odour sampling was conducted by Ektimo Pty Ltd, a NATA accredited company to ISO/IEC 17025 – Testing. Odour concentration measurements were performed using dynamic olfactometry according to the Australian/New Zealand Standard: Stationary source emissions – *Part 3: 'Determination of odour concentration by dynamic olfactometry* (AS/NZS4323.3) by The Odour Unit Pty LTD, a NATA accredited laboratory. The full test report is provided as Attachment 1. A summary of the odour analysis is provided in the table below.

Table 6-1: Odour Sample Results

	Stack		Filter Box		DAF	
	Barrel I.D	Result (ou)	Barrel I.D	Result (ou)	Barrel I.D	Result (ou)
Test 1	131	8930	44	470	120	2050
Test 2	103	8930	25	2660	40	1450
Test 3	84	9740	15	559	NA	NA

Samples from the filter box were related to three liquids: test 1 was grease trap liquid, test 2 was M250 liquid, and test 3 was sewage liquid. For the filter box, the M250 samples were highest. The M250 during sampling in this case was observed to be industrial surfactant wash off from a meat/poultry processing plant.

For the purpose of this assessment, the highest concentration value for each source has been used in the odour emission rate calculation rather than by taking the average of the sample results.

6.3 VOC SAMPLING

VOC sampling was conducted at the filter box, stack and DAF during grease trap transfer. The results are presented in Attachment 1.

The VOCs that present the highest risk are those which have the highest concentration: criteria ratio. These have been determined to be Benzene and Xylenes, the results and applicable Approved Methods criteria are presented in the table below.

Table 6-2: VOC Sampling Summary (Xylene & Benzene)

Location of Measurement	Xylene	Benzene
Stack	11.1 mg/m^3	0.68 mg/m^3
Filter Box	5.3 mg/m^3	0.5 mg/m^3
DAF	1.25 mg/m^3	0.45 mg/m^3
Applicable Criteria	0.19mg/m^3	0.029 mg/m^3
Location Criteria Applies	At the nearest sensitive receptor	At and beyond the boundary of the facility
Averaging Period	1 hr	1 hr

6.4 MODELLING ASSUMPTIONS

The following assumptions were made in this assessment:

- Emissions of odour and VOCs from processing occur 24/7;
- All tanks vent through the BTF vent/stack;
- The solid filter and DAF are modelled as a combined volume source (the building); and
- Emissions from the building are at the height of the roller door.

6.4.1.1 Reduction factor

Biotrickling filters are known to be an efficient technology for odour treatment. As specific reduction efficiency varies on average between 80-99% depending on the contaminant No reduction factors have been utilised as the samples were taken downstream of the biotrickling filter.

The solid filter and DAF treatment tank are within the building. The enclosed area will reduce the emissions to the environment, as such these sources have been cumulatively modelled as a volume source and a reduction factor of 0.1 has been applied to the volume source. This method is reflected in standard dust emission assessments and considered appropriate due to the particulate nature of odour.

There is also a deodoriser system within the building that will combat nuisance level of odours but has not been included in the modelling.

6.5 GREENHOUSE GAS IMPACTS

The proposal provides for reduction to greenhouse emissions from the waste sector by:

- Increasing diversion of organics from landfill
- Reducing transport distances to disposal sites for local waste producers

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

7. AIR IMPACT MODELLING

7.1 DISPERSION MODEL

The new generation air dispersion model, AERMOD was used for the prediction of off-site impacts associated with the air emissions from the proposed operations. AERMOD uses air dispersion based on planetary boundary layer turbulence structure and scaling concepts. The AERMOD model replaced AUSPLUME as the air dispersion model accepted by the Victorian EPA in January 2014 and is a suitable model to use for this air assessment.

Air emissions from the proposed development can be considered to have been adequately represented using the modelling program.

7.1.1 Peak-to-Mean Ratios

The evaluation of odour impacts requires the estimation of peak ground level concentrations on the time scale of less than one second. However, dispersion model predictions are typically valid for averaging periods of one hour or longer. As such, dispersion models need to be supplemented in order to simulate more accurately the atmospheric dispersion of odours and the instantaneous perception of odours by the human nose - humans detect odour over a period of approximately one second or less.

Peak concentrations can be estimated from ensemble means by use of peak-to-mean ratios (ratios between extreme short-term concentrations and longer-term averages), which help to account for any odour fluctuation above and below the mean odour level of the 1-hour averaging period. Peak-to-mean ratios depend on the type of source, atmospheric stability and distance downwind. Table 7-1 shows the EPA-recommended factors for estimating peak concentrations for different source types, stabilities and distances, as developed by Katestone Scientific (1995 and 1998) and reproduced in the *Approved Methods* (NSW EPA, 2016).

P/M60 ratios selected for this assessment are presented in Table 7-2 and applied to our odour emission rates entered into the dispersion model so that they vary with wind speed and stability class. The peak-to-mean ratio adjusted figures and the source types are shown in Table 7-1.

Table 7-1: Peak to Mean Ratio for Estimating Peak Odour Concentrations

Source Type	Pasquill-Gifford Stability Class	Near-field P/M60*	Far-field P/M60*
Area	A, B, C, D	2.5	2.3
	E, F	2.3	1.9
Line	A – F	6	6
Surface wake-free point	A, B, C	12	4
	D, E, F	25	7
Tall wake-free point	A, B, C	17	3
	D, E, F	35	6
Wake-affected point	A – F	2.3	2.3
Volume	A – F	2.3	2.3

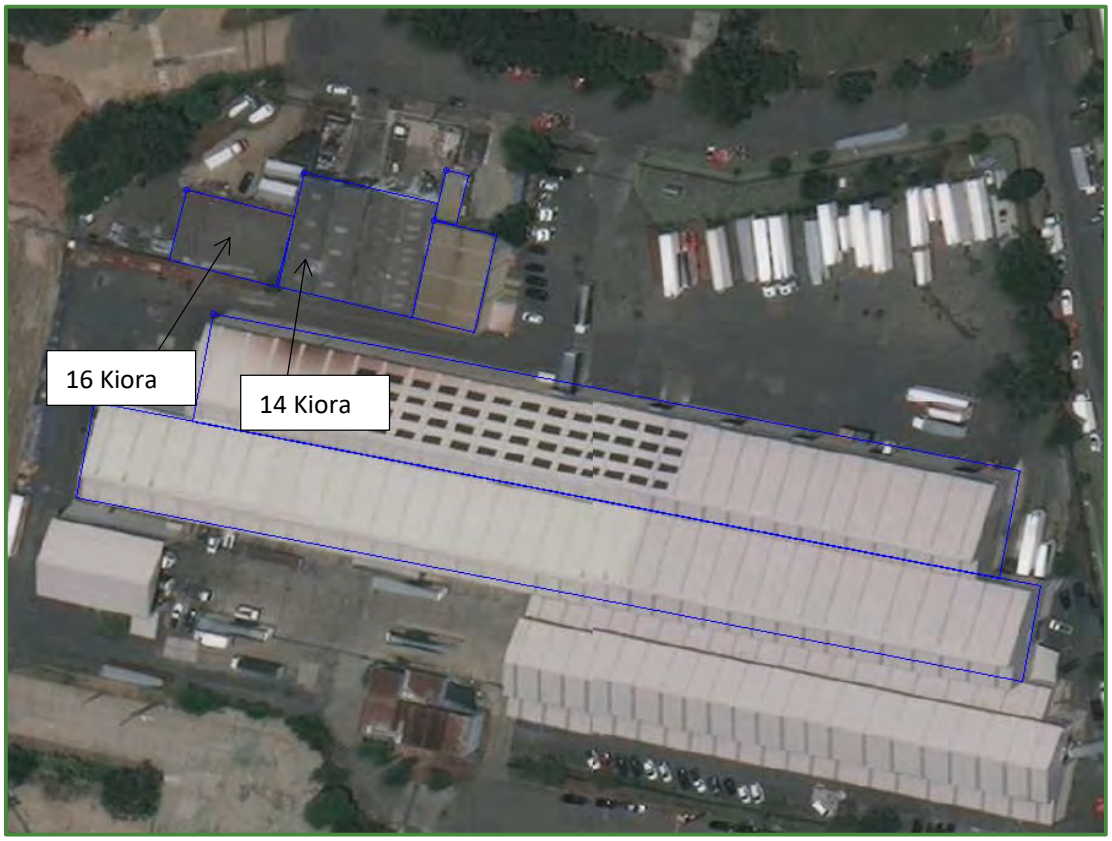
Note: * Ratio of peak 1-second average concentrations to mean 1-hour average concentrations.
Source: NSW EPA Approved Methods, Section 6.6.

7.1.2 Building-Wake Effects

Building-wake effects occur when emissions from a source are hindered as they move from winds "washing" the emissions down to the nearest building structure. This phenomenon can enhance off-site impacts (depending on the location of the building structure, wind direction and the source).

Building-wake effects are considered in the air dispersion modelling phase of the assessment by representing all buildings and structures on and around the site as structures in the model using the BPIP/PRIME algorithm. Buildings considered in the assessment are outlined in blue and shown in Figure 7-1.

Figure 7-1: Buildings included in model.



7.2 AIR EMISSIONS INVENTORY

Sources included in the odour emission dispersion model are shown in Figure 7-2 and source parameters are detailed in Table 7-2.

Figure 7-2: Sources included in model



Table 7-2: Air Emissions Inventory

Source ID	Source Type	Sample	Area (m^2)	Release Height (m)	Velocity (m/s)	Flow Rate (m^3/s)	Emission Rate	Peak to mean Ratio	Emission Rate	Reduction Factor	Emission Rate used in Model	Temperature (°C)
Odour												
BTF vent	Point Source	9740 OU/m^3	0.008	14	14.85	0.117	1136 OU/s	2.3	2614 OU/s	N/A	2614 OU/s	Ambient
Filter *	N/A	2050 OU/m^3	2	N/A	0.1	0.2	340 OU/s	N/A	N/A	N/A	N/A	N/A
DAF *	N/A	2660 OU/m^3	1	N/A	0.1	0.1	170 OU/s	N/A	N/A	N/A	N/A	N/A
Building (DAF + Filter)	Volume Source	N/A	388	6	N/A	N/A	Filter + DAF = 676 OU/s	2.3	1555 OU/s	0.1	155 OU/s	Ambient
Xylene												
BTF vent	Point Source	11.1 mg/m^3	0.008	14	14.85	0.117	0.095 g/s	N/A	0.0949 g/s	N/A	0.0949 g/s	Ambient
Filter *	N/A	5.3 mg/m^3	2	N/A	0.1	0.2	0.027 g/s	N/A	N/A	N/A	N/A	N/A
DAF *	N/A	1.25 mg/m^3	1	N/A	0.1	0.1	0.013 g/s	N/A	N/A	N/A	N/A	N/A
Building (DAF + Filter)	Volume Source	N/A	388	6	N/A	N/A	Filter + DAF = 0.039 g/s	N/A	0.039 g/s	0.1	0.0039 g/s	Ambient
Benzene												
BTF vent	Point Source	0.68 mg/m^3	0.008	14	14.85	0.117	0.0058 g/s	N/A	0.0058 g/s	N/A	0.0058 g/s	Ambient
Filter *	N/A	0.5 mg/m^3	2	N/A	0.1	0.2	0.0025 g/s	N/A	N/A	N/A	N/A	N/A
DAF *	N/A	0.45 mg/m^3	1	N/A	0.1	0.1	0.0045 g/s	N/A	N/A	N/A	N/A	N/A
Building (DAF + Filter)	Volume Source	N/A	388	6	N/A	N/A	Filter + DAF = 0.007 g/s	N/A	0.0070 g/s	0.1	0.0007 g/s	Ambient

Note: The filter and DAF are not modelled individually.

7.3 MODELLING RESULTS

Within the 2 OU contour there are 0 houses and therefore a population of 0. As per the population based selection method described in Section 4.3, an odour concentration criterion of 7 OU/m^3 for residences ≤ ≈ 2 has been considered to be applicable for the purpose of this assessment.

The estimated ground level impact results for odour are given in Table 7-3 for the identified receptors. An isopleth is provided as Figure 7-3.

Table 7-3: 99th Percentile Odour Impact Results at Identified Receptors

Receptor	Impact OU	Criteria OU	Complies? (Y/N)
R1	0.01	7	Y
R2	0.20		Y
R3	0.06		Y
R4	0.03		Y
R5	0.02		Y
R6	0.02		Y
R7	0.02		Y
R8	0.03		Y
R9	0.06		Y
R10	0.15		Y
R11	0.14		Y
R12	0.03		Y
R13	0.03		Y
R14	0.02		Y
R15	1.55		Y
R16	1.23		Y
R17	0.74		Y

Figure 7-3: 99th Percentile Odour Impact Isopleth

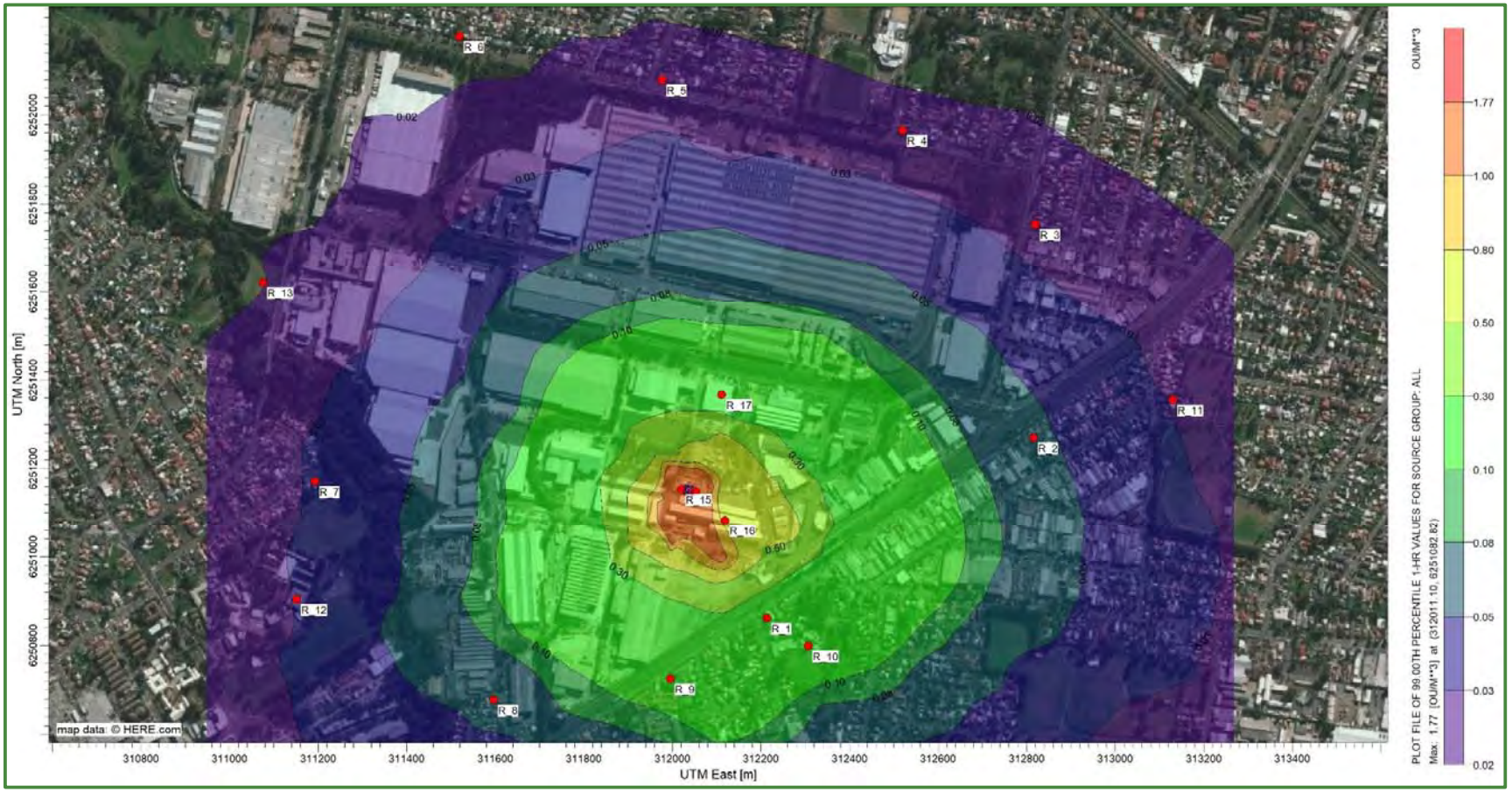
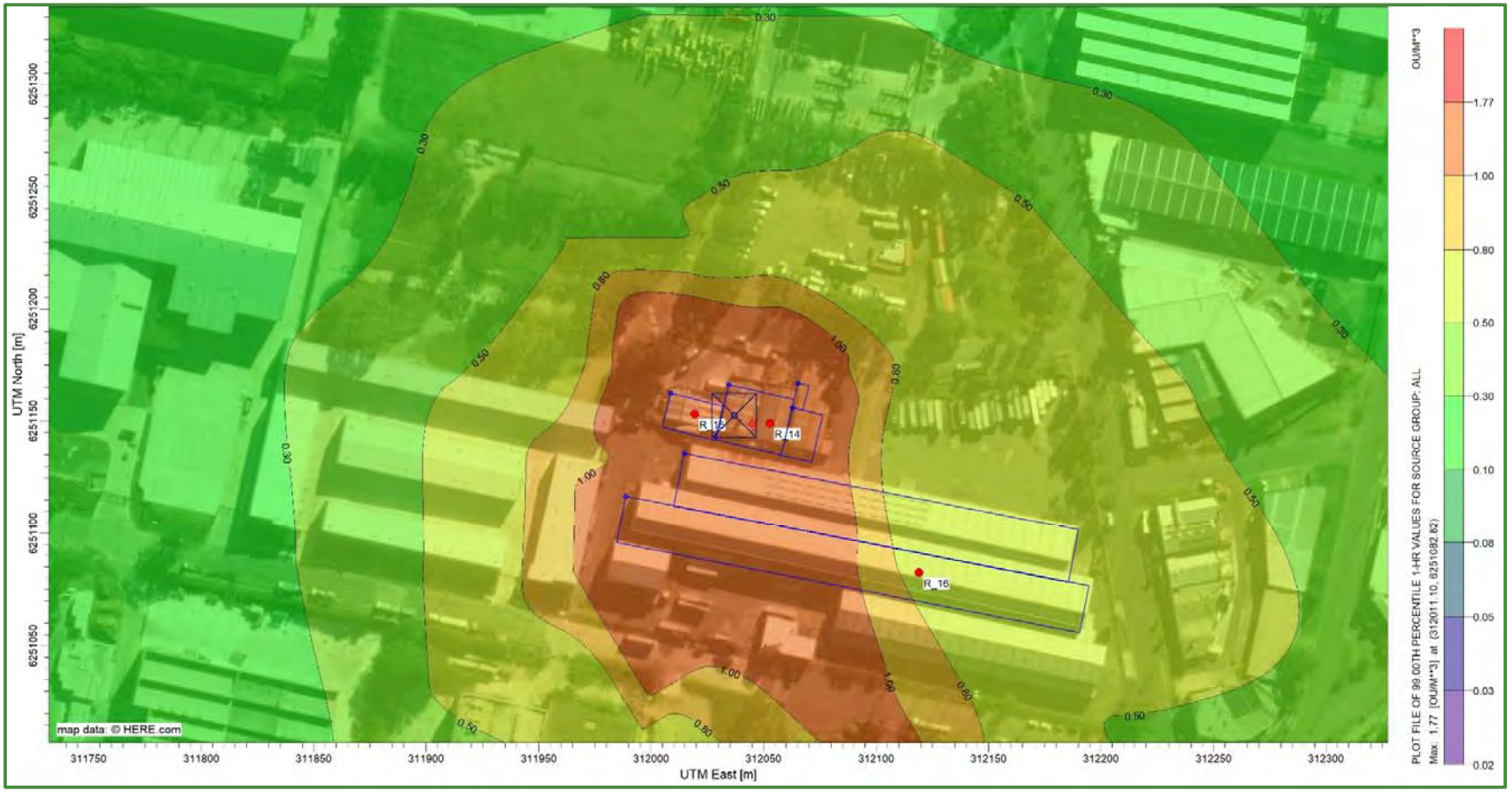


Figure 7-4: 99th Percentile Odour Impact Isopleth – Close up view



The following table presents the xylene results at the nearest sensitive receptors followed by the xylene and benzene 1hour isopleths. The maximum ground level concentration of benzene modelled is 0.028 mg/m^3, below the criteria (0.029mg/m^3).

Table 7-4: 99.9th Percentile Xylene Impact Results at Identified Receptors

Receptor	Impact mg/m3	Criteria mg/m3	Complies? (Y/N)
R1	0.025	0.19	Y
R2	0.007		Y
R3	0.006		Y
R4	0.004		Y
R5	0.006		Y
R6	0.004		Y
R7	0.008		Y
R8	0.013		Y
R9	0.022		Y
R10	0.023		Y
R11	0.005		Y
R12	0.005		Y
R13	0.005		Y
R14	0.102		Y
R15	0.077		Y
R16	0.064		Y
R17	0.038		Y

Figure 7-5: 99.9th Percentile Xylene Impact Isopleth

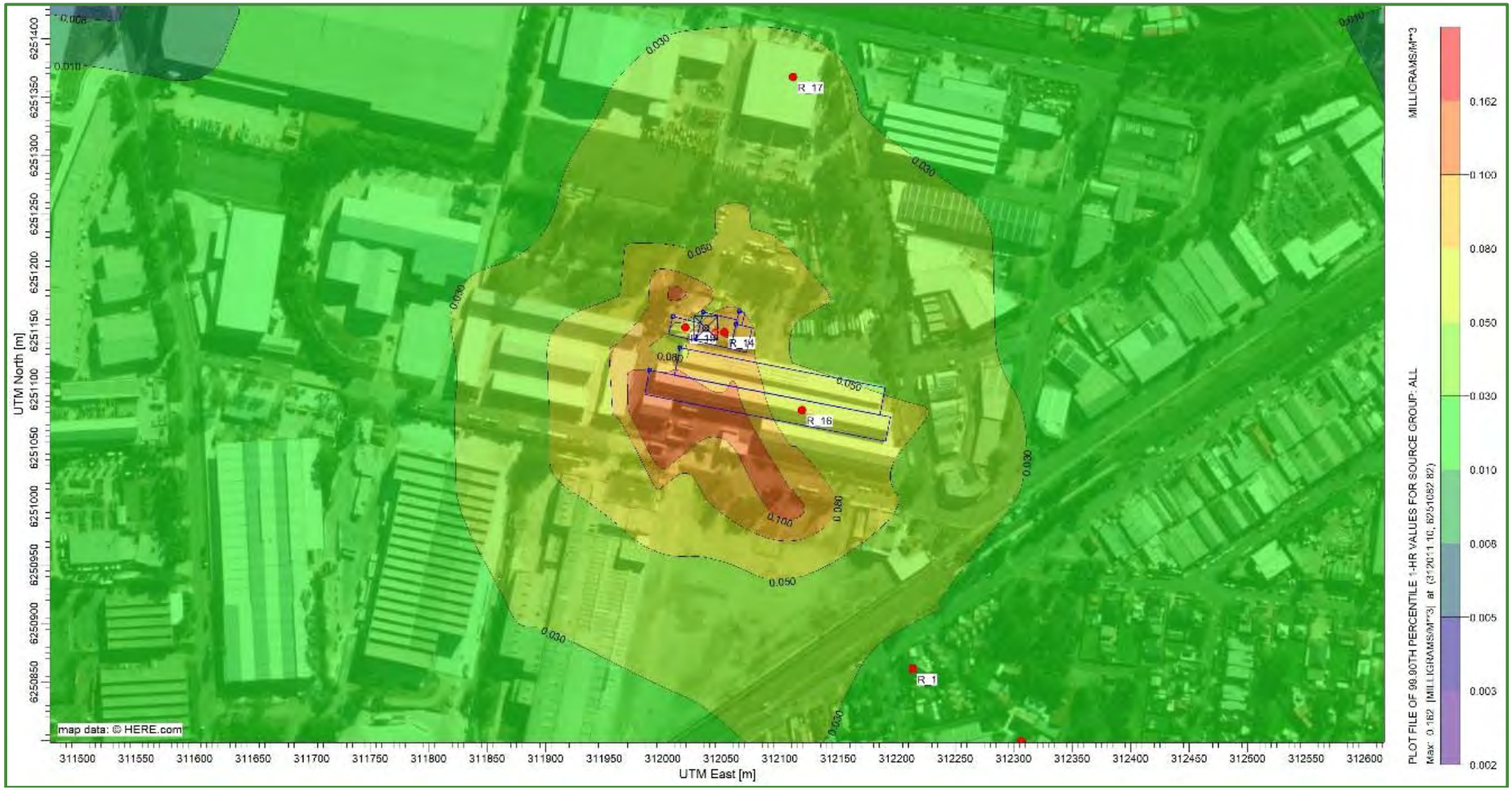
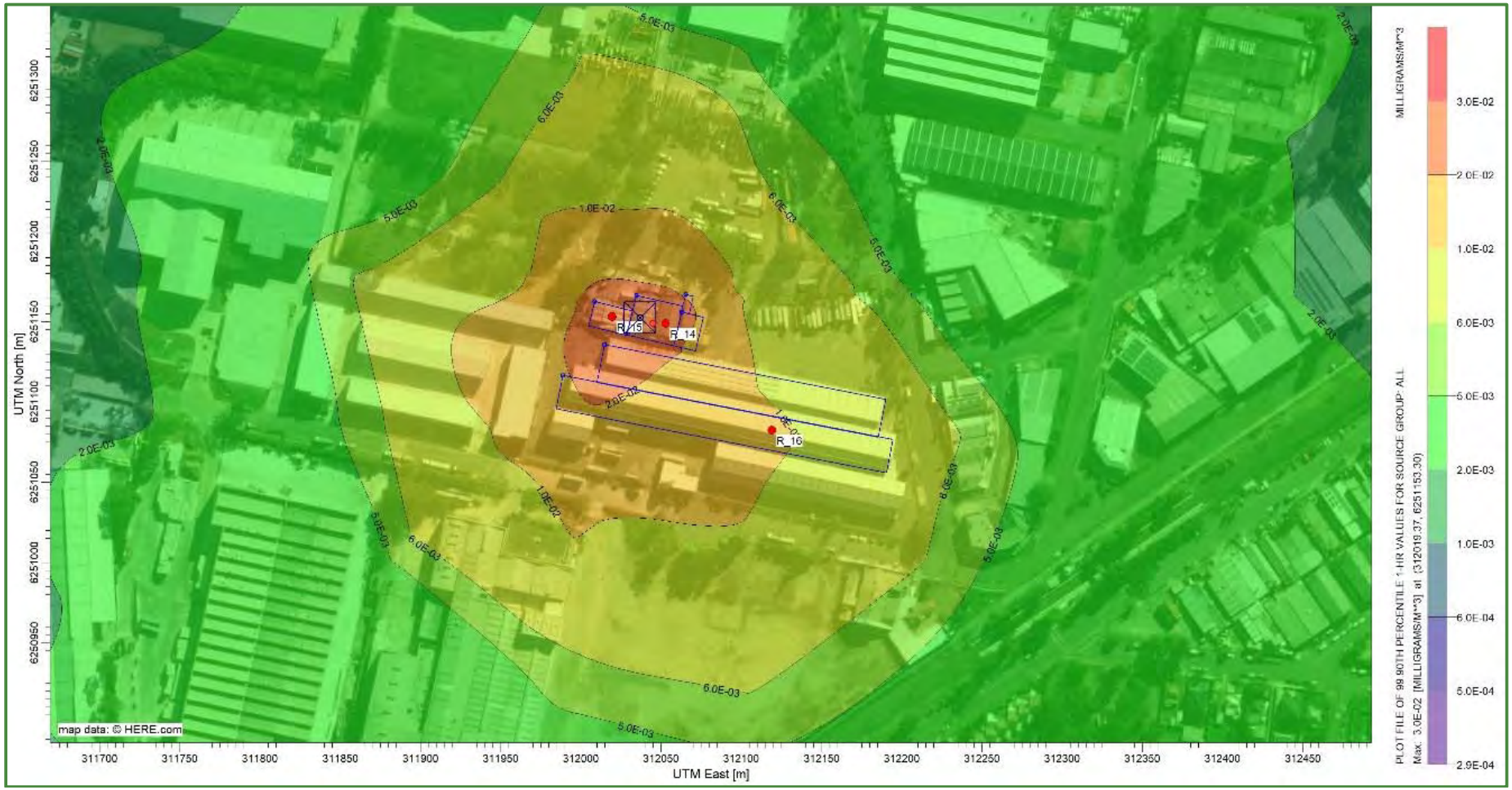


Figure 7-6: 99.9th Percentile Benzene Impact Isopleth



8. SUMMARY

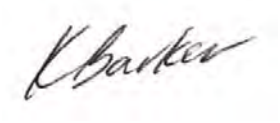
The predicted 99th percentile ground level impacts were significantly below the odour concentration limit of 7 OU. As such odour emitted from the site would be very minor and is not anticipated to cause nuisance or offence to persons within the vicinity of the site.

The predicted worst-case VOCs (benzene and xylene) were also below the approved methods concentration limits.

Given the above predicted results, it is the opinion of Benbow Environmental that further odour controls are not necessary to be implemented at the site.

The assessment concludes that the operation of the proposed waste liquid recycling facility meets the most relevant and applicable air assessment criteria in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW.

This concludes the report.



Kate Barker
Environmental Scientist



Matthew Taylor
Environmental Scientist



R T Benbow
Principal Consultant

9. 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.

ATTACHMENTS

Attachment 1: The Odour Unit Report and VOC Sampling Report

THE ODOUR UNIT PTY LTD

Level 3 Suite 12
56 Church Ave
Mascot, NSW 2020

Phone: +61 2 9209 4420
Email: info@odourunit.com.au
Internet: www.odourunit.com.au
ABN: 53 091 163 061

Accreditation Number: 14974

Odour Concentration Measurement Report

The measurement was commissioned by:

Organisation	Ektimo	Telephone	0403 257 053
Contact	H. Proust	Facsimile	--
Sampling Site	Not Disclosed	Email	hamish.proust@ektimo.com.au
Sampling Method	Not Disclosed	Sampling Team	Ektimo

Order details:

Order requested by	H. Proust	Order accepted by	A. Schulz
Date of order	21/01/2021	TOU Project #	N2217R
Order number	W006439	Project Manager	A. Schulz
Signed by	H. Proust	Panel Operator	A. Schulz

Investigated Item
Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.

Identification
The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.

Method
The odour concentration measurements were performed using dynamic olfactometry according to the Australian/New Zealand Standard: Stationary source emissions – *Part 3*: '*Determination of odour concentration by dynamic olfactometry* (AS/NZS4323.3). The odour perception characteristics of the panel within the presentation series for the samples were analogous to that for butanol calibration. Any deviation from the Australian standard is recorded in the 'Comments' section of this report.

Measuring Range
The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.

Environment
The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained at 22 °C ±3 °C.

Measuring Dates
The date of each measurement is specified with the results.

Instrument Used
The olfactometer used during this testing session was:
TOU-OLF-001.

Instrumental Precision
The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the AS/NZS 4323.3.
$r = 0.280$ (October 2019) Compliance – Yes

Instrumental Accuracy
The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the AS/NZS 4323.3.
$A = 0.076$ (October 2019) Compliance – Yes

Lower Detection Limit (LDL)
The LDL for the olfactometer has been determined to be 16 ou, which is 4 times the lowest dilution setting.

Traceability
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen. Note Disclaimers on last page of this document.

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced, except in full.

Date: Monday, 01 February 2021

Panel Roster Number: SYD20210125_006

A. Schulz
Authorised Signatory

THE ODOUR UNIT PTY LTD

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20210125_006

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Dilution Equipment ID	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)
Barrel 120	SC21029	25/01/2020 0653 hrs	25/01/2020 1338 hrs	4	8	--	--	--	2,050	2,050
Barrel 40	SC21030	25/01/2020 0726 hrs	25/01/2020 1413 hrs	4	8	--	--	--	1,450	1,450
Barrel 44	SC21031	25/01/2020 0635 hrs	25/01/2020 1449 hrs	4	8	--	--	--	470	470
Barrel 25	SC21032	25/01/2020 0713 hrs	25/01/2020 1519 hrs	4	8	--	--	--	2,660	2,660

Samples Received in Laboratory – From: Ektimo Date: 25/01/2021 Time: 0930 hrs

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:

1. The collection of samples by the methods of AS/NZS 4323.4 and the calculation of Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd have performed the dilution of samples.

THE ODOUR UNIT PTY LTD

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20210125_006

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Dilution Equipment ID	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)
Barrel 15	SC21033	25/01/2020 0741 hrs	25/01/2020 1604 hrs	4	8	--	--	--	559	559
Barrel 131	SC21034	25/01/2020 0636 hrs	25/01/2020 1632 hrs	4	8	--	--	--	8,930	8,930
Barrel 103	SC21035	25/01/2020 0713 hrs	25/01/2020 1659 hrs	4	8	--	--	--	8,930	8,930
Barrel 84	SC21036	25/01/2020 0741 hrs	25/01/2020 1726 hrs	4	8	--	--	--	9,740	9,740

Samples Received in Laboratory – From: Ektimo Date: 25/01/2021 Time: 0930 hrs

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:

1. The collection of samples by the methods of AS/NZS 4323.4 and the calculation of Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd have performed the dilution of samples.

THE ODOUR UNIT PTY LTD

Accreditation Number: 14974

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS 4323.3 (Yes / No)
n-butanol	SYD20210125_006	51,400	$20 \leq \chi \leq 80$	861	60	Yes

Comments

Odour characters (non-NATA accredited) as determined by odour laboratory panel:

SC21029 – garbage, bin juice, herbaceous
SC21030 – garbage, bin juice
SC21031 – garbage, bin juice
SC21032 – garbage, bin juice, sewage
SC21033 – garbage, bin juice
SC21034 – garbage, bin juice, herbaceous
SC21035 – garbage, bin juice, herbaceous
SC21036 – garbage, bin juice, herbaceous

Disclaimers

1. Parties, other than The Odour Unit Pty Ltd, responsible for collecting odour samples have advised that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing.
2. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.
3. Any comments included in, or attachments to, this Report are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd.
4. This report shall not be reproduced, except in full, without written approval of The Odour Unit Pty Ltd.

Report Status

Status	Version	Date	Prepared by	Checked by	Change	Reason
Draft	0.1	01.02.2021	A. Schulz	A. Schulz	-	-
Final	1.0	01.02.2021	A. Schulz	M. Assal	-	-
Revised	-	-	-	-	-	-

END OF DOCUMENT

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COMPANY:	Benbow Environmental
EMAIL:	EHansma@benbowenviro.com.au
DATE:	15 February 2021
PAGE:	1 of 4
FROM:	Hamish Proust
OUR REF:	R010449p

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Template Version: 291018

RE: Preliminary Report

This is a preliminary report and the results contained herein should be used as an indication only. A final report will be issued subsequent to the results being verified.

Regards

Hamish Proust
Hamish.Proust@ektimo.com.au

RESULTS

Stack

Date	25/01/2021	**Client**	Benbow Environmental
Report	R010449	**Stack ID**	Stack
Licence No.	N/A	**Location**	Yenora
Ektimo Staff	Hamish Proust & Ben Payami	**State**	NSW
Process Conditions	Please refer to client records.		

Odour		Test 1	Test 2
Sampling time		0636 - 0646	0713 - 0722
		Concentration	Concentration
		ou	ou
Results		8900	8900
Lower uncertainty limit		4100	4100
Upper uncertainty limit		19000	19000
Odour character		Garbage, bin juice, herbacious	Garbage, bin juice, herbacious
Analysis date & time		25/01/21, 1632-1659	25/01/21, 1632-1659
Holding time		10 hours	9 hours
Dilution factor		1	1
Bag material		Nalophan	Nalophan
Butanol threshold (ppb)	60		
Laboratory temp (°C)	22		
Last calibration date	October 2019		

Total VOCs (as n-Propane)	Test 1
Sampling time	636-646
	Concentration
	mg/m³
Total	30

VOC (speciated)	Test 1
Sampling time	636-646
	Concentration
	mg/m³
Detection limit[1]	<0.2
Dichloromethane	0.44
Benzene	0.68
Toluene	6.7
Ethylbenzene	2.5
m + p-Xylene	8.1
o-Xylene	3
Propylbenzene	0.98
1,3,5-Trimethylbenzene	1.4
1,2,4-Trimethylbenzene	3.6
1,2,3-Trimethylbenzene	1.2
Pentane	0.25
n-Hexane	1
Cyclohexane	3
2-Methylhexane	0.36
2,3-Dimethylpentane	0.42
3-Methylhexane	1.1
Heptane	2.5
Methylcyclohexane	6.7
Octane	4
Nonane	8
Decane	7.4
D-Limonene	4.6
Undecane	5.6
Dodecane	1.5
Tridecane	0.64
Tetradecane	0.19

(1) Unless otherwise reported, the following target compounds were found to be below detection:
Ethanol, Isopropanol, 1,1-Dichloroethene, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, Chloroform, 1,1,1-Trichloroethane, 1,2-Dichloroethane, Carbon tetrachloride, Butanol, 1-Methoxy-2-propanol, Trichloroethylene, 1,1,2-Trichloroethane, Tetrachloroethene, Chlorobenzene, Styrene, 2-Butoxyethanol, 1,1,2,2-Tetrachloroethane, Isopropylbenzene, tert-Butylbenzene, Acetone, Acrylonitrile, Methyl ethyl ketone, Ethyl acetate, Isopropyl acetate, Ethyl acrylate, Methyl methacrylate, Propyl acetate, Methyl Isobutyl Ketone, 2-Hexanone, Butyl acetate, 1-Methoxy-2-propyl acetate, Butyl acrylate, Cellosolve acetate, α-Pinene, β-Pinene, 3-Carene

Filter Box

Date	25/01/2021	**Client**	Benbow Environmental
Report	R010449	**Stack ID**	Filter Box
Licence No.	N/A	**Location**	Yenora
Ektimo Staff	Hamish Proust & Ben Payami	**State**	NSW
Process Conditions	Please refer to client records.		

Odour		Test 1	Test 2
Sampling time		0635 - 0645	0713 - 0723
		Concentration ou	Concentration ou
Results		470	2700
Lower uncertainty limit		220	1200
Upper uncertainty limit		1000	5800
Odour character		Garbage, bin juice	Garbage, bin juice, sewage
Analysis date & time		25/01/21, 1414-1519	25/01/21, 1414-1519
Holding time		8 hours	7 hours
Dilution factor		1	1
Bag material		Nalophan	Nalophan
Butanol threshold (ppb)	60		
Laboratory temp (℃)	22		
Last calibration date	October 2019		

Total VOCs (as n-Propane)	Test 1
Sampling time	0635-0645
	Concentration mg/m³
Total	17

VOC (speciated)	Test 1
Sampling time	0635-0645
	Concentration mg/m³
Detection limit[1]	<0.2
Benzene	0.5
Toluene	3.1
Ethylbenzene	1.3
m + p-Xylene	3.6
o-Xylene	1.7
Isopropylbenzene	0.31
Propylbenzene	0.82
1,3,5-Trimethylbenzene	0.98
1,2,4-Trimethylbenzene	3.5
1,2,3-Trimethylbenzene	1
n-Hexane	0.5
Cyclohexane	1.9
2-Methylhexane	0.18
2,3-Dimethylpentane	0.2
3-Methylhexane	0.55
Heptane	1.4
Methylcyclohexane	4.8
Octane	2.6
Nonane	5.6
Decane	4.8
Undecane	2.9
Dodecane	1.4
Tridecane	0.83
Tetradecane	0.49

(1) Unless otherwise reported, the following target compounds were found to be below detection:
Ethanol, Isopropanol, 1,1-Dichloroethene, Dichloromethane, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, Chloroform, 1,1,1-Trichloroethane, 1,2-Dichloroethane, Carbon tetrachloride, Butanol, 1-Methoxy-2-propanol, Trichloroethylene, 1,1,2-Trichloroethane, Tetrachloroethene, Chlorobenzene, Styrene, 2-Butoxyethanol, 1,1,2,2-Tetrachloroethane, tert-Butylbenzene, Acetone, Pentane, Acrylonitrile, Methyl ethyl ketone, Ethyl acetate, Isopropyl acetate, Ethyl acrylate, Methyl methacrylate, Propyl acetate, Methyl Isobutyl Ketone, 2-Hexanone, Butyl acetate, 1-Methoxy-2-propyl acetate, Butyl acrylate, Cellosolve acetate, α-Pinene, β-Pinene, 3-Carene, D-Limonene

DAF

Date	25/01/2021	**Client**	Benbow Environmental
Report	R010449	**Stack ID**	DAF
Licence No.	N/A	**Location**	Yenora
Ektimo Staff	Hamish Proust & Ben Payami	**State**	NSW
Process Conditions	Please refer to client records.		

Odour		Test 1	Test 2
Sampling time		0653 - 0703	0726 - 0736
		Concentration	Concentration
		ou	ou
Results		2100	1500
Lower uncertainty limit		940	670
Upper uncertainty limit		4500	3200
Odour character		Garbage, bin juice, herbacious	Garbage, bin juice
Analysis date & time		25/01/21, 1338-1413	25/01/21, 1338-1413
Holding time		6 hours	6 hours
Dilution factor		1	1
Bag material		Nalophan	Nalophan
Butanol threshold (ppb)	60		
Laboratory temp (℃)	22		
Last calibration date	October 2019		

Total VOCs (as n-Propane)	Test 1
Sampling time	0653-0703
	Concentration
	mg/m³
Total	9.1

VOC (speciated)	Test 1
Sampling time	0653-0703
	Concentration
	mg/m³
Detection limit[1]	<0.2
Ethanol	3.4
Isopropanol	0.45
Benzene	0.25
Toluene	1.9
Ethylbenzene	0.34
m + p-Xylene	0.91
o-Xylene	0.38
1,2,4-Trimethylbenzene	0.32
Cyclohexane	1
2,3-Dimethylpentane	1.1
3-Methylhexane	0.32
Heptane	0.79
Methylcyclohexane	2.3
Octane	1.1
Nonane	1.4
Decane	0.71
Undecane	0.3

(1) Unless otherwise reported, the following target compounds were found to be below detection:
1,1-Dichloroethene, Dichloromethane, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, Chloroform, 1,1,1-Trichloroethane, 1,2-Dichloroethane, Carbon tetrachloride, Butanol, 1-Methoxy-2-propanol, Trichloroethylene, 1,1,2-Trichloroethane, Tetrachloroethene, Chlorobenzene, Styrene, 2-Butoxyethanol, 1,1,2,2-Tetrachloroethane, Isopropylbenzene, Propylbenzene, 1,3,5-Trimethylbenzene, tert-Butylbenzene, 1,2,3-Trimethylbenzene, Acetone, Pentane, Acrylonitrile, Methyl ethyl ketone, n-Hexane, Ethyl acetate, 2-Methylhexane, Isopropyl acetate, Ethyl acrylate, Methyl methacrylate, Propyl acetate, Methyl Isobutyl Ketone, 2-Hexanone, Butyl acetate, 1-Methoxy-2-propyl acetate, Butyl acrylate, Cellosolve acetate, α-Pinene, β-Pinene, 3-Carene, D-Limonene, Dodecane, Tridecane, Tetradecane

NOISE IMPACT ASSESSMENT
FOR ENVIRO WASTE SERVICES GROUP PTY LTD
14-16 KIORA CRESCENT, YENNORA NSW

Prepared for: Enviro Waste Services Group Pty Ltd

Prepared by: Victoria Hale, Environmental Scientist
R T Benbow, Principal Consultant

Report No: 191251_NIA_Rev3
November 2020
(Released: 2 November 2020)

Benbow
ENVIRONMENTAL

Engineering a Sustainable Future for Our Environment

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Approved by:	Position:	Signature:	Date:
R T Benbow	Principal Consultant		03 November 2020

DOCUMENT REVISION RECORD

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2	26-6-2020	Rev 2	E Hansma	R T Benbow
3	3-11-2020	Rev 3	E Hansma	R T Benbow

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Revision	Issue Date	Issued To	Issued By
1	19-6-2020	Enviro Waste Services Group Pty Ltd	Benbow Environmental
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EXECUTIVE SUMMARY

This document presents a noise impact assessment conducted by Benbow Environmental for the proposed increase in processing capacity to take place at 14-16 Kiora Crescent, Yennora NSW. The site is a liquid waste recycling facility and proposes an increase in processing quantities from 900 tonnes per annum to 110,000 tonnes per annum and an increase in the maximum quantity stored at any one time from 110 tonnes to 477 tonnes.

The site at No. 14 is for bulk liquid waste processing and the site at No. 16 is an out-of-date liquid product/food waste facility. Operations at both 14 and 16 occur within their respective buildings.

The nearest receivers and the noise generating activities are identified. Noise criteria for the project have been formed, with assessment of the proposed site activities conducted against the NSW Noise Policy for Industry (EPA, 2017) and the NSW Road Noise Policy (DECCW, 2011) Modelling of the activities was conducted using the noise modelling software SoundPlan 7.3.

This noise impact assessment finds that predicted noise levels will be below the project noise trigger levels set out in accordance with the NSW Noise Policy for Industry (EPA, 2017), at all receivers surrounding the site for all time periods and scenarios.

The generation of additional road traffic associated with the site's activities has been assessed and was predicted to comply with the guidelines set out in the NSW Road Noise Policy.

This report concludes that the proposed site activities will not have an unreasonable noise impact on the surrounding receivers.

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Attachments

Attachment 1: Noise Glossary
Attachment 2: Calibration Certificates
Attachment 3: Noise QA/QC procedures
Attachment 4: Noise Logger Charts

1. INTRODUCTION

Benbow Environmental has been engaged by Enviro Waste Services Group Pty Ltd to undertake a noise impact assessment for the proposed increase in processing capacity from 900 tonnes per annum to 110,000 tonnes per annum, and an increase in the maximum quantity to be stored at any one time from 110 tonnes to 477 tonnes at the liquid waste recycling facility located at 14-16 Kiora Crescent, Yennora. No construction is expected.

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 site is located within the industrial area of Yennora. The nearest residential receptors are located approximately 330 metres south-east of the site boundary.

Noise emissions from the site were predicted by using noise modelling software, SoundPlan (V7.3).

This noise impact assessment has been prepared in accordance with the following guidelines and documents:

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

1.1 SCOPE OF WORKS

This noise impact assessment has been limited to the following scope of works:

- Site inspection and review of the proposed site operations;
- Long term unattended noise monitoring and short term attended noise monitoring in accordance with relevant guidelines;
- Establish project specific noise levels;
- Determine all potential noise sources associated with the existing and proposed development;
- Collect required noise sources data;
- Predict potential noise impacts at the nearest potentially affected receptors to the site;
- Assess potential noise impacts against relevant legislation and guidelines;
- Recommend general ameliorative measures/control solutions (where required); and

- Compile this report with concise statements of potential noise impact.

To aid in the review of this report, supporting documentation has been referenced within this report. A glossary of terminology is included in Attachment 1.

2. PROPOSED DEVELOPMENT

2.1 SITE LOCATION

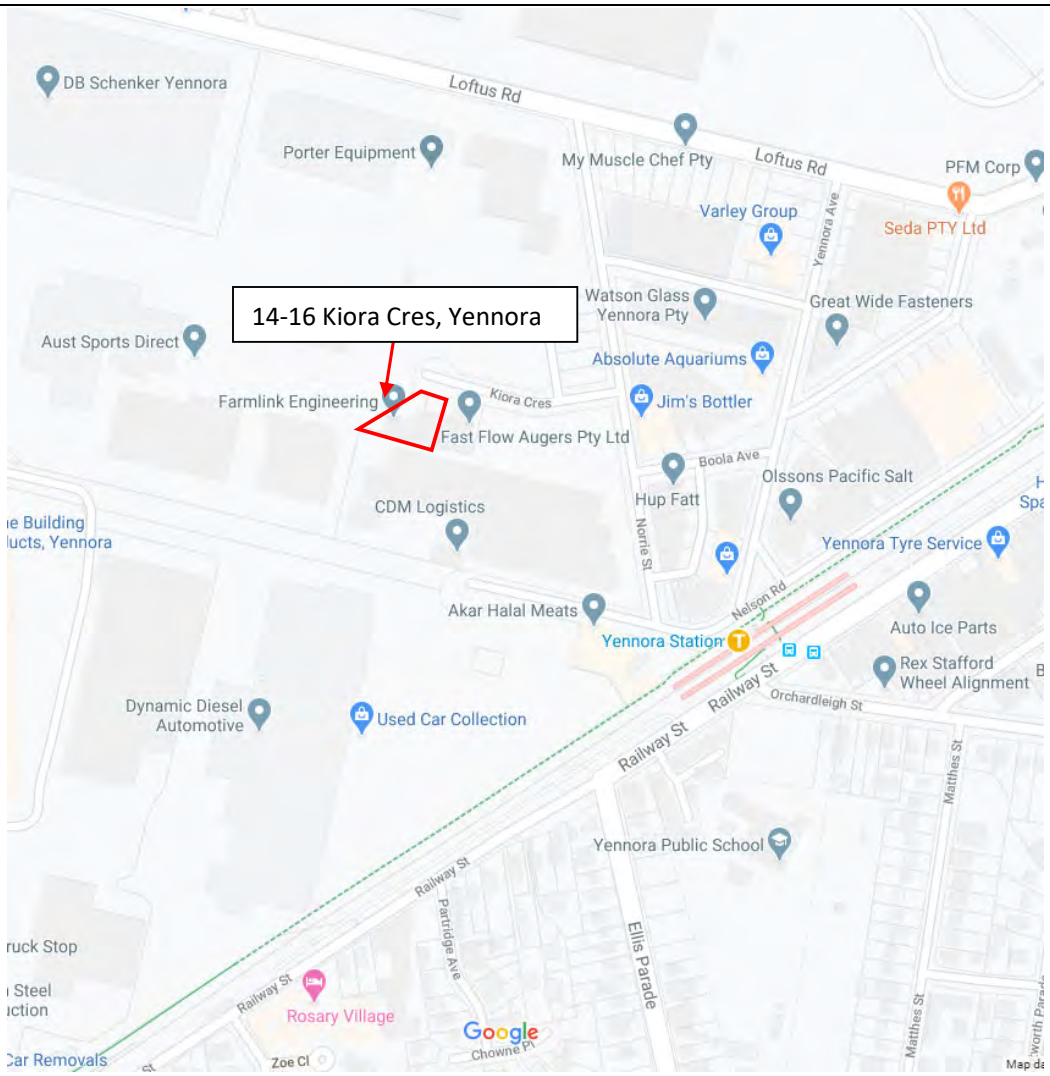
The 14-16 Kiora Crescent, Yennora, Lot 49 DP 18211 and Lot 50 DP18211is located in the middle of an industrial area.

The land is situated within the Local Government area of Cumberland Council.

The site location is shown in Figure 2-1 and the site aerial is presented in Figure 2-2.

The proposed site layout is shown in in Figure 2-3.

Figure 2-1: Site Location



Source: Google Maps 2020

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

Figure 2-2: Site Aerial



Source: Six Maps 2020

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

Figure 2-3: Proposed site layout



2.2 PROCESS DESCRIPTION

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 on by a licenced waste contractor to be further processed, predominantly as grease trap waste.

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.

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, which is connected 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.

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 packaging unsuitable for handling are manually poured into IBCs. Packaging is recycled. The liquid waste are either sent offsite for reuse or further processed at within the 14 Kiora Crescent Building.

2.3 HOURS OF OPERATIONS

The facility proposes to operate 24 hours a day, seven days a week.

3. NEAREST SENSITIVE RECEPTORS

Table 3-1 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 3-1. These receptors were selected based on their proximity and directional bearing from the subject site.

Table 3-1: 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 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 3-1: Receptor Locations



Legend: Site Receptor +

4. EXISTING ACOUSTIC ENVIRONMENT

The level of background and ambient noise is assessed separately for the daytime, evening and night time assessment periods. The NSW Noise Policy for Industry (EPA, 2017) 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.

Unattended long-term noise monitoring was undertaken from 24th September 2019 to 7th October 2019 at a representative residential location.

4.1 NOISE MONITORING EQUIPMENT AND METHODOLOGY

The background noise level measurements were carried out using a Svantek SVAN 957 Precision Sound Level Meter (attended noise monitoring), and one (1) Acoustic Research Laboratories statistical Environmental Noise Logger, type EL-215 (unattended noise monitoring). The instrument sets complied with AS IEC 61672.1–2004 and was calibrated by a NATA accredited laboratory within two years of the measurement period. Calibration certificates have been included in Attachment 2.

Measurements of background and ambient noise levels were carried out in accordance with the Australian Standard AS 1055–1997 *Acoustics – Description and measurements of environmental noise* – Part 1 and Part 2 and the NSW EPA Noise Policy for Industry 2017.

To ensure accuracy and reliability in the results, field reference checks were applied both before and after the measurement period with an acoustic calibrator. There were no excessive variances observed in the reference signal between the pre-measurement and post-measurement calibration. The instruments were set on A-weighted Fast response and noise levels were measured over 15-minute statistical intervals. QA/QC procedures applied for the measurement and analysis of noise levels have been presented in Attachment 3. The microphones were fitted with windsocks and were positioned between 1.2 and 1.5 meters above ground level.

Details of the instrumentation and setting utilised are provided in Table 4-1.

Table 4-1: Instrumentation and Setup Details

Type of Monitoring	Equipment	Serial Number	Setup Details
Long-term Unattended	ARL-215	194702	A-weighted Fast Response 15 minute integration period
Short-term Attended	Svantek SVAN957 Type 1 Integrating Sound and Vibration analyser	15335	Three channels: A-weighted Fast Response C-weighted Fast Response A-weighted Impulse Response 15 minute integration period 1/3 octave band recorded every 100 ms Logger file Recorded at steps of 100 ms

4.2 MEASUREMENT LOCATIONS

The environmental noise logger was utilised to measure the existing ambient and background noise levels. Unattended long-term noise monitoring was undertaken from 24th September 2019 to 7th October 2019 at one (1) residential location. An attended noise measurement was conducted on 24th September 2019 at one (1) residential location at 95 Railway Street, Yennora.

The noise logger location is shown in Figure 4-1 and listed in Table 4-2. Noise logger charts are presented in Attachment 4.

Table 4-2: Noise Monitoring Location

Monitoring Location	Methodology	Address
A	Attended monitoring and unattended monitoring	95 Railway Street, Yennora

Figure 4-1: Logger Location



↑N	LEGEND: Site Logger Location	Benbow Environmental 25 Sherwood Street, Northmead NSW 2152

4.3 MEASURED NOISE LEVELS

4.3.1 Short Term Operator Attended Noise Monitoring Results

Attended noise monitoring was conducted on Monday the 24th 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 4-3.

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

Table 4-3: Operator Attended Noise Measurements, dB(A)

Location & Date/Time	L_{Aeq}	L_{A90}	L_{A10}	L_{A1}	Comments
Location A 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)

4.3.2 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 4-4. Daily noise logger graphs have been included in Attachment 3.

Only 5 full day time periods were obtained during the long term unattended measurements due to inclement weather conditions. From the logger graphs provided in Attachment 3 the 5 days are representative of the daily noise patterns throughout the period of monitoring, furthermore the development will operate during the night which will provide a more stringent criterion. Therefore additional monitoring is not required.

Table 4-4: Unattended Noise Monitoring Results at 95 Railway Street, Yennora dB(A)

Date	Average L_1			Average L_{10}			ABL (L_{90})			L_{eq}		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
24/09/2019	73	73	71	67	67	64	41	43	41	63	62	60
25/09/2019	-	74	72	-	67	60	-	42	40	-	63	60
26/09/2019	-	72	72	-	67	59	-	42	38	-	62	62
27/09/2019	72	73	71	67	67	60	42	46	38	63	63	60
28/09/2019	-	72	-	-	67	-	-	43	-	-	61	-
29/09/2019	-	71	71	-	66	57	-	42	36	-	61	58
30/09/2019	-	73	72	-	67	58	-	40	36	-	62	60
1/10/2019	-	73	71	-	67	58	-	44	37	-	62	60
2/10/2019	-	-	-	-	-	-	-	-	-	-	-	-
3/10/2019	-	-	-	-	-	-	-	-	-	-	-	-
4/10/2019	-	-	-	-	-	-	-	-	-	-	-	-
5/10/2019	72	71	-	68	66	-	43	41	-	63	62	-
6/10/2019	71	71	71	66	65	60	42	43	38	61	61	59
7/10/2019	70	-	70	64	-	56	39	-	38	59	-	58
Average	**72**	**72**	**71**	**67**	**67**	**59**	*	*	*	*	*	*
Median (RBL)	*	*	*	*	*	*	**42**	**42**	**38**	*	*	*
Logarithmic Average	*	*	*	*	*	*	*	*	*	**62**	**62**	**60**

Note: - Indicates values that has not been considered due to adverse weather conditions.
* Indicates values that are not relevant to that noise descriptor.
Value in bold indicates relevant noise descriptor.
A) Value removed as an outlier in total logarithmic average

5. METEOROLOGICAL CONDITIONS

Wind and temperature inversions may affect the noise impact at the receptors. Therefore noise enhancing weather conditions should be assessed when wind and temperature inversions are considered to be a feature of the area.

A site-representative meteorological data file was obtained from the Bureau of Meteorology (BOM) for the Bankstown Airport Automatic Weather Station (AWS ID 066137). In this Section, an analysis of the 2018 weather data has been conducted to establish whether significant winds are characteristic of the area.

5.1 WIND EFFECTS

Wind is considered to be a feature where source-to-receiver wind speeds (at 10 m height) of 3 m/s or below occur for 30% or more of the time in any assessment period in any season.

5.1.1 Wind Rose Plots

Wind rose plots show the direction that the wind is coming from, with triangles known as "petals". The petals of the plots in the figures summarise wind direction data into 8 compass directions i.e. north, north-east, east, south-east, etc. The length of the triangles, or "petals", indicates the frequency that the wind blows from that direction. Longer petals for a given direction indicate a higher frequency of wind from that direction. Each petal is divided into segments, with each segment representing one of the six wind speed classes.

Thus, the segments of a petal show what proportion of wind for a given direction falls into each class. The proportion of time for which wind speed is less than 0.5 m/s, when speed is negligible, is referred to as calm hours or "calms". Calms are not shown on a wind rose as they have no direction, but the proportion of time consisting of the period under consideration is noted under each wind rose.

The concentric circles in each wind rose are the axis, which denote frequencies. In comparing the plots it should be noted that the axis varies between wind roses, although all wind roses are similar in size. The frequencies denoted on the axes are indicated beneath each wind rose.

5.1.2 Local Wind Trends

Seasonal wind rose plots for this site utilising the Bankstown Airport AWS data have been included in Figure 5-1 to Figure 5-3.

Figure 5-1: Wind Rose Plots– Bureau of Meteorology Bankstown Airport 2018 Daytime (7:00-18:00)

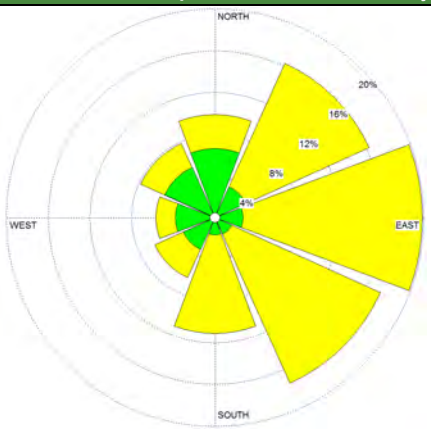
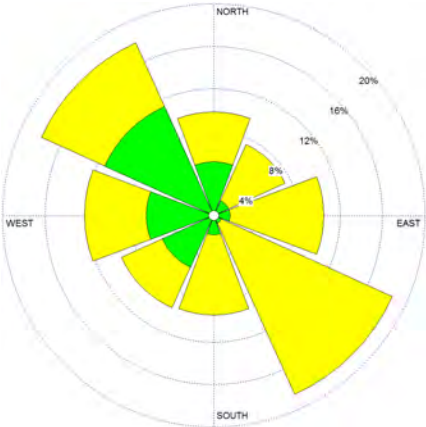
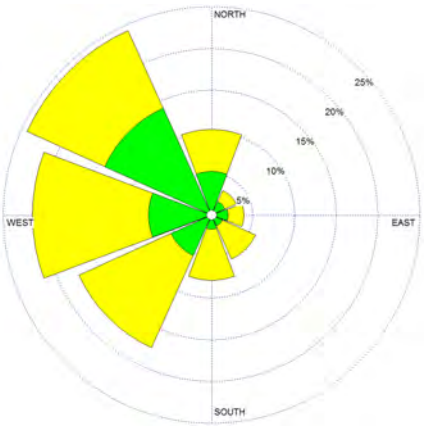
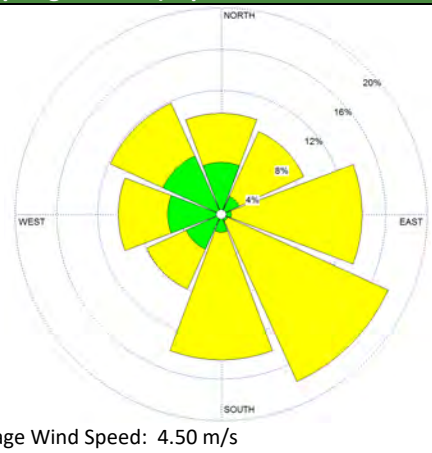
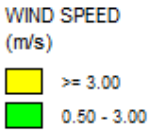
All Seasons	Summer Season (December – February)
	
Average Wind Speed: 4.16m/s Axis Frequencies: 4%, 8%, 12%, 16%, 20%	Average Wind Speed: 4.41 m/s Axis Frequencies: 4%, 8%, 12%, 16%, 20%
Autumn Season (March – May)	**Winter Season (June – August)**
	
Average Wind Speed: 3.98 m/s Axis Frequencies: 4%, 8%, 12%, 16%, 20%	Average Wind Speed: 3.77 m/s Axis Frequencies: 5%, 10%, 15%, 20%, 25%
Spring Season (September – November)	**Legend**
	
Average Wind Speed: 4.50 m/s Axis Frequencies: 4%, 8%, 12%, 16%, 20%	

Figure 5-2: Wind Rose Plots– Bureau of Meteorology Bankstown Airport 2018 Evening (18:00-22:00)

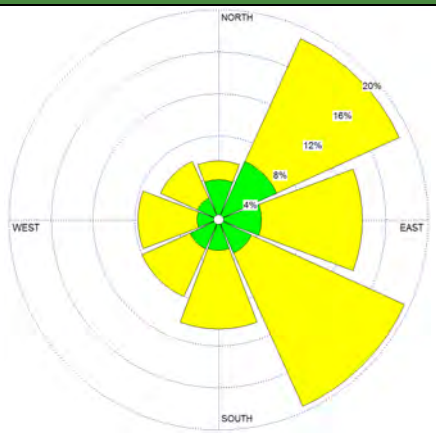
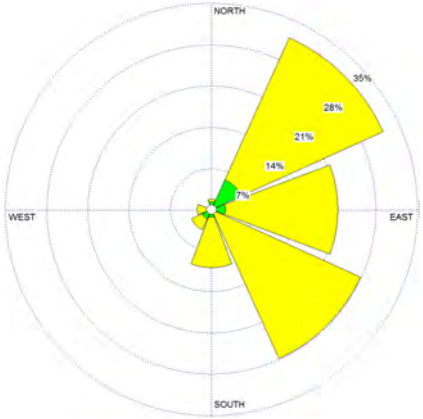
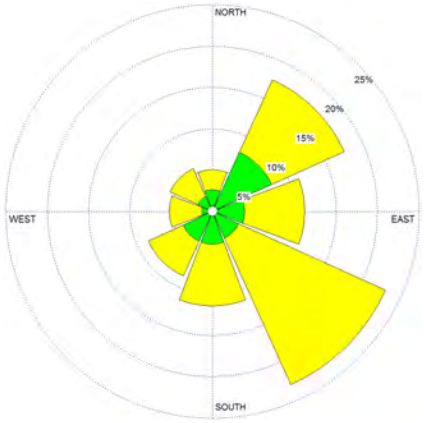
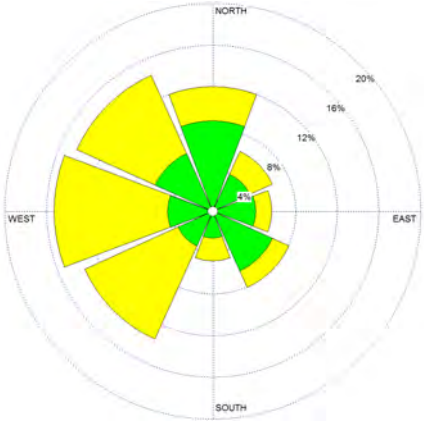
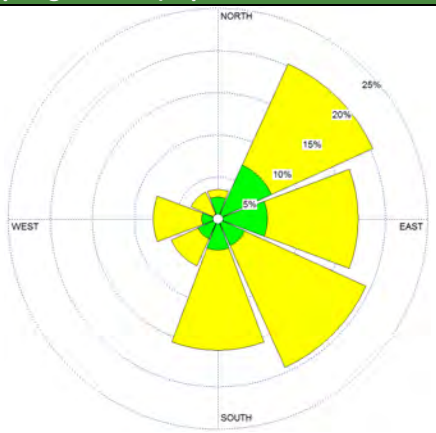
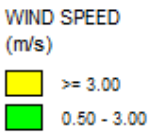
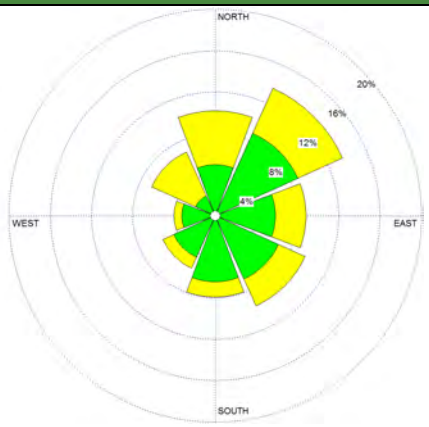
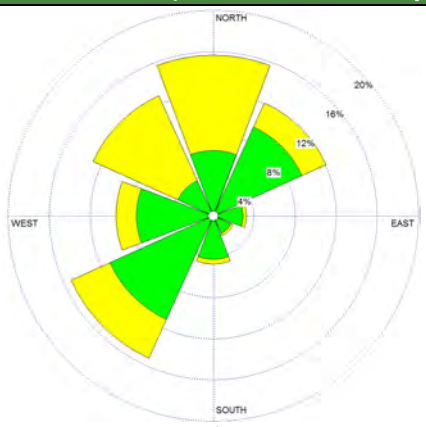
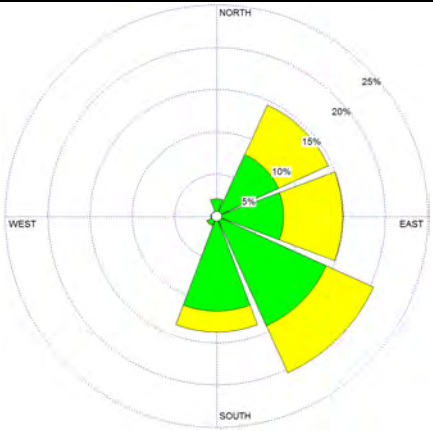
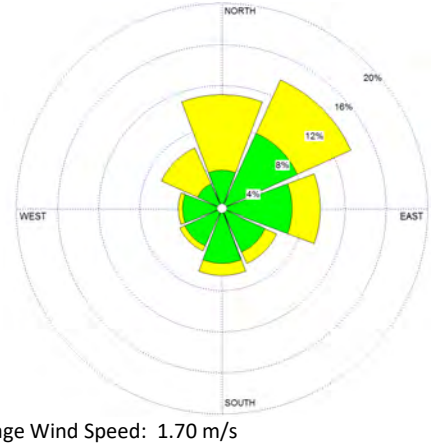
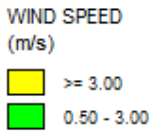
All Seasons	Summer Season (December – February)
	
Average Wind Speed: 3.70 m/s Axis Frequencies: 4%, 8%, 12%, 16%, 20%	Average Wind Speed: 5.02 m/s Axis Frequencies: 7%, 14%, 21%, 28%, 35%
Autumn Season (March – May)	**Winter Season (June – August)**
	
Average Wind Speed: 3.35 m/s Axis Frequencies: 5%, 10%, 15%, 20%, 25%	Average Wind Speed: 2.50 m/s Axis Frequencies: 4%, 8%, 12%, 16%, 20%
Spring Season (September – November)	**Legend**
	
Average Wind Speed: 3.97 m/s Axis Frequencies: 5%, 10%, 15%, 20%, 25%	

Figure 5-3: Wind Rose Plots– Bureau of Meteorology Bankstown Airport 2018 Night (22:00-7:00)

All Seasons	Summer Season (December – February)
	
Average Wind Speed: 1.79 m/s Axis Frequencies: 4%, 8%, 12%, 16%, 20%	Average Wind Speed: 2.15 m/s Axis Frequencies: 4%, 8%, 12%, 16%, 20%
Autumn Season (March – May)	**Winter Season (June – August)**
	
Average Wind Speed: 1.60 m/s Axis Frequencies: 4%, 8%, 12%, 16%, 20%	Average Wind Speed: 1.71 m/s Axis Frequencies: 5%, 10%, 15%, 20%, 25%
Spring Season (September – November)	**Legend**
	
Average Wind Speed: 1.70 m/s Axis Frequencies: 4%, 8%, 12%, 16%, 20%	

Appendix D2 of the Noise Policy for Industry (EPA, 2017), refers to utilising the Noise Enhancing Wind Analysis (NEWA) program on the NSW EPA website to determine the significance of source-to-receiver winds.

Table 5-1 below contains the noise wind component analysis from the NEWA software. Wind speeds are taken up to 3 m/s and wind direction is taken from source-to-receiver, plus and minus 45 degrees, as per appendix D2 of the Noise Policy for Industry.

It can be seen from Table 5-1 that there are no instances, where more than 30% of wind speeds are less than 3 m/s in the plus and minus 45 degree arc from source to receiver. Therefore, worst case 3 m/s source-to-receiver winds have not been included in the assessment.

Table 5-1: Noise Wind Component Analysis 2018 Bankstown

Receiver	Day				Evening				Night			
	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter	Spring
R1	13.8	20.9	25	15.7	0.8	4.1	14.7	1.9	4.3	10.9	25.5	8.9
R2	8.9	17.6	19.6	13	2.2	4.1	11.1	1.1	10.9	13.1	21.6	15
R3	5.6	10.2	12.5	8.4	2.5	5.2	8.7	2.7	16.3	19.3	15.1	15.9
R4	5.1	9	9.4	7.3	3.3	8.4	6.8	4.4	18.3	19.4	12.8	16.4
R5	3.1	2.3	1.5	2.3	3.3	7.6	4.1	2.7	6.1	2.7	0.7	2.3
R6	3.7	2.6	2.4	3	3.1	9	10.1	5.8	8.3	3.1	1.4	4.3
R7	5.9	3.6	2.6	3.3	12.8	15.5	12.5	14.6	16.3	2.2	1.6	8.9
R8	10.4	5.6	3.9	7	10.3	14.7	9.5	9.3	17.7	2.5	2.7	9.2
R9	13.1	11.3	13.8	10.3	9.7	13.3	15.5	5.5	13	9.2	17.4	9.8
R10	13.7	21.9	25.9	16.6	0.8	4.1	14.9	2.2	4.3	11.5	26.2	9.2
R11	8.6	16.4	18.5	12.4	2.2	4.9	11.4	1.1	11.8	13.8	20.8	14.9
R12	7.3	4.5	3.1	3.5	10.6	17.7	12.5	12.9	18.2	2.5	1.4	8.9
R13	5.8	3.4	2.5	3	4.7	11.7	11.4	10.2	13.1	2.8	1.4	6.7
R14	9.3	20.1	25	14.3	0.8	3	11.7	1.1	6.1	12.8	22.1	11.4
R15	6.3	3.8	3	3.1	11.7	16	12.2	14.8	17.1	2.1	1.6	8.8
R16	12.9	21.7	26.2	16.4	0.6	4.3	15.2	1.9	4.2	12.1	26.8	9.2
R17	5.3	8.1	8.2	6.5	3.9	9.2	8.2	3.8	18.2	18.1	11	13.9

Noise enhancing meteorological conditions occur for 30% or more of the period and season

5.2 TEMPERATURE INVERSIONS

Temperature inversion is considered a feature where this occurs more than 30% of the nights in winter.

Temperature inversion conditions would be best associated with F-class stability conditions – generally associated with still/light winds and clear skies during the night time or early morning period (these are referred to as stable atmospheric conditions).

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.

5.2.1 Weather Conditions Considered in the 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 5-2.

Table 5-2: 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. CURRENT LEGISLATION AND GUIDELINES

6.1 NSW EPA NOISE POLICY FOR INDUSTRY

The NSW Noise Policy for Industry was developed by the NSW EPA primarily for the assessment of noise emissions from industrial sites regulated by the NSW EPA.

The policy sets out two components that are used to assess potential site-related noise impacts. The intrusiveness noise level aims at controlling intrusive noise impacts in the short-term for residences. The amenity noise level aims at maintaining a suitable amenity for particular land uses including residences in the long-term. The more stringent of the intrusiveness or amenity level becomes the project noise trigger levels for the project.

6.1.1 Project Intrusiveness Noise Level

The project intrusiveness noise level is determined as follows:

$L_{Aeq,\ 15\ minute}$ = rating background noise level + 5 dB

Where the $L_{Aeq,(15minute)}$ is the predicted or measured L_{Aeq} from noise generated within the project site over a fifteen minute interval at the receptor.

This is to be assessed at the most affected point on or within the residential property boundary or if that is more than 30 m from the residence, at the most affected point within 30 m of the residential dwelling.

6.1.2 Amenity Noise Level

To limit continuing increases in noise levels, the maximum ambient noise level within an area from industrial noise sources should not normally exceed the acceptable noise levels specified in Table 2.2 of the NSW Noise Policy for Industry 2017. The relevant recommended noise levels applicable are reproduced in Table 6-1.

Table 6-1: Amenity noise levels.

Receiver	Noise Amenity Area	Time of Day	L_{Aeq} dB(A) Recommended amenity noise level
Residential	Suburban	Day	55
		Evening	45
		Night	40
Active Recreation	All	When in use	55
School Classroom	All	Noisiest 1-hour period when in use	Internal: 40[1]
			External: 50[2]
Industrial Premises	All	When in use	70

Source: Table 2.2 and Section 2.6, NSW Noise Policy for Industry
Note: 1) In the case where existing schools are affected by noise from existing sources, the acceptable L_{Aeq} noise level may be increased to L_{Aeq} 1 hour.
2) Where internal amenity noise levels are specified, they refer to the noise level at the centre of the habitable room that is most exposed to the noise and apply with windows opened sufficiently to provide adequate ventilation, except where alternative means of ventilation complying with the Building Code of Australia are provided. In cases where gaining internal access for monitoring is difficult, then external noise levels 10 dB(A) above the internal levels apply.

The project amenity noise level for industrial developments = recommended amenity noise level minus 5 dB(A)

The following exceptions to the above method to derive the project amenity noise levels apply:

1. *In areas with high traffic noise levels*
2. *In proposed developments in major industrial clusters*
3. *Where the resultant project amenity noise level is 10 dB or more lower than the existing industrial noise level. In this case the project amenity noise levels can be set at 10 dB below existing industrial noise levels if it can be demonstrated that existing industrial noise levels are unlikely to reduce over time.*
4. *Where cumulative industrial noise is not a necessary consideration because no other industries are present in the area, or likely to be introduced into the area in the future. In such cases the relevant amenity noise level is assigned as the project amenity noise level for development.*

This development is not considered to be captured by the above exceptions.

6.1.3 Sleep Disturbance Criteria

In accordance with the NSW EPA Noise Policy for Industry, the potential for sleep disturbance from maximum noise level events from premises during the night-time period needs to be considered. Sleep disturbance is considered to be both awakenings and disturbance to sleep stages.

Where the subject development/premises night-time noise levels at a residential location exceed:

- **$L_{Aeq,\ 15\ minute}$ 40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or**
- **L_{AFmax} 52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater,**

A detailed maximum noise level assessment should be undertaken.

6.1.4 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).

Table 6-2 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.

Different time periods apply for the noise criteria as the intrusive criterion considers a 15 minute assessment period while the amenity criterion requires assessment over the total length of time that a site is operational within each day, evening or night period. In order to ensure compliance under all circumstances, a 15 minute period assessment has been considered for all receptors.

Table 6-2: 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 $L_{Aeq\ 1hr}$.

6.2 NSW EPA Road Noise Policy

The NSW Road Noise Policy (RNP) has been adopted to establish the noise criteria for the potential noise impact associated with additional traffic generated by the proposal. The RNP was developed by the NSW EPA primarily to identify the strategies that address the issue of road traffic noise from:

- Existing roads;
- New road projects;
- Road redevelopment projects; and
- New traffic-generating developments.

6.2.1 Road Category

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'.

6.2.2 Noise Assessment Criteria

Section 2.3 of the RNP outlines the criteria for assessing road traffic noise. The relevant Section of Table 3 of the RNP is shown in Table 6-3.

Table 6-3: 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.

6.2.3 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 6-4.

Table 6-4: 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)
Sub-arterial roads	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 6-3 and the relative increase criteria provided in Table 6-4 should both be considered when designing project specific noise levels. When existing traffic levels are below the criteria in Table 6-3, the lower of the relative increase criteria and the assessment criteria in Table 6-4 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.

6.2.4 Exceedance of Criteria

If the criteria shown in both Table 6-3 and Table 6-4 cannot be achieved, justification should be provided that all feasible and reasonable mitigation measures have been applied.

For existing residences and other sensitive land uses affected by additional traffic on existing roads generated by land use developments, any increase in the total traffic noise level should be limited to 2 dB above that of the corresponding 'no build option'.

6.2.5 Assessment Locations for Existing Land Uses

Table 6-5: Assessment Locations for Existing Land Uses

Assessment Type	Assessment Location
External noise levels at residences	The noise level should be assessed at 1 metre from the façade and at a height of 1.5 metres from the floor. Separate noise criteria should be set and assessment carried out for each façade of a residence, except in straightforward situations where the residential façade most affected by road traffic noise can be readily identified. The residential noise level criterion includes an allowance for noise reflected from the façade ('façade correction'). Therefore, when taking a measurement in the free field where reflection during measurement is unlikely (as, for instance, when measuring open land before a residence is built), an appropriate correction – generally 2.5 dB – should be added to the measured value. The 'façade correction' should not be added to measurements taken 1 metre from the façade of an existing building. Free measurements should be taken at least 15 metres from any wall, building or other reflecting pavement surface on the opposite side of the roadway, and at least 3.5 metres from any wall, building or other pavement surface, behind or at the sides of the measurement point which would reflect the sound.
Noise levels at multi-level residential buildings	The external points of reference for measurement are the two floors of the building that are most exposed to traffic noise. On other floors, the internal noise level should be at least 10 dB less than the relevant external noise level on the basis of openable windows being opened sufficiently to provide adequate ventilation. (Refer to the Building Code of Australia (Australian Building Codes Board 2010) for additional information.)
Internal noise levels	Internal noise levels refer to the noise level at the centre of the habitable room that is most exposed to the traffic noise with openable windows being opened sufficiently to provide adequate ventilation. (Refer to the Building Code of Australia (Australian Building Codes Board 2010) for additional information.)
Open space – passive or active use	The noise level is to be assessed at the time(s) and location(s) regularly attended by people using the space. In this regard, 'regular' attendance at a location means at least once a week.

6.2.6 Road Traffic Project Specific Noise Levels

The selected project specific noise levels associated with road traffic noise are presented in Table 6-6.

Table 6-6: Project Specific Noise Levels Associated with Road Traffic, dB(A)

Receptor along	Period	Assessment Criteria
Military Road (Sub-arterial Road)	Day	60 $L_{Aeq, 15\ hour}$
	Night	55 $L_{Aeq, 9\ hour}$
Pine Road/ Fairfield Road/ Polding Street North (Local Roads)	Day	55 $L_{Aeq, 1\ hour}$
	Night	50 $L_{Aeq, 1\ hour}$

7. OPERATIONAL NOISE IMPACT ASSESSMENT

7.1 MODELLING METHODOLOGY

7.1.1 Noise Model

Noise propagation modelling was carried out using the Concawe algorithm within SoundPLAN v7.3. This model has been extensively utilised by Benbow Environmental for assessing noise emissions for existing and proposed developments, and is recognised by regulatory authorities throughout Australia. The model allows for the prediction of noise from a site at the specified receptor, by calculating the contribution of each noise source. Other model inputs included the noise sources, topographical features of the subject area, surrounding buildings and receiver locations.

The modelling stages have been carried out using both $L_{Aeq,\ 15\ minutes}$ and L_{Amax} descriptors. Using these descriptors, noise emission levels were predicted at the nearest potentially affected sensitive receptors to determine the noise impact against the relevant noise criteria in accordance with the NSW EPA Noise Policy for Industry.

7.1.2 Assumptions Made for Noise Modelling

It should be noted that the relevant assessment period for operational noise emissions has been considered to be 15 minutes. Therefore noise source durations detailed in the following assumptions should be considered per 15 minute period in view of potential noise impacts under worst-case scenarios. Each assessment-specific assumption has been detailed below:

- Topographical information was obtained from Google Earth.
- Heights of the on-site buildings have been taken from measurements upon the site visit and from google maps.
- Off-site structures such as warehouses and buildings surrounding the project site have been included in the model.
- The site building at 14 Kiora Crescent has been modelled as an industrial building with internal sources. The setbacks are as shown on the site plans. The industrial building walls have been modelled as lightweight concrete blocks 175 mm thick (R_w = 46 dB). The roof is considered to be constructed of 1 mm sheet steel (R_w = 25 dB). The roller shutter doors have been modelled in the open position.
- The walls of the site building at 16 Kiora Crescent have been modelled as perforated brick 115 mm thick (R_w = 48 dB). The roof is considered to be constructed out of Trimdek 0.48 (R_w = 22 dB). The roller shutter doors have been modelled in the open position.
- All receptors were modelled at 1.5 m above ground level.
- All ground areas have been modelled considering different ground factors ranging from 0 to 1 (Hard to Soft ground). The subject site and immediate surrounding industrial area have been modelled with a ground absorption factor of 0. The residential areas to the north of the site

have been modelled with a ground absorption factor of 0.5. Parklands and bushland areas have been modelled with a ground absorption coefficient of 1.

- Trucks have been modelled considering two moving point sources at heights of 1.5 m and 3 m above ground level in order to account for the engine (1.5 m) and the exhaust outlet (3 m). An on-site speed of 10 km/hr has been considered.

- One (1) truck has been modelled entering and leaving both 14 and 16 Kiora Crescent over a 15 minute period to envisage a worst case scenario.

- Internal noise sources associated with the site activities (i.e. air compressor and pump at 14 Kiora Crescent and the conveyor, shredder and material handling at 16 Kiora Crescent) have been modelled as operational for 100% of the operational hours of the site.

- The forklifts have been assumed to operate for 100% of the 15 minute period.

An outline of the noise sources and operational noise modelling stages has been provided below.

7.1.3 Noise Sources

The sound power levels for the identified noise sources associated with the operational activities are shown in Table 7-1 below. The sound power levels have been calculated from measurements of sound pressure levels taken at the existing site, as well as from Benbow Environmental's extensive noise source database.

Table 7-1: A-weighted Sound Power Levels Associated with Operational Activities, dB(A)

Noise Source	LMax	Overall LAeq	Third Octave Band Centre Frequency (Hz)									
			25	31	40	50	63	80	100	125	160	200
			250	315	400	500	630	800	1k	1.25k	1.6k	2k
			2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
Truck Engine	**106**	**103**	44	48	57	65	70	73	78	78	80	82
			83	85	94	98	94	96	89	88	82	87
			85	84	82	83	83	82	78	-	-	-
Truck Exhaust	**104**	**101**	42	46	55	63	68	71	76	76	78	80
			81	83	92	96	92	94	87	86	80	85
			83	82	80	81	81	80	76	-	-	-
Pump	-	**102**	40	44	45	76	72	63	69	68	75	75
			78	78	81	85	84	87	93	91	95	93
			93	92	90	89	87	80	72	68	57	40
Air Compressor	-	**95**	33	38	46	53	56	65	66	68	69	76
			86	76	81	89	84	82	87	83	83	81
			80	78	78	71	68	64	57	53	46	37
LPG Forklift	**94**	**92**	36	59	61	51	65	66	77	68	60	62
			66	69	74	81	78	78	81	85	84	84
			81	75	71	71	65	63	56	51	45	42
Shredder	-	**101**	34	36	39	45	48	58	65	71	78	81
			82	84	88	91	91	93	90	92	90	90

Table 7-1: A-weighted Sound Power Levels Associated with Operational Activities, dB(A)

Noise Source	LMax	Overall LAeq	Third Octave Band Centre Frequency (Hz)									
			25	31	40	50	63	80	100	125	160	200
			250	315	400	500	630	800	1k	1.25k	1.6k	2k
			2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
			88	87	87	86	82	78	73	68	62	54
Material Handling	-	**106**	-	12	-	-	33	-	-	48	-	-
			63	-	-	75	-	-	82	-	-	86
			-	-	88	-	-	88	-	-	76	-
Conveyor	-	**80**	29	31	29	35	38	49	45	49	53	57
			57	65	68	70	68	71	70	72	71	70
			63	63	59	56	52	49	44	42	36	29

7.1.4 Noise Modelling Scenarios

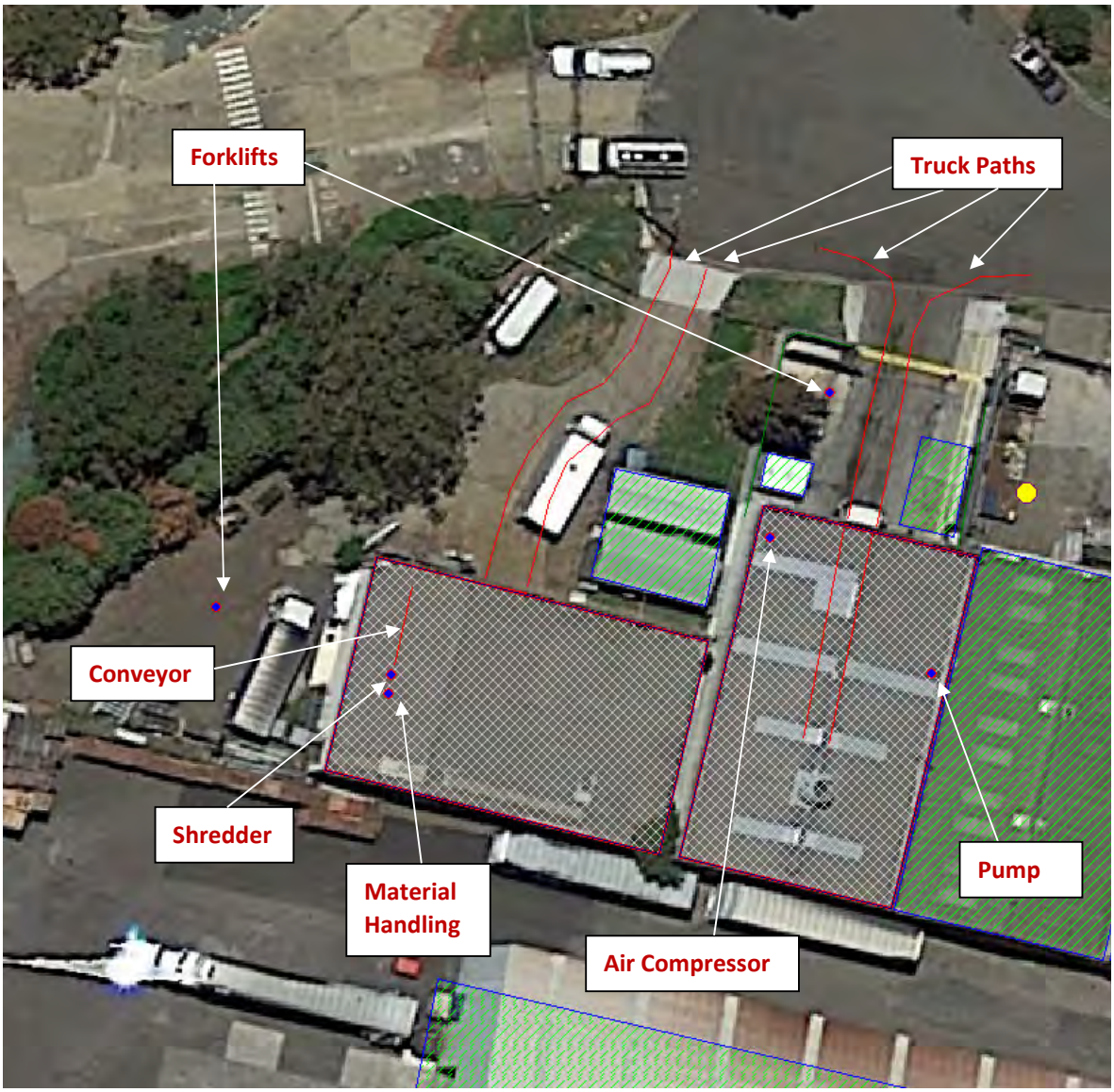
Two operational scenarios were considered in the noise model. The first scenario considered a situation in which all equipment were running for 100% of the time over the 15 minute assessment period, with two vehicle movement being considered within a 15 minute period. It is understood that the air compressor generally does not run for a full 15 minute period, therefore both scenarios present a conservative analysis and are considered worst case. The second scenario considers a full operational scenario but with temperature inversion weather conditions.

The equipment list for the operational scenarios is detailed in Table 7-2, with an equipment location diagram in Figure 7-1.

Table 7-2: 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

Figure 7-1: Operational noise sources - 14 Kiora Crescent



7.2 OPERATIONAL PREDICTED NOISE LEVELS

Results of the predictive noise modelling are shown in Table 7-3 for the two scenarios.

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 weather 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 in Section 7.3.

Table 7-3: 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

7.3 RECOMMENDED OPERATIONAL MITIGATION MEASURES

As mentioned in Section 7.2, 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. ROAD TRAFFIC NOISE IMPACT ASSESSMENT

A description of the calculation methodology and the noise predictions associated with road traffic has been provided below.

The most likely routes for trucks that have receivers along them would involve travelling along Fairfield Road when heading north, Military Road when heading east, and along Pine Road when heading south and along Polding Street North when heading west as shown in Figure 8-1. The nearest residential receptors to the site along these routes are located along Pine Road, with the closest residential receiver identified as:

- 163 Military Road, Guildford;
- R8, 17 Pine Road, Fairfield;
- 134 Fairfield Road Guildford West; and
- 4 Polding Street North, Fairfield.

Calculation of road traffic noise contribution has been undertaken using SoundPLAN v7.3.

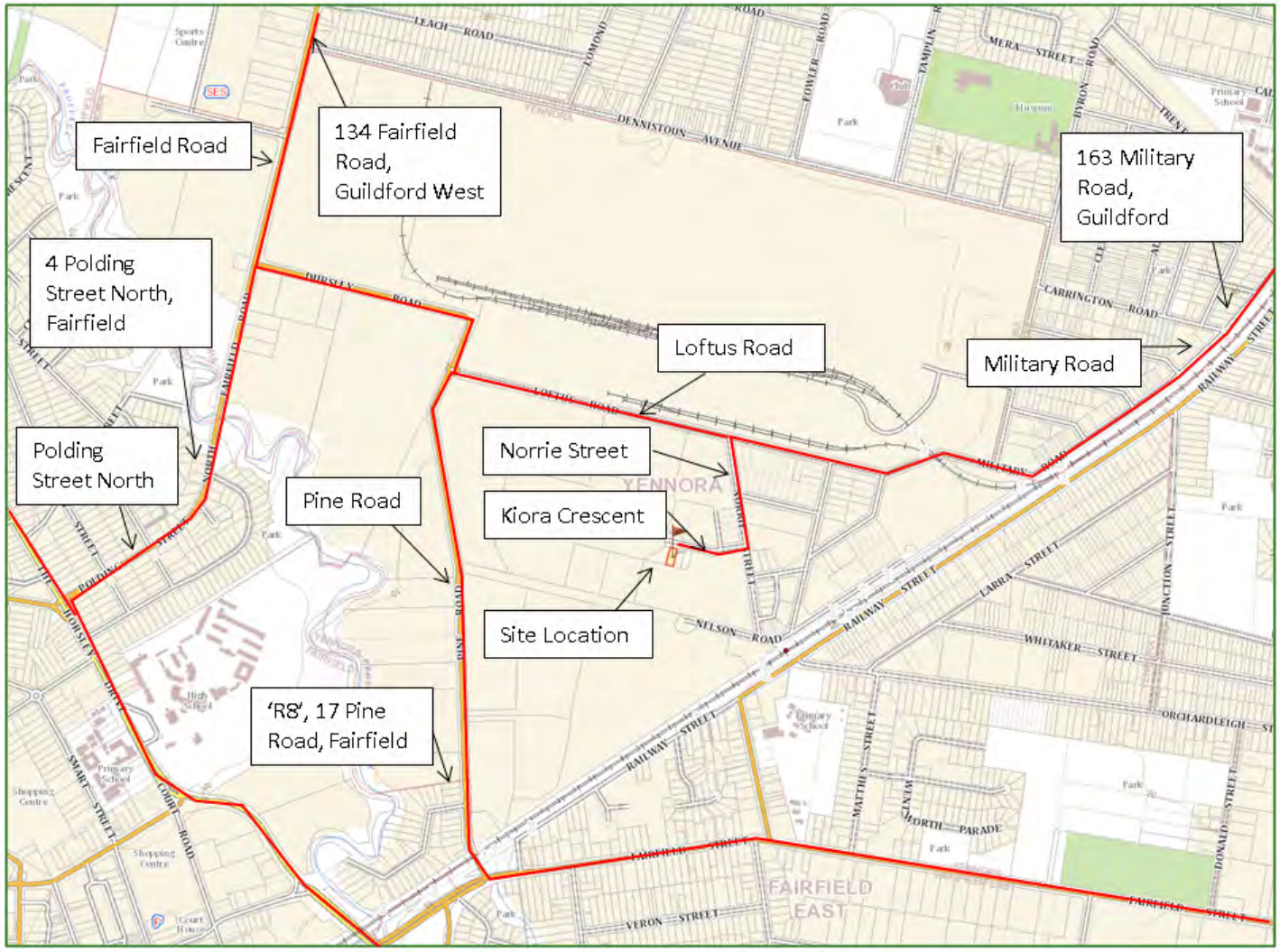
One truck has been considered to pass the residences along local roads: Pine Road, Fairfield Road and Polding Street North, in a 15 minute period, therefore four truck pass bys have been considered to occur in any one hour period in the day. Two trucks per hour have been modelled during the night period along local roads. For the subarterial road, Military Road, truck numbers have been proportionally divided up in their different time periods with 40 trucks per day and 10 trucks per night. The trucks are assumed to travel at the posted speed of 50 km/h along Pine road and Military Road and 60 km/h along Fairfield Road and Polding Street North for daytime and night-time scenarios. Trucks have been modelled considering two moving point sources at heights of 1.5 m and 3 m above ground level in order to account for the engine (1.5 m) and the exhaust outlet (3 m).

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 8-1.

Table 8-1: 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 $L_{Aeq,\ 1\ hour}$ ✓

Figure 8-1: Truck Routes



The road traffic noise impacts from vehicles travelling on Loftus Road, Norrie Street and Kiora Crescent are well shielded from the residential receivers, with industrial properties and significant distances located between the roads and the residential receivers. From Table 8-1, it can be seen that the predicted road traffic noise contributions will comply with the road noise criteria.

Therefore, the proposed vehicle movements are predicted to comply with the NSW Road Noise Policy, and no additional mitigation strategies are recommended.

9. STATEMENT OF POTENTIAL NOISE IMPACT

A noise impact assessment was undertaken to assess the potential noise emissions from the proposed increase of proposed increase in processing capacity from 900 tonnes per annum to 110,000 tonnes per annum, and an increase in the maximum quantity to be stored at any one time from 110 tonnes to 477 tonnes at the processing facility at 14-16 Kiora Crescent, Yennora.

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

- NSW Environmental 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 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.

This concludes the report.





Victoria Hale
Environmental Scientist

R T Benbow
Principal Consultant

10. 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.

ATTACHMENTS

Glossary of Noise Terminology

'A' FREQUENCY WEIGHTING

The 'A' frequency weighting roughly approximates to the Fletcher-Munson 40 phon equal loudness contour. The human loudness perception at various frequencies and sound pressure levels is equated to the level of 40 dB at 1 kHz. The human ear is less sensitive to low frequency sound and very high frequency sound than midrange frequency sound (i.e. 500 Hz to 6 kHz). Humans are most sensitive to midrange frequency sounds, such as a child's scream. Sound level meters have inbuilt frequency weighting networks that very roughly approximates the human loudness response at low sound levels. It should be noted that the human loudness response is not the same as the human annoyance response to sound. Here low frequency sounds can be more annoying than midrange frequency sounds even at very low loudness levels. The 'A' weighting is the most commonly used frequency weighting for occupational and environmental noise assessments. However, for environmental noise assessments, adjustments for the character of the sound will often be required.

AMBIENT NOISE

The ambient noise level at a particular location is the overall environmental noise level caused by all noise sources in the area, both near and far, including all forms of traffic, industry, lawnmowers, wind in foliage, insects, animals, etc. Usually assessed as an energy average over a set time period 'T' (L_{Aeq},T).

AUDIBLE

Audible refers to a sound that can be heard. There are a range of audibility grades, varying from "barely audible", "just audible" to "clearly audible" and "prominent".

BACKGROUND NOISE LEVEL

Total silence does not exist in the natural or built-environments, only varying degrees of noise. The Background Noise Level is the minimum repeatable level of noise measured in the absence of the noise under investigation and any other short-term noises such as those caused by all forms of traffic, industry, lawnmowers, wind in foliage, insects, animals, etc.. It is quantified by the noise level that is exceeded for 90 % of the measurement period 'T' (L_{A90}, T). Background Noise Levels are often determined for the day, evening and night time periods where relevant. This is done by statistically analysing the range of time period (typically 15 minute) measurements over multiple days (often 7 days). For a 15 minute measurement period the Background Noise Level is set at the quietest level that occurs at 1.5 minutes.

'C' FREQUENCY WEIGHTING

The 'C' frequency weighting approximates the 100 phon equal loudness contour. The human ear frequency response is more linear at high sound levels and the 100 phon equal loudness contour attempts to represent this at various frequencies at sound levels of approximately 100 dB.

DECIBEL

The decibel (dB) is a logarithmic scale that allows a wide range of values to be compressed into a more comprehensible range, typically 0 dB to 120 dB. The decibel is ten times the logarithm of the ratio of any two quantities that relate to the flow of energy (i.e. power). When used in acoustics it is the ratio of square of the sound pressure level to a reference sound pressure level, the ratio of the sound power level to a reference sound power level, or the ratio of the sound intensity level to a reference sound intensity level. See also Sound Pressure Level and Sound Power Level. Noise levels in decibels cannot be added arithmetically since they are logarithmic numbers. If one machine is generating a noise level of 50 dB, and another similar machine is placed beside it, the level will increase to 53 dB (from $10 \log_{10} (10^{(50/10)} + 10^{(50/10)})$ and not 100 dB. In theory, ten similar machines placed side by side will increase the sound level by 10 dB, and one hundred machines increase the sound level by 20 dB. The human ear has a vast sound-sensitivity range of over a thousand billion to one so the logarithmic decibel scale is useful for acoustical assessments.

dBA – See 'A' frequency weighting

dBC – See 'C' frequency weighting

EQUIVALENT CONTINUOUS SOUND LEVEL, L_{Aeq}

Many sounds, such as road traffic noise or construction noise, vary repeatedly in level over a period of time. More sophisticated sound level meters have an integrating/averaging electronic device inbuilt, which will display the energy time-average (equivalent continuous sound level - L_{Aeq}) of the 'A' frequency weighted sound pressure level. Because the decibel scale is a logarithmic ratio, the higher noise levels have far more sound energy, and therefore the L_{Aeq} level tends to indicate an average which is strongly influenced by short term, high level noise events. Many studies show that human reaction to level-varying sounds tends to relate closer to the L_{Aeq} noise level than any other descriptor.

'F' (FAST) TIME WEIGHTING

Sound level meter design-goal time constant which is 0.125 seconds.

FREE FIELD

In acoustics a free field is a measurement area not subject to significant reflection of acoustical energy. A free field measurement is typically not closer than 3.5 metres to any large flat object (other than the ground) such as a fence or wall or inside an anechoic chamber.

FREQUENCY

The number of oscillations or cycles of a wave motion per unit time, the SI unit is the hertz (Hz). 1 Hz is equivalent to one cycle per second. 1000 Hz is 1 kHz.

IMPULSE NOISE

An impulse noise is typified by a sudden rise time and a rapid sound decay, such as a hammer blow, rifle shot or balloon burst.

MAXIMUM NOISE LEVEL, L_{AFmax}

The root-mean-square (rms) maximum sound pressure level measured with sound level meter using the 'A' frequency weighting and the 'F' (Fast) time weighting. Often used for noise assessments other than aircraft.

NOISE

Noise is unwanted, harmful or inharmonious (discordant) sound. Sound is wave motion within matter, be it gaseous, liquid or solid. Noise usually includes vibration as well as sound.

NOISE REDUCTION COEFFICIENT – See: "Sound Absorption Coefficient"

OFFENSIVE NOISE

Reference: Dictionary of the NSW Protection of the Environment Operations Act 1997).

"Offensive Noise means noise:
(a) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:
(i) is harmful to (or likely to be harmful to) a person who is outside the premise from which it is emitted, or
(ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or
(b) that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances prescribed by the regulations."

SOUND ABSORPTION COEFFICIENT, α

Sound is absorbed in porous materials by the viscous conversion of sound energy to a small amount of heat energy as the sound waves pass through it. Sound is similarly absorbed by the flexural bending of internally damped panels. The fraction of incident energy that is absorbed is termed the Sound Absorption Coefficient, α. An absorption coefficient of 0.9 indicates that 90 % of the incident sound energy is absorbed. The average α from 250 to 2 kHz is termed the Noise Reduction Coefficient (NRC).

SOUND ATTENUATION

A reduction of sound due to distance, enclosure or some other devise. If an enclosure is placed around a machine, or an attenuator (muffler or silencer) is fitted to a duct, the noise emission is reduced or attenuated. An enclosure that attenuates the noise level by 20 dB reduces the sound energy by one hundred times.

SOUND PRESSURE

The rms sound pressure measured in pascals (Pa). A pascal is a unit equivalent to a newton per square metre (N/m^2).

SOUND PRESSURE LEVEL, Lp

The level of sound measured on a sound level meter and expressed in decibels (dB). Where L_P = 10 $\log_{10}$ $(Pa/Po)^2$ dB (or 20 log10 (Pa/ Po) dB) where Pa is the rms sound pressure in Pascal and Po is a reference sound pressure conventionally chosen is 20 µPa (20 x 10^{-6} Pa) for airborne sound. L_p varies with distance from a noise source.

SOUND POWER

The rms sound power measured in watts (W). The watt is a unit defined as one joule per second. A measures the rate of energy flow, conversion or transfer.

SOUND POWER LEVEL, Lw

The sound power level of a noise source is the inherent noise of the device. Therefore sound power level does not vary with distance from the noise source or with a different acoustic environment. $L_w = L_p + 10 \log_{10}$ 'a' dB, re: 1pW, (10^{-12} watts) where 'a' is the measurement noise-emission area (m^2) in a free field.

STATISTICAL NOISE LEVELS, Ln.

Noise which varies in level over a specific period of time 'T' (standard measurement times are 15 minute periods) may be quantified in terms of various statistical descriptors for example:-

- The noise level, in decibels, exceeded for 1 % of the measurement time period, when 'A' frequency weighted and 'F' time weighted is reference to as L_{AF1}, T. This may be used for describing short-term noise levels such as could cause sleep arousal during the night.
- The noise level, in decibels, exceeded for 10 % of the measurement time period, when 'A' frequency weighted and 'F' time weighted is reference to as L_{AF10}, T. In most countries the LAF10, T is measured over periods of 15 minutes, and is used to describe the average maximum noise level.
- The noise level, in decibels, exceeded for 90 % of the measurement time period, when 'A' frequency weighted and 'F' time weighted is reference to as L_{AF90}, T. In most countries the LAF90, T is measured over periods of 15 minutes, and is used to describe the average minim um or background noise level.

STEADY NOISE

Noise, which varies in level by 6 dB or less, over the period of interest with the time-weighting set to "Fast", is considered to be "steady". (Refer AS 1055.1—1997).

WEIGHTED SOUND REDUCTION INDEX, R_w

This is a single number rating of the airborne sound insulation of a wall, partition or ceiling. The sound reduction is normally measured over a frequency range of 100 Hz to 3.150 kHz and averaged in accordance with ISO standard weighting curves (Refer AS/NZS ISO 717-1:2004). Internal partition wall R_w + C ratings are frequency weighted to simulate insulation from human voice noise. The R_w + C is similar in value to the STC rating value. External walls, doors and windows may be R_w + C_{tr} rated to simulate insulation from road traffic noise. The spectrum adaptation term C_{tr} adjustment factor takes account of low frequency noise. The weighted sound reduction index is normally similar or slightly lower number than the STC rating value.

‘Z’ FREQUENCY WEIGHTING

The ‘Z’ (Zero) frequency weighting is 0 dB within the nominal 1/3 octave band frequency range centred on 10 Hz to 20 kHz. This is within the tolerance limits given in AS IEC 61672.1—2004: ‘*Electroacoustics – Sound level meters – Specifications*’.

Attachment 2: Calibration Certificates

Acoustic Research Labs Pty Ltd
Unit 36/14 Loyalty Rd
North Rocks NSW AUSTRALIA 2151
Ph: +61 2 9484 0800 A.B.N. 65 160 399 119
www.acousticresearch.com.au

Sound Level Meter
AS 1259.1:1990 - AS 1259.2:1990
Calibration Certificate

Calibration Number C19409

Client Details Benbow Environmental
25-27 Sherwood Street
NORTHMEAD NSW 2152

Equipment Tested/ Model Number : ARL EL-215
Instrument Serial Number : 194702
Microphone Serial Number : N/A
Pre-amplifier Serial Number : N/A

Atmospheric Conditions
Ambient Temperature : 22.9°C
Relative Humidity : 37.2%
Barometric Pressure : 100.71kPa

Calibration Technician : Lucky Jaiswal
Secondary Check: Sandra Minto
Calibration Date : 22 Jul 2019
Report Issue Date : 25 Jul 2019

Approved Signatory : Ken Williams

Clause and Characteristic Tested	Result	Clause and Characteristic Tested	Result
10.2.2: Absolute sensitivity	*Pass*	10.3.4: Inherent system noise level	*Pass*
10.2.3: Frequency weighting	*Pass*	10.4.2: Time weighting characteristic F and S	*Pass*
10.3.2: Overload indications	*Pass*	10.4.3: Time weighting characteristic I	*Pass*
10.3.3: Accuracy of level range control	*Pass*	10.4.5: R.M.S performance	*Pass*
8.9: Detector-indicator linearity	*Pass*	9.3.2: Time averaging	*Pass*
8.10: Differential level linearity	*Pass*	9.3.3: Overload indication	*Pass*

Least Uncertainties of Measurement -

Acoustic Tests		Environmental Conditions	
31.5 Hz to 8kHz	*±0.15dB*	*Temperature*	*±0.2°C*
12.5kHz	*±0.2dB*	*Relative Humidity*	*±2.4%*
16kHz	*±0.29dB*	*Barometric Pressure*	*±0.015kPa*
Electrical Tests			
31.5 Hz to 20 kHz	*±0.11dB*		

All uncertainties are derived at the 95% confidence level with a coverage factor of 2.

The sound level meter under test has been shown to conform to the type 2 requirements for periodic testing as described in AS 1259.1:1990 and AS 1259.2:1990 for the tests stated above.

This calibration certificate is to be read in conjunction with the calibration test report.

Acoustic Research Labs Pty Ltd is NATA Accredited Laboratory Number 14172.
Accredited for compliance with ISO/IEC 17025 - calibration.

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards.

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration and inspection reports.

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: 25096

EQUIPMENT TESTED: Sound Level Calibrator

Manufacturer: Rion
Type No: NC-73 **Serial No:** 10186522
Owner: Benbow Environmental
25-27 Sherwood Street
Northmead, NSW 2152

Tests Performed: Measured output pressure level was found to be:

Parameter	Pre-Adj	Adj Y/N	Output: (db re 20 µPa)	Frequency: (Hz)	THD&N (%)
Level 1:	NA	N	94.15	990.93	1.41
Level 2:	NA	N	NA	NA	NA
Uncertainty:			±0.11 dB	±0.05%	±0.20 %
Uncertainty (at 95% c.l.) k=2					

CONDITION OF TEST:
Ambient Pressure: 1020 hPa ±1.5 hPa **Relative Humidity:** 52% ±5%
Temperature: 24 °C ±2° C
Date of Calibration: 05/07/2019 **Issue Date:** 08/07/2019
Acu-Vib Test Procedure: AVP02 (Calibrators)
Test Method: AS IEC 60942 - 2017
CHECKED BY: ..... **AUTHORISED SIGNATURE:** .....
Jack Kiely

Accredited for compliance with ISO/IEC 17025 - Calibration
The results of the tests, calibration and/or measurements included in this document are traceable to Australian/national standards.
The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

NATA
WORLD RECOGNISED ACCREDITATION
Accredited Lab. 9262
Acoustic and Vibration Measurements

ACU-VIB
ELECTRONICS
HEAD OFFICE
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154
Tel: (02) 96808133 Fax: (02)96808233
Mobile: 0413 809806
Web site: www.acu-vib.com.au

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: 24945

EQUIPMENT TESTED: Sound Level Calibrator

Manufacturer: B & K
Type No: 4230 **Serial No:** 565912
Owner: Benbow Environmental
25-27 Sherwood Street
Northmead, NSW 2152

Tests Performed: Measured output pressure level was found to be:

Parameter	Pre-Adj	Adj Y/N	Output: (db re 20 µPa)	Frequency: (Hz)	THD&N (%)
Level 1:	NA	N	94.03	987.01	0.45
Level 2:	NA	N	NA	NA	NA
Uncertainty:			±0.11 dB	±0.05%	±0.20 %
Uncertainty (at 95% c.l.) k=2					

CONDITION OF TEST:
Ambient Pressure: 1001 hPa ±1.5 hPa **Relative Humidity:** 48% ±5%
Temperature: 23 °C ±2° C
Date of Calibration: 14/06/2019 **Issue Date:** 17/06/2019
Acu-Vib Test Procedure: AVP02 (Calibrators)
Test Method: AS IEC 60942 - 2017
CHECKED BY: .. **AUTHORISED SIGNATURE:** .....
Jack Kielt

Accredited for compliance with ISO/IEC 17025 - Calibration
The results of the tests, calibration and/or measurements included in this document are traceable to Australian/national standards.
The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

NATA
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Acoustic and Vibration Measurements

ACU-VIB
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Mobile: 0413 809806
Web site: www.acu-vib.com.au

CERTIFICATE OF CALIBRATION

CERTIFICATE NO.: **SLM 24948 & FILT 5245**

Equipment Description:	Sound & Vibration Analyser		
Manufacturer:	Svantek		
Model No:	Svan-957	**Serial No:**	15335
Microphone Type:	7052H	**Serial No:**	40814
Preamplifier Type:	SV12L	**Serial No:**	18742
Filter Type:	1/3 Octave	**Serial No:**	15335
Comments:	All tests passed for class 1. (See over for details)		
Owner:	Benbow Environmental 25-27 Sherwood Street Northmead, NSW 2152		
Ambient Pressure:	1004 hPa ±1.5 hPa		
Temperature:	23 °C ±2° C	**Relative Humidity:**	39% ±5%
Date of Calibration:	14/06/2019	**Issue Date:**	17/06/2019
Acu-Vib Test Procedure:	AVP10 (SLM) & AVP06 (Filters)		

CHECKED BY: VKB **AUTHORISED SIGNATURE:** ..... Jack Kiett

Accredited for compliance with ISO/IEC 17025 - Calibration
The results of the tests, calibration and/or measurements included in this document are traceable to Australian/national standards.

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Accredited Lab. No. 9262
Acoustic and Vibration Measurements

Calibration of Sound Level Meters

A sound level meter requires regular calibration to ensure its measurement performance remains within specification. Benbow Environmental sound level meters are calibrated by a National Association of Testing Authority (NATA) registered laboratory or a laboratory approved by the NSW Environment Protection Authority (EPA) every two years and after each major repair, in accordance with AS IEC 61672.1–2019 Electroacoustics – Sound level meters - Specifications.

The calibration of the sound level meter was checked immediately before and after each series of measurements using an acoustic calibrator. The acoustic calibrator provides a known sound pressure level, which the meter indicates when the calibrator is activated while positioned on the meter microphone.

The sound level meters also incorporate an internal calibrator for use in setting up. This provides a check of the electrical calibration of the meter, but does not check the performance of the microphone. Acoustical calibration checks the entire instrument including the microphone. Calibration certificates for the instrument sets used have been included as Attachment 2.

Care and Maintenance of Sound Level Meters

Noise measuring equipment contains delicate components and therefore must be handled accordingly. The equipment is manufactured to comply with international and national standards and is checked periodically for compliance. The technical specifications for sound level meters used in Australia are defined in Australian Standard AS IEC 61672.1–2019 Electroacoustics – Sound level meters - Specifications.

The sound level meters and associated accessories are protected during storage, measurement and transportation against dirt, corrosion, rapid changes of temperature, humidity, rain, wind, vibration, electric and magnetic fields. Microphone cables and adaptors are always connected and disconnected with the power turned off. Batteries are removed (with the instrument turned off) if the instrument is not to be used for some time.

Investigation Procedures

All investigative procedures were conducted in accordance with AS 1055:2018 *Acoustics – "Description and Measurement of Environmental Noise"*.

The following information was recorded and kept for reference purposes:

- type of instrumentation used and measurement procedure conducted;
- description of the time aspect of the measurements, ie. measurement time intervals; and
- positions of measurements and the time and date were noted.

As per AS 1055:2018, all measurements were carried out at least 3.5 m from any reflecting structure other than the ground. The preferred measurement height of 1.2 m above the ground was utilised. A sketch of the area was made identifying positions of measurement and the approximate location of the noise source and distances in meters (approx.).

UNATTENDED NOISE MONITORING

NOISE MONITORING EQUIPMENT

ARL noise logger type NGARA and EL-215 were used to conduct the long-term unattended noise monitoring. This equipment complies with Australian Standard AS IEC 61672.1–2019 *Electroacoustics – Sound level meters – Specifications* and are designated as a Type 2 instrument suitable for field use.

The measured data is processed statistically and stored in memory every 15 minutes. The equipment was calibrated prior and subsequent to the measurement period using a Rion NC-73 sound level calibrator. There were no significant variances observed in the reference signal between the pre-measurement and post-measurement calibrations. Instrument calibration certificates have also been included in Attachment 2.

METEOROLOGICAL CONSIDERATION DURING MONITORING

For the long-term attended monitoring, meteorological data for the relevant period were provided by the Bureau of Meteorology, which was considered representative of the site for throughout the monitoring period.

Measurements affected by wind or rain over certain limits were excluded from the final analyses of the recorded data in accordance with the EPA's Industrial Noise Policy (INP). The wind data were modified to take into account the difference of height between the AWS (Automatic Weather Station) used by the Bureau of Meteorology (10m above ground level), and the microphone (1.5m above ground level). The correction factor applied to the data was calculated according to the Australian Standard AS 1170.2 2011 (R2016).

DESCRIPTORS & FILTERS USED FOR MONITORING

Noise levels are commonly measured using A-weighted filters and are usually described as dB(A). The "A-weighting" refers to standardised amplitude versus frequency curve used to "weight" sound measurements to represent the response of the human ear. The human ear is less sensitive to low frequency sound than it is to high frequency sound. Overall A-weighted measurements quantify sound with a single number to represent how people subjectively hear different frequencies at different levels.

Noise environments can be described using various descriptors depending on characteristics of noise or purpose of assessments. For this survey the L_{A90}, L_{Aeq} and L_{Amax} levels were used to analyse the monitoring results. The statistical descriptors L_{A90} measures the noise level exceeded for 90% of the sample measurement time, and is used to describe the "Background noise". Background noise is the underlying level of noise present in the ambient noise, excluding extraneous noise or the noise source under investigation. The L_{Aeq} level is the equivalent continuous noise level or the level averaged on an equal energy basis which is used to describe the "Ambient Noise". The L_{Amax} noise levels are maximum sound pressure levels measured over the sampling period and this parameter is commonly used when assessing noise impact.

Measurement sample periods were fifteen minutes. The Noise -vs- Time daily noise logger charts representing measured noise levels at the noise monitoring locations are presented in Attachment 4.

ATTENDED NOISE MONITORING

NOISE MONITORING EQUIPMENT

The attended short-term noise monitoring was carried out using a SVANTEK SVAN957 Class 1 Precision Sound Level Meters. The instrument was calibrated by a NATA accredited laboratory within two years of the measurement period. The instrument sets comply with AS IEC 61672.1-2019 and was set on A-weighted, fast response.

The microphone was positioned at 1.2 to 1.5 metres above ground level and was fitted with windsocks. The instrument was calibrated using a Rion NC-73 sound level calibrator prior and subsequent to the measurement period to ensure the reliability and accuracy of the instrument sets. There were no significant variances observed in the reference signal between the pre-measurement and post-measurement calibrations. Instrument calibration certificates have also been included in Attachment 2.

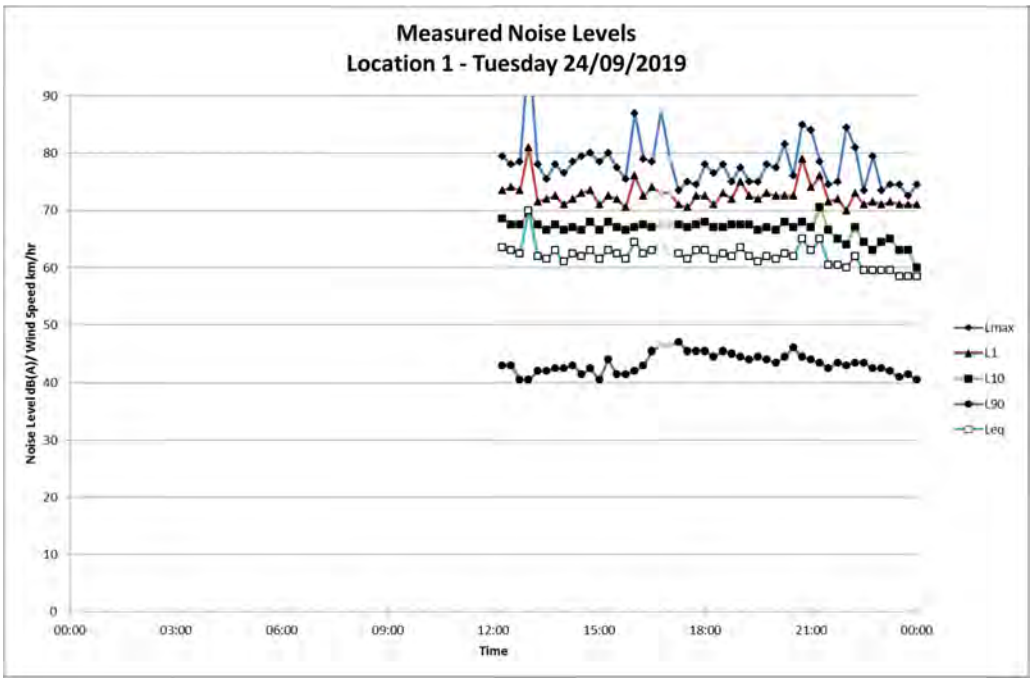
WEATHER CONDITIONS

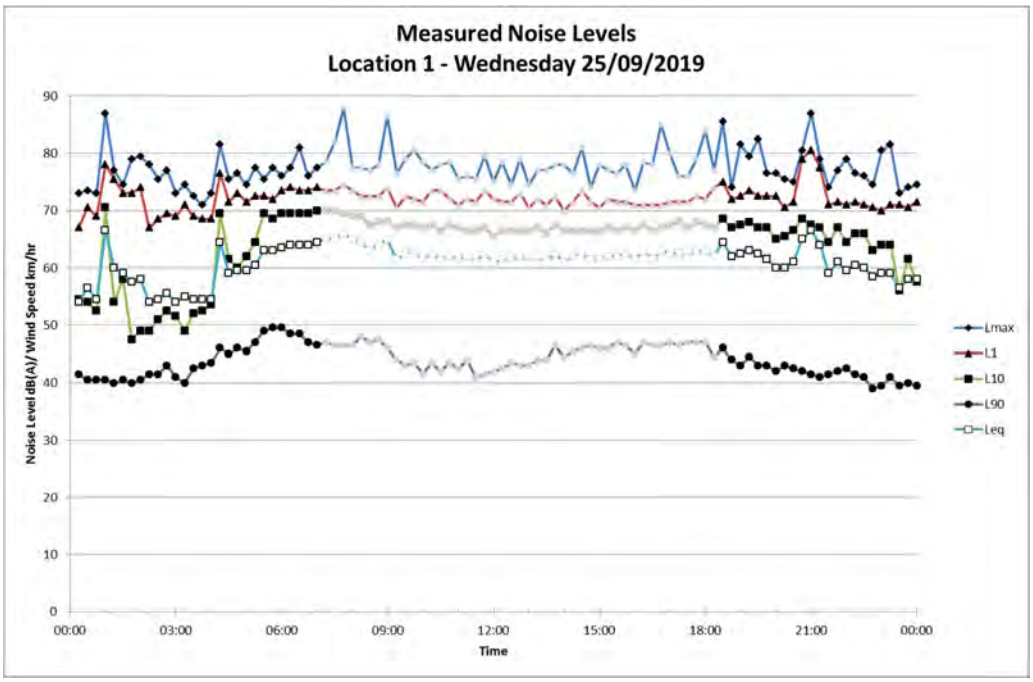
It was clear, find without significant breeze.

METHODOLOGY

The attended noise measurements were carried out generally in accordance with Australian Standard AS 1055:2018 - "*Acoustics – Description and Measurement of Environmental Noise*".

Attachment 4: Noise Logger Charts


Measured Noise Levels
Location 1 - Tuesday 24/09/2019
Noise Level dB(A)/ Wind Speed km/hr
90
80
70
60
50
40
30
20
10
0
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
00:00
Time
Lmax
L1
L10
L90
Leq


Measured Noise Levels
Location 1 - Wednesday 25/09/2019
Noise Level dB(A)/ Wind Speed km/hr
90
80
70
60
50
40
30
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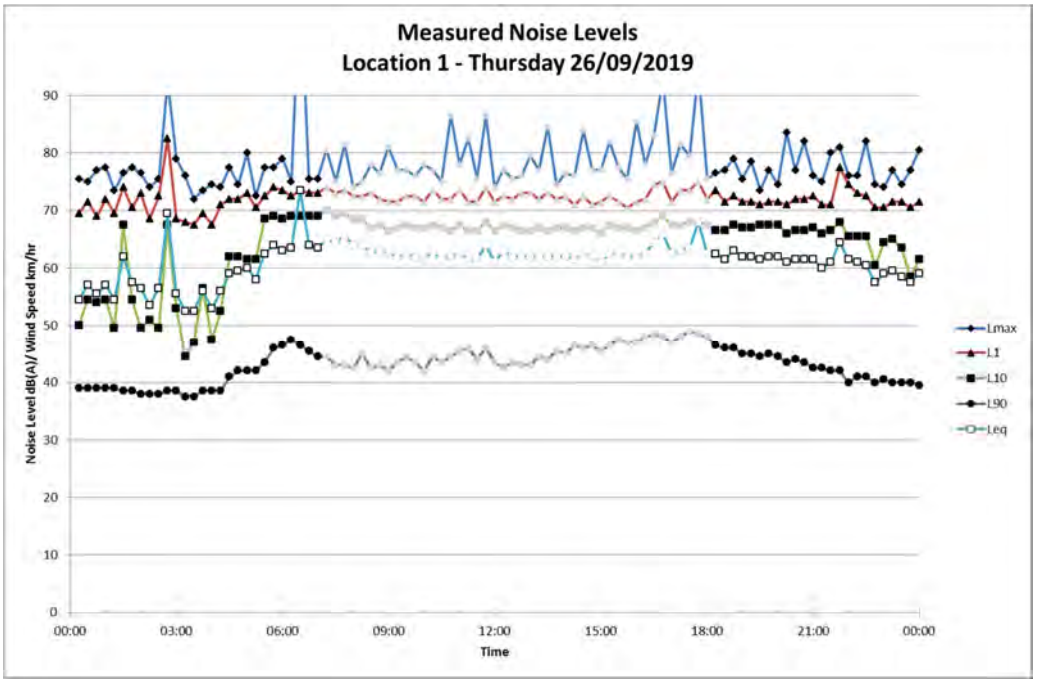
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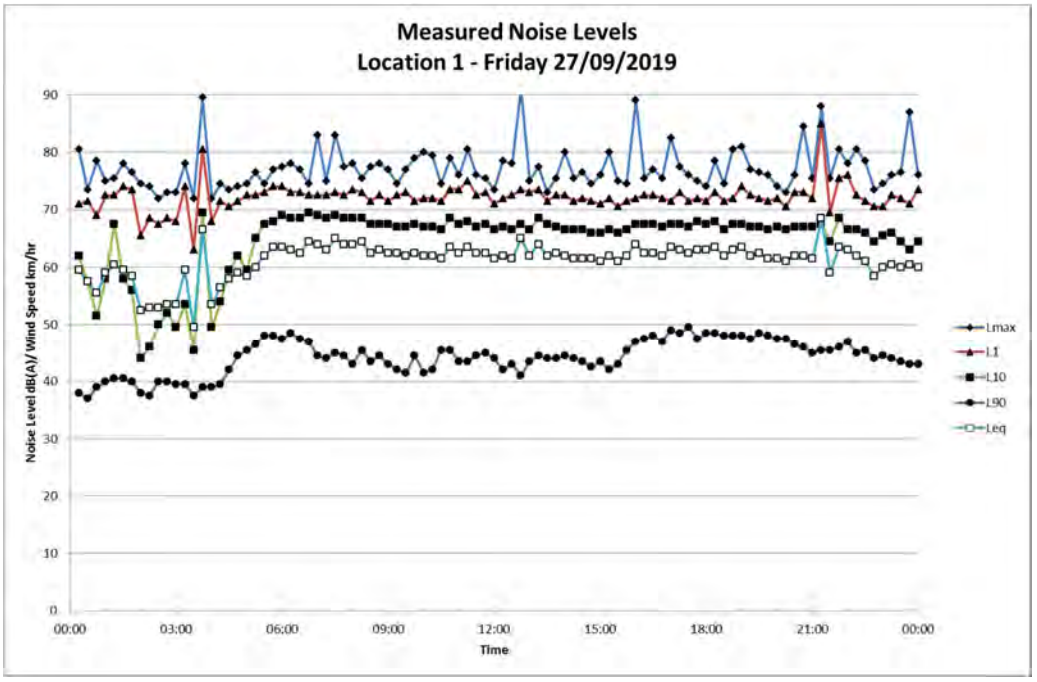
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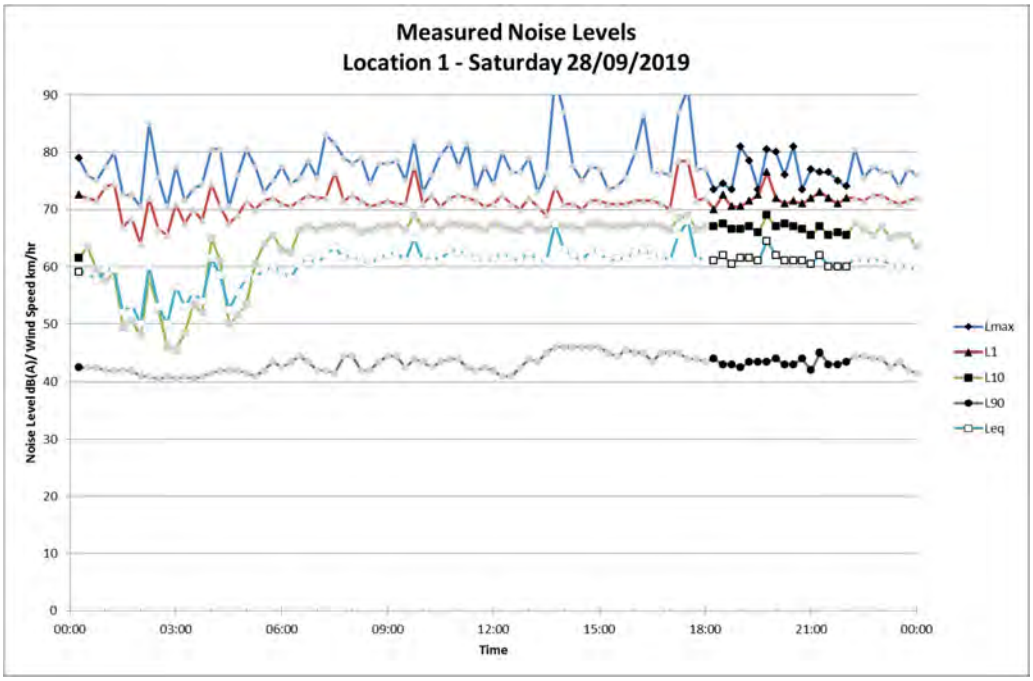
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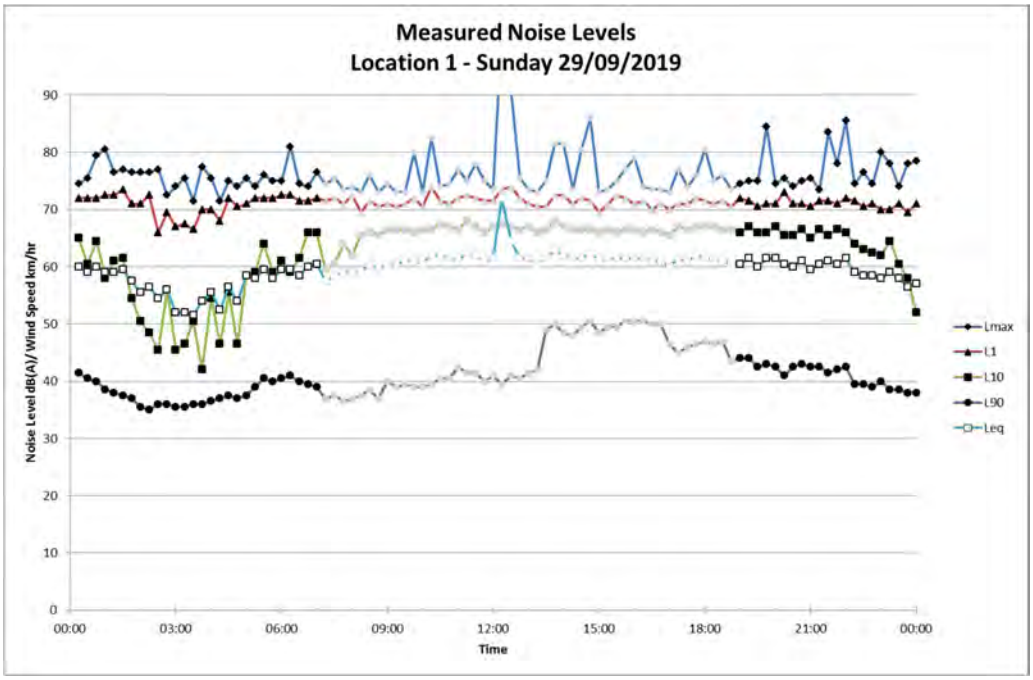
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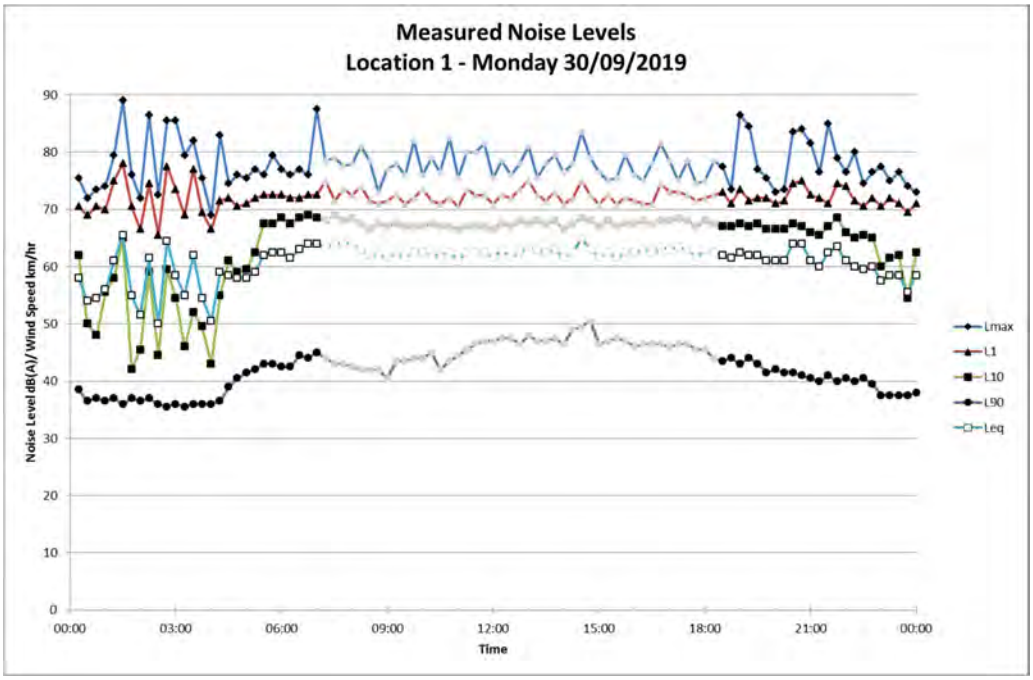
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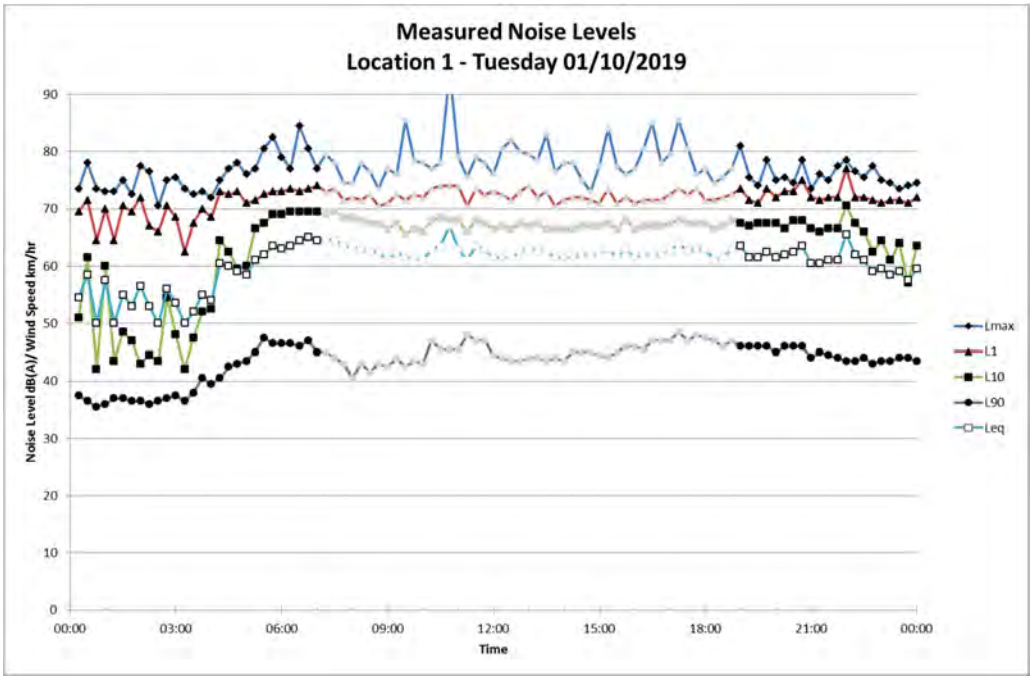
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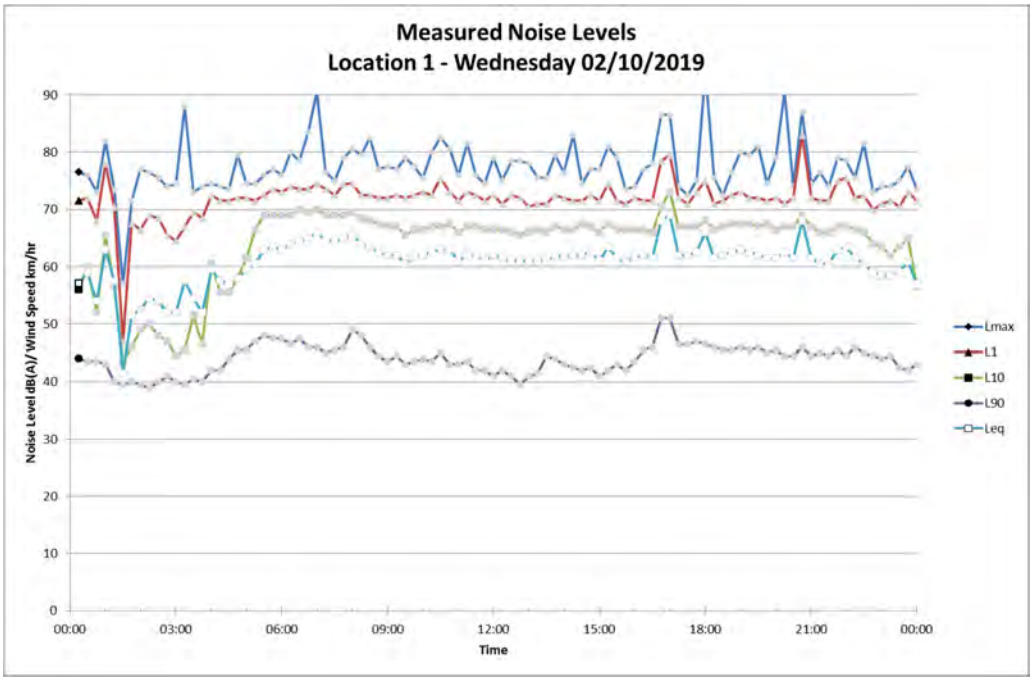
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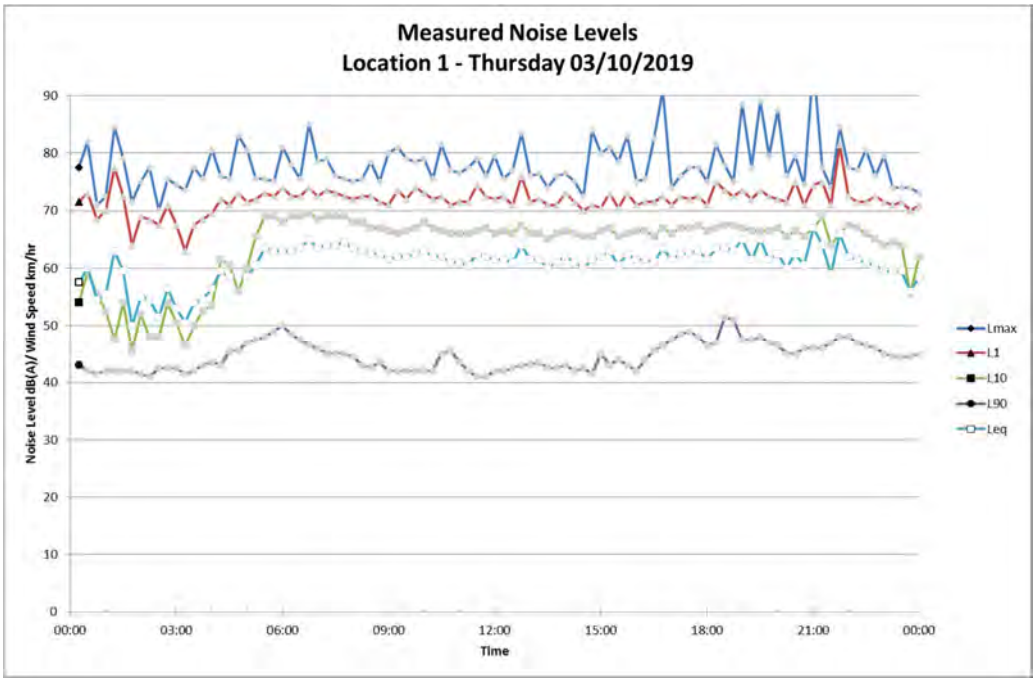
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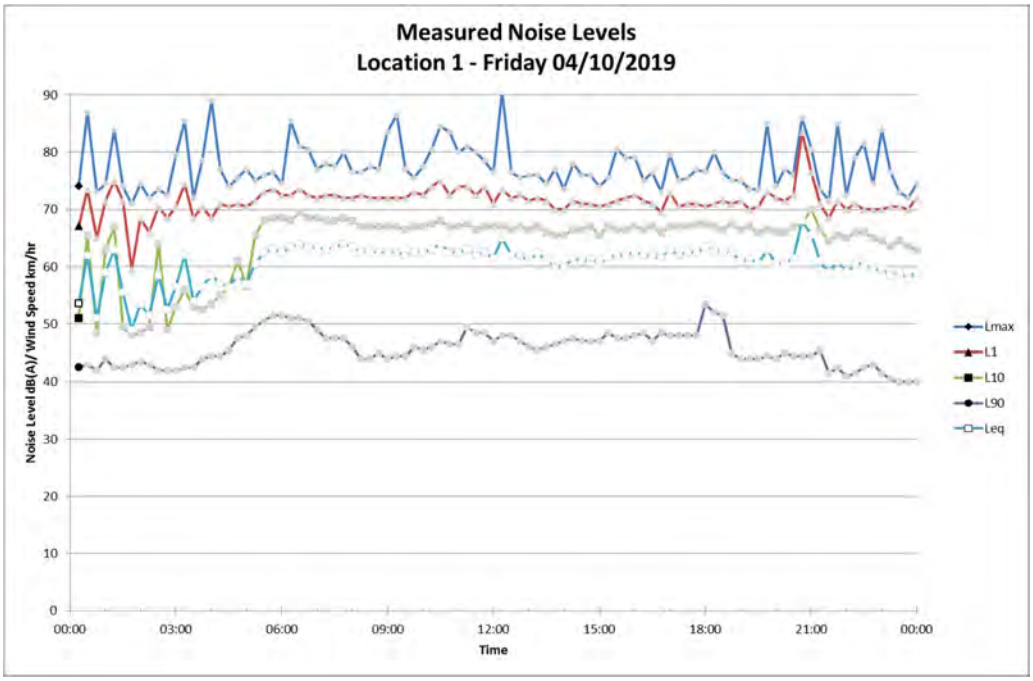
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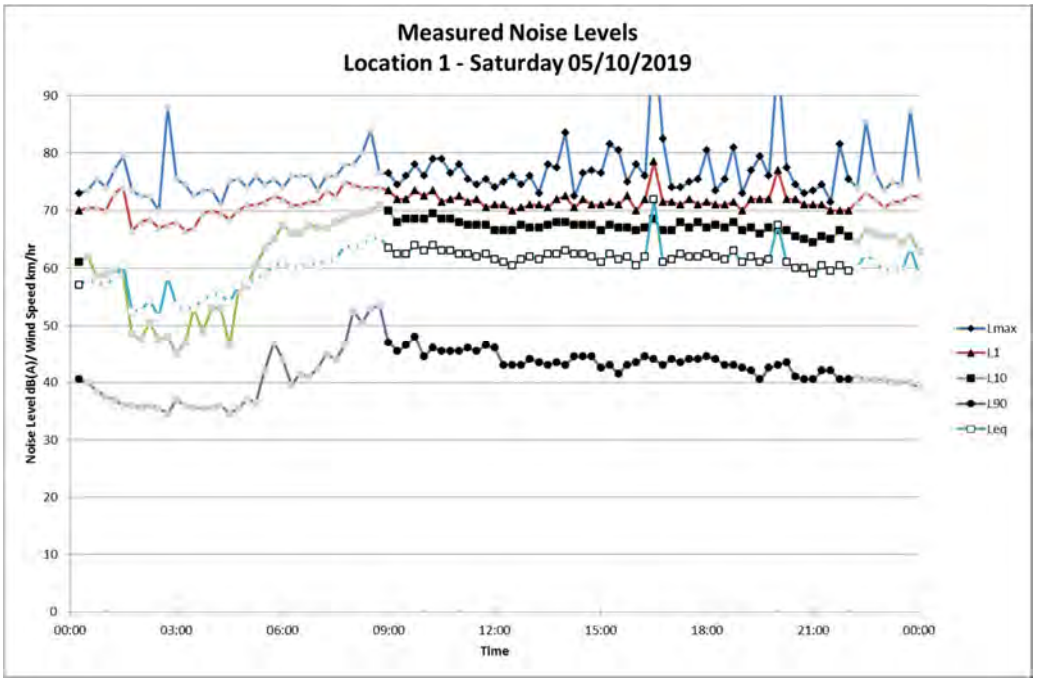
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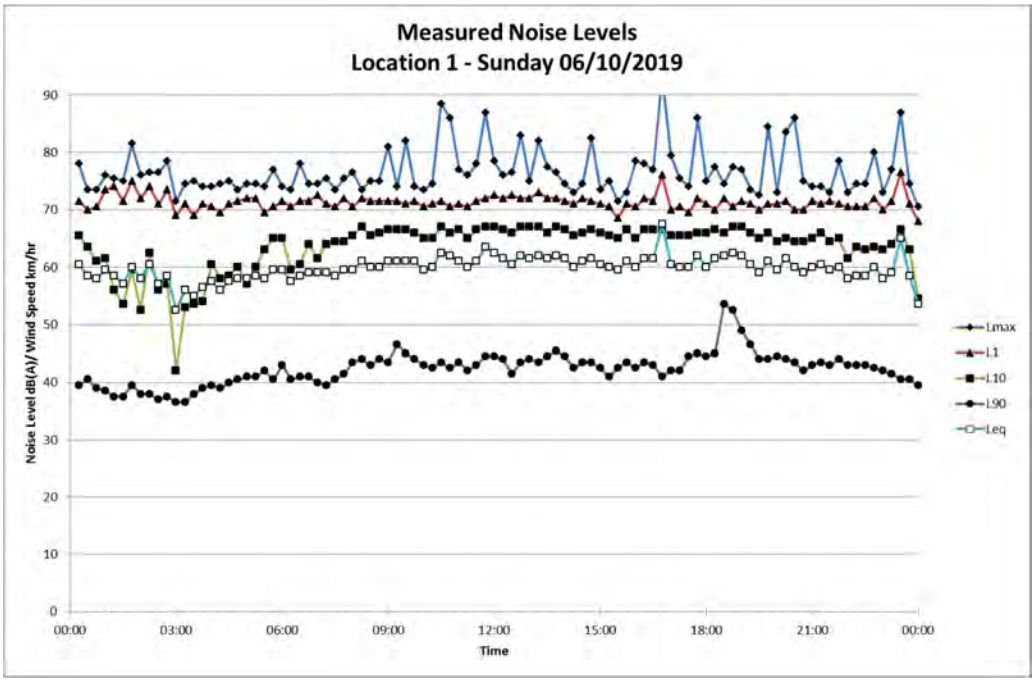
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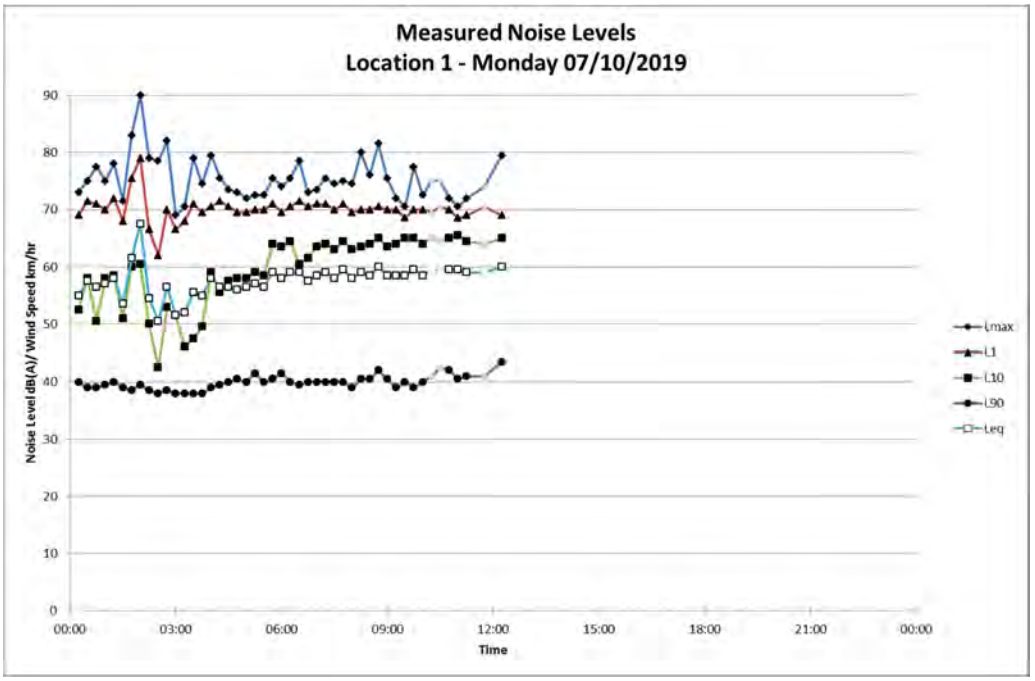
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SOIL AND WATER ASSESSMENT
PREPARED FOR
ENVIRO WASTE SERVICES GROUP PTY LTD
14 -16 KIORA CRESCENT, YENNORA NSW 2161

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February 2021
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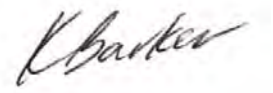
Kate Barker	Environmental Scientist		16 February 2021
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1. INTRODUCTION

Benbow Environmental has been engaged by Enviro Waste Services Group Pty Ltd to undertake a Soil and Water assessment to support an Environmental Impact Statement (EIS) for the proposed increase in production at the existing liquid waste facility located at 14-16 Kiora Crescent, Yennora NSW 2161. The assessment is a qualitative study that addresses the potential impacts to soil and water from the proposed operations in accordance with the Secretary's Environmental Assessment Requirements (SEARs No. 10407).

1.1 REQUIREMENTS

Water and soil requirements are listed in the Secretary's Environmental Assessment Requirements (SEAR 10407) dated 04/06/2020 as a key issue and the following table provides the details of requirements addressed in this report. This table also includes agency advice regarding soil and water from the EPA and the Energy, Environment and Science Group (EES).

Table 1-1: Requirements

Requirement	Comment
General SEARS requirements	
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	See Section 3.5.2 and Section 2.4
A detailed site water balance including a description of the water demands and breakdown of water supplies, and any water licensing requirements	See Section 3.2.1 and 3.1
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	See Section 3.2.4
Description of the measures to minimise water use	See Section 3.2.1
Detailed flooding assessment	See Section 3.5.3
Description of the proposed erosion and sediment controls during construction	See Section 4
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)	See Section 2.5, Section 3.5.2 and Section 2.4
Characterisation of the nature and extent of any contamination on the site and surrounding area	See Section 4.1.4

Table 1-1: Requirements

Requirement	Comment
EPA requirements	
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 impact c) drainage works and associated infrastructure; land-forming and excavations; working capacity of structures; and water resource requirements of the proposal	See section 3.5
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.	See Section 2.1 and Section 2.4
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.	See Section 3.2.1 and Section 3.2.2
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.	See Section 2.3.1
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.	Site history is provided in the EIS. No excavations are proposed.
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 to 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).	See Section 3.5.2
Provide site drainage details and surface runoff yield.	See Section 3.2.3 and Section 3.2.4

Table 1-1: Requirements

Requirement	Comment
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 is not available for groundwater resources. Where groundwater may be affected the EIS should identify appropriate groundwater environmental values and justify the choice.	See Section 2.3.1
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).	See Section 3.5.1.1
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).	See Section 2.3.1
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.	See Section 3.5
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.	See Section 2.3.1
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).	See Section 3.1.3
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.	See Section 3.5.1

Table 1-1: Requirements

Requirement	Comment
Include a rationale, along with relevant calculations, supporting the prediction of the discharges.	See Section 3.5.1
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).	See section 3.5
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).	See section 3.5
Identify any potential impacts on quality or quantity of groundwater describing their source.	See Section 3.5.2
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.	Not relevant
Identify impacts associated with the disturbance of acid sulfate soils and potential acid sulfate soils.	See Section 4.1.2
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.	See Section 4.2.1
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 b) 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.	See Section 2.4 and Section 3.5
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.	N/A no mixing zone proposed

Table 1-1: Requirements

Requirement	Comment
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.	Licensed discharge is not proposed.
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.	Licensed discharge is not proposed.
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).	N/A – No construction works
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.	See section 3.2.4
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.	See Section 4
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.	See Section 3.5.2
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.	See Section 2.5
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.	See Section 2.5 and Section 3.5.2
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.	See Section 2.5 and Section 3.5.2
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.	See Section 2.5 and Section 3.5.2
Any proposed monitoring should be undertaken in accordance with the Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC 2004).	N/A no monitoring required

Table 1-1: Requirements

Requirement	Comment
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.	See Section 4
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.	See Section 4 and Section 4.1.2
Reference should be made to Guidelines of the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015).	See Section 4
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).	See Section 2.5, Section 4 and Section 4.1.2
EES Requirements (ref: DOC20/385024)	
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	See Section 2.4 Section 3.5.2 Section 4 Section 4.1.2

Table 1-1: Requirements

Requirement	Comment
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. 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	See Section 2.4
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. Consistency with any relevant certified Coastal Management Program (or Coastal Zone Management Plan).	N/A no construction works – See Section 4

Table 1-1: Requirements

Requirement	Comment
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.	N/A no construction works – See Section 4
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.	See Section 3.5.3
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.	See Section 3.5.3
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.	See Section 3.5.3

Table 1-1: Requirements

Requirement	Comment
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.	See Section 3.5.3
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.	See Section 3.5.3

1.2 SCOPE OF WORKS

The assessment is qualitative and the scope of works includes the following:

- Review of relevant plans and documentation relating to the site and proposed development;
- Addressing the key issues for "soil and water" identified in the Secretary's Environmental Assessment Requirements (SEARs) reference: SEAR 10407, dated 4/06/20 including:
  - A description of local soils, topography, drainage and landscapes;
  - The details of stormwater, leachate and wastewater management;
  - The details of sediment and erosion controls;
  - A detailed site water balance;
  - The details of water usage including water supply and licenses;
  - An assessment of impacts to surface and groundwater resources, flooding impacts and impacts to groundwater dependent ecosystems;
  - Identification of the probability of the occurrence of acid sulfate soils at the site and determination of whether an acid sulfate soil management plan in accordance with ASSMAC guidelines is required; and
  - A description and appraisal of impact mitigation and monitoring measures.

The report has been prepared based on the information provided by the client. No soil or water sampling or analysis work was undertaken as part of this assessment except for stormwater sampling taken for the water characterisation assessment. Recommendations for further studies to support the findings of this report are provided where considered necessary.

2. SITE DETAILS AND PROPOSED DEVELOPMENT

This section provides a description of the site, surroundings and proposed development.

2.1 SITE LOCATION

The site is located at 14 Kiora Crescent (lot 49, DP 18211) and 16 Kiora Crescent (lot 50, DP18211), Yennora NSW 2161, within the Local Government Area of Cumberland Council.

Figure 2-2 shows the location within its local setting.

2.2 DESCRIPTION OF THE PROPOSAL

Enviro Waste Services Group Pty Ltd currently has consent and holds an environment protection licence for the processing and disposal of waste cooking oil and other liquid wastes. The proposed development involves increasing processing quantities at the existing liquid waste recycling facility located at 14 Kiora Crescent, and use of the neighbouring site at 16 Kiora Crescent for out-of-date liquid product/food waste destruction, improved vehicle access, truck manoeuvring and car parking.

The proposed development seeks approval to increase its current processing quantities from 900 tonnes per annum to 110,000 tonnes per annum, and increase the maximum quantity to be stored at any one time from 110 tonnes to 477 tonnes. These increases in handling capacity will be divided between properties at 14 and 16 Kiora Crescent. 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 site activities and site use are described for the two properties below.

14 Kiora Crescent

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 processing 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.

16 Kiora Crescent

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 tonnes

Outgoing waste type (tonnes per annum)

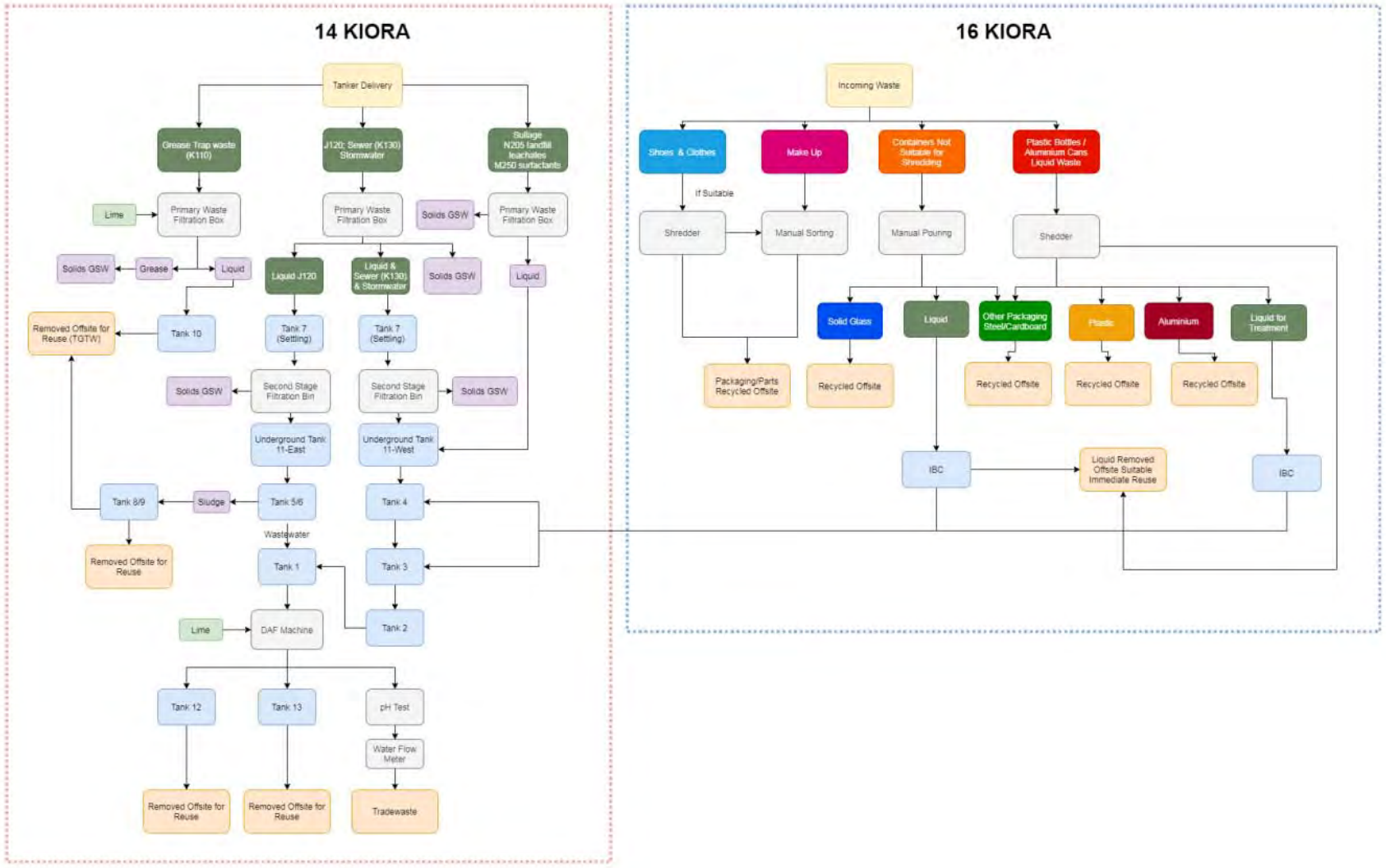
- Plastic: 950
- Cardboard: 950
- Aluminium: 950
- Liquid food waste: 4,600
- Liquid waste (other – for processing at 14 Kiora Crescent): 1,100
- Steel: 450
- Timber: 250
- Glass: 450
- Cloth: 200
- General solid waste: 100
  Total: 10,000 tonnes

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 recovery 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 2-1 shows the process diagram for the facility.

Figure 2-1: Process diagram



The operation maintains its own vehicle fleet and also allows access to private vehicles utilising the facility for liquid waste disposal services. There is minor chemical use (e.g. sodium hydroxide NaOH) and storage (also bunded). The site operates one (1) LPG forklift and keep a small cage of LPG cylinders.

2.2.1 Discharge Points

There are no discharge points to natural waterways.

Site stormwater is isolated and is treated on site. No runoff is released into the street stormwater system under normal circumstances. The connection to the outlet pipe to the street system is sealed. Overflow events are addressed in Section 3.4.

The product destruction process at 16 Kiora Cres results in separation of material into recyclable materials which are sent on for further recycling, and liquid food wastes that are sent for either irrigation under a resource recovery exemption or to 14 Kiora Cres for further processing.

The process at 14 Kiora Cres results in three final components – solid and sludge waste that is sent on for further treatment/disposal and wastewater that is sent to tradewaste under an agreement with Sydney Water.

2.3 Description of the Site and Surrounding Area

The site is located on land zoned as General Industrial (IN1) under the Holroyd LEP 2013. It is surrounded by other industrial premises. The industrial zone is shaped roughly like an upside-down triangle with its south-east edge bordered by the T5 Leppington railway line (running south to east). To the Zone's north lies Low Density Residential (R2), and Public Recreation (RE1). The Zone's western boundary borders Prospect Creek (Environmental Conservation zone E2). A small pocket of Low Density Residential (R2) is situated in the Zone's southern corner which is in turn bordered by Prospect Creek (due West) and the Leppington rail line due Southeast. The closest residential area to the site is 330 m southeast, it lies just beyond the Leppington Railway line.

Horsley Drive, a major arterial road, is located 1.02 km southwest to the site. Prospect Creek is located approximately 640 m west of the site.

Figure 2-2: Aerial Photograph of the Site and Surrounding Area



Source: Six Maps 2019

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

2.4 NEAREST WATERWAYS AND RIPARIAN LANDS

There are no waterbodies located onsite with the nearest offsite source, Prospect Creek, situated approximately 640 m due west from the site (Figure 2-3). Prospect Creek is within the Georges River Catchment (Figure 2-4) and rises beneath Prospect Reservoir, 7.1 km north-west 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 almost 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 along its entire length. It is identified on the Holroyd LEP 2013 Riparian Lands and Watercourses Map (Figure 2-5).

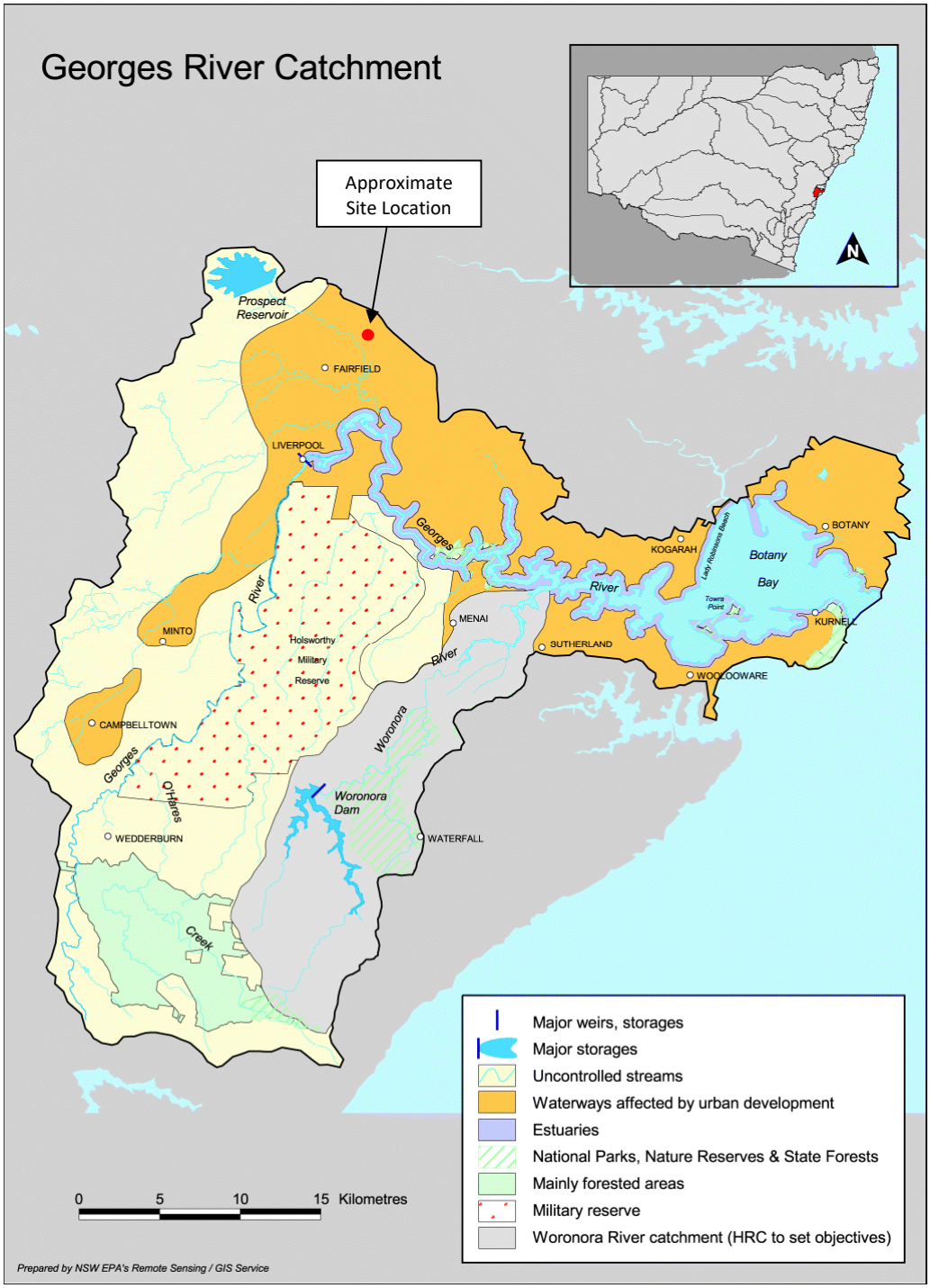
Figure 2-3: Nearest Waterways



Source: Google Maps 2020

N Not to scale	LEGEND: Site Location	Benbow Environmental 25-27 Sherwood Road NORTHMEAD NSW 2152

Figure 2-4: Georges River Catchment



Source: NSW EPA

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

Figure 2-5: Riparian Lands and Watercourses Map



Source: Holroyd LEP 2013 Riparian Lands and Watercourses Map – Sheet WCL_007

↑N Not to scale	LEGEND: - Site Location - Riparian land	Benbow Environmental 25-27 Sherwood Street, NORTHMEAD NSW 2152

2.3.1 Water Quality and River Flow Objectives

This section provides the Water Quality Objectives (WQOs) and the River Flow Objectives (RFOs) 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 above in Figure 2-4 the site is located in 'Waterways affected by Urban Development'. The relevant WQOs and RFOs are summarised below in Table 2-1 and Table 2-2 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 2-1: 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 2-2: 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*

2.3.2 Catchment Management Plan

Georges Riverkeeper Strategic Plan 2018-2022 is a four-year plan produced by Georges Riverkeeper, a catchment management body. Georges Riverkeeper 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 and Capacity Building Program

2.4 RAINFALL

The BoM IFD Design Rainfall Depth (mm) for the site area is provided in Table 2-3 below, based on the 2016 Rainfall IFD Data System.

Table 2-3: Annual Exceedance Probability (AEP)

Duration	63.2%	50%	20%	10%	5%	2%	1%
1 min	2.09	2.31	3.02	3.51	3.97	4.59	5.07
2 min	3.43	3.72	4.68	5.37	6.07	6.97	7.69
3 min	4.76	5.20	6.60	7.59	8.58	9.88	10.9
4 min	5.98	6.57	8.43	9.72	11.0	12.7	14.0
5 min	7.09	7.81	10.1	11.7	13.2	15.3	16.9
10 min	11.2	12.5	16.5	19.1	21.7	25.1	27.7
15 min	14.0	15.6	20.6	23.9	27.2	31.4	34.6
20 min	16.1	17.9	23.5	27.3	31.0	35.8	39.4
25 min	17.7	19.7	25.8	29.9	33.8	39.1	43.1
30 min	19.0	21.1	27.5	31.9	36.1	41.7	46.0
45 min	22.1	24.4	31.5	36.4	41.2	47.6	52.4
1 hour	24.4	26.8	34.4	39.7	44.9	51.9	57.3
1.5 hour	27.9	30.5	38.9	44.9	50.8	58.8	65.2
2 hours	30.7	33.5	42.7	49.2	55.8	64.8	72.0
3 hours	35.3	38.6	49.2	56.9	64.7	75.6	84.3
4.5 hour	40.9	44.8	57.8	67.1	76.7	90.2	101
6 hours	45.6	50.2	65.4	76.4	87.7	104	117
9 hours	53.4	59.4	78.9	93.1	108	128	145
12 hours	59.9	67.1	90.8	108	126	150	170
18 hours	70.4	79.7	111	133	157	188	213
24 hours	78.6	89.7	127	154	182	219	248
30 hours	85.4	97.9	140	171	203	245	277
36 hours	91.0	105	151	185	221	266	301
48 hours	99.8	115	168	207	249	299	337
72 hours	112	129	190	235	283	338	380
96 hours	119	138	202	250	300	357	400
120 hours	124	144	209	258	309	366	410
144 hours	128	148	213	261	312	369	413
168 hours	131	151	215	263	312	369	414

2.5 SAFEGUARDS

The majority of soil and water controls are already in place at the site and are considered appropriate for the proposed development.

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.

A summary of the soil and water environmental safeguards are provided as follows:

- Transfer of waste from tanker truck to storage tanks is a fully enclosed process;
- All work and process areas involving liquid wastes are within an enclosed building that is 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 located on a fully sealed surface;
- Procedures, signage and training in appropriate methods of how to avoid spills and what to do should they occur is provided; and
- Minor quantities of hazardous chemicals stored on site are fully enclosed and bunded in accordance with relevant standards.

All liquids stored on site will be bunded in accordance with the requirements of AS 1940:2017 'The storage and handling of flammable and combustible liquids', outlined below.

> ***5.8.2 Bunding Capacity***
> *The net capacity of a compound shall be at least 110% of the capacity of the largest tank or 25% of the total capacity of all tanks within the bund whichever is the greater. If two or more tanks are operated as a single unit, then the capacity of all such tanks shall be used when calculating the capacity of the compound.*
>
> *NOTE: For Category 6 tanks, the capacity can be taken as the tank rated capacity.*
>
> ***4.4.3 Spillage containment***
>
> *(d) The capacity of the spillage containment compound shall be at least 100% of the volume of the largest package plus 25% of the storage capacity up to 10 000 L, together with 10% of the storage capacity between 10 000 L and 100 000 L, and 5% above 100 000 L.*

3. WATER ASSESSMENT

This section provides the water assessment for the proposed development.

3.1 WATER LEGISLATION

The key pieces of legislation applicable for the management of water in NSW are listed below.

3.1.1 Water Act 1912

Licences for water conservation, irrigation, water supply or drainage as well as changing the course of a river can be applied for under the *Water Act 1912*.

The proposed development does not involve works for water conservation, irrigation, water supply or drainage and does not involve works that would change the course of a river; therefore, the *Water Act 1912* does not apply.

3.1.2 Water Management Act 2000

The *Water Management Act 2000* (WMA Act) provides requirements for the extraction of water, water use, floodplain and drainage management, the construction of works such as dams and weirs, and undertaking activities on or near water sources in NSW. Approvals for the extraction and use of water and for the construction of works relating to water use can be obtained under the Act.

The development does not require approval under this act.

3.1.3 Protection of the Environment Operations Act 1997

Clause 120 of the *Protection of the Environment Operations Act 1997* states the following:

> *120 Prohibition of pollution of waters*
> *(1) A person who pollutes any waters is guilty of an offence.*
> *Note. An offence against subsection (1) committed by a corporation is an offence attracting special executive liability for a director or other person involved in the management of the corporation—see section 169.*
> *(2) In this section:*
> *pollute waters includes cause or permit any waters to be polluted.*

The proposed development will not breach the above clause with regard given to the proposed mitigation measures and safeguards to be implemented as described throughout this report.

3.1.4 Water Sharing Plans

Two water sharing plans apply to the area where the subject site is located. These are:

- Water Sharing Plan for the Greater Metropolitan Region Unregulated River Sources; and
- Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources.

These do not apply to the proposed development.

3.1.5 Holroyd DCP 2013

Compliance with Holroyd DCP, Part A, Section 7.0 Stormwater Management is achieved and is demonstrated in the table below.

Table 3-1: Compliance with requirements of Holroyd DCP Part A, Section 7.0 Stormwater Management

Requirement	Comment	Complies?
7.1 Roof and Surface Water		
C1. Design the eave, gutter and downpipe systems to prevent overflows for storms up to the 5% Annual Exceedance Probability (AEP) storm event.	The buildings on site are already existing and no changes are proposed. Therefore these requirements are not relevant.	Yes
C2. Design box gutter and downpipe systems to prevent overflows for storms up to the 1% AEP storm event. Council's on-site detention policy may also require a design standard for storms up to the 1% AEP storm event.		
C3. Discharge the drainage system to an open-grated surface inlet pit and then into Council's drainage system.		
C4. Design stormwater drainage pipelines to the following minimum standards:		
C5. Pits shall be installed to facilitate maintenance of stormwater pipes, orifice plates, and debris screens. Cleaning eyes will be permitted at pipe junctions, pipe change in direction or reflux valves.		
C6. All drainage systems draining to Council's drainage system or to a public road must have a grated drainage pit of not less than 450mm x 450mm within the site over the outlet pipe and adjoining the site boundary.	The drainage system does not drain to Council's drainage system or a public road.	Yes
C7. Runoff, whether generated on-site or by upstream properties, shall not be obstructed or redirected so as to alter flow distributions and velocities to the detriment of any other property.	Runoff is directed back into the facility.	Yes
C8. Where the efficiency of an existing drainage system (as outlined within Council's works specification for subdivisions and development) on the property will be compromised by the proposed development, modify the existing system to comply with this part of the DCP and to offset any adverse impacts.	There will be no changes to the existing buildings on site and negligible change to the impermeable site surfaces. The stormwater infrastructure does not need to be modified for the proposed development	Yes
C9. Mechanical means, such as pumpout systems, will not be permitted for discharge of roof and surface water.	There is no pumpout system proposed.	Yes

Requirement	Comment	Complies?
7.2 Stormwater Drainage-Acceptable Systems – Development Controls		
C1. Gravity fed drainage systems, consisting of a combination of underground pipes/conduits (i.e kerb and gutter etc) shall be implemented to discharge stormwater from a site. This may include discharge to natural watercourse or creek	Stormwater is not discharged from the site.	Yes
C2. Where a site slopes away from the street, drainage shall occur through access to, or the creation of, an easement to enable inter allotment drainage through properties downstream (i.e via gravity).	The site does not slope away from the street.	N/A
C3. Charged Systems are only acceptable for minor development types such as garages, shed, single and secondary dwellings and dual occupancies (not subject to OSD), where attempts to gain access to an easement for a gravity fed system have been unsuccessful, and subject to criteria in Section 7.3.	Not applicable	N/A
C4. Pump systems are permitted for basement car parks, for seepage and runoff from access ramps, and subject to criteria in Section 7.3.	Not applicable	N/A
7.3 Stormwater Drainage-Technical – Gravity Systems		
C1. Stormwater outlets discharging to the public road shall generally do so in front of the development site or to a point on the kerb requiring a pipeline less than 45 degrees relative to the front property boundary alignment.	Stormwater does not discharge to the public road.	N/A
C2. Stormwater outlets shall not be permitted to cross a public road. However, consideration may be given to the extension of Council's stormwater system to the site frontage, subject to compliance with the preceding clause.	There is no stormwater outlet.	N/A
C3. Discharge to a suitable natural watercourse or creek may be allowed subject to approval by Council. Approval and compliance with the standard guidelines from the NSW Office of Water and The NSW EPA are also required.	Not applicable	N/A
C4. Where stormwater is to discharge into a natural watercourse, bushland, or open space, full details of the proposed method of stormwater discharge shall be supplied to Council detailing the means of preventing scouring or erosion at the point of discharge.	Not applicable	N/A
7.3 Stormwater Drainage-Technical – On-site detention		
C5. On-site detention systems shall be provided for all new developments, except for single dwellings, extensions, additions and improvements on existing single residential lots.	The site is not a new development. Infrastructure already exists.	N/A

Requirement	Comment	Complies?
C6. Despite C5, on-site detention shall be required for development associated with single dwellings where this is specified by a restriction on the title of the property (generally only lots created after 1991) or where the impervious area of the site is increased beyond that permitted for single dwellings by this DCP.	Not applicable	N/A
C7. Any agreement, covenant or similar instrument which would otherwise prohibit or restrict an on-site detention system required by this DCP, does not apply.	Not applicable	N/A
C8. Fully documented On-Site Detention (OSD) drawings, prepared by a suitably qualified person, shall be submitted with the development application, along with a completed Holroyd City Council On-Site Detention drawing submission checklist.	Not applicable. OSD not required.	N/A
C9. Upon completion of a site stormwater drainage system and prior to occupation of the development, a suitably qualified and registered engineering consultant must certify that the stormwater system has been constructed and can be maintained in accordance with the approved design.	Not applicable. System exists.	N/A
C10. Where an on-site detention system is required, a restriction on use of land and positive covenant shall be registered on the title of the subject property, requiring that the on-site detention system constructed on the site: (i) not be altered, unless approved by Council; and (ii) (ii) be maintained in good working order.	Not applicable. OSD not required.	N/A
7.3 Stormwater Drainage-Technical – Charged Lines		
Not applicable		
7.3 Stormwater Drainage-Technical – Pump systems		
Not applicable		
7.3 Stormwater Drainage-Technical – General		
C13. Development shall not take place on any land unless arrangements satisfactory to the Council have been made for the carrying out of drainage works, on or for the land.	No drainage works is proposed	N/A
C14. Where development increases the flow of stormwater from the site, Council may require the upgrading / augmentation of the existing downstream drainage system, dependent upon the scale of the increase. This may be in the form of actual construction work to be carried out by the developer at the time of development, or in the form of a contribution to be determined by Council at the development application stage.	Stormwater is not released from the site. Therefore this is not applicable	N/A

Requirement	Comment	Complies?
C15. A hydraulic analysis may be required, to demonstrate that the development will not adversely affect any existing overland flow paths, if the development has: i) existing public drainage structures within the site; ii) ii) or existing public drainage structures on an adjoining property; iii) iii) or the site is located wholly or partially within a natural overland flow path	Not applicable.	N/A
C16. On sites where localised flooding has occurred, submission of a "stormwater master plan" may be required.	The site is not flood affected.	N/A
C17. Where a site includes either an existing or a proposed overland flow path, register a restriction on use of land and a positive covenant on the title of the subject property.	The site does not include an overland flow path.	N/A
C18. Stormwater quality control measures shall be provided in accordance with the current version of Council's Stormwater Management Plan.	Stormwater measures are included in the EIS.	Yes
C19. Where a stormwater quality control system is required under Council's Stormwater Management Plan, a restriction on use of land and positive covenant shall be registered on the title of the subject property requiring that the stormwater quality control system: i) not be altered, unless approved by Council; and ii) ii) be maintained in good working order.	A copy of Council's Stormwater Management Plan is not provided on Council website.	N/A
C20. Approval of engineering drawings and specifications for the construction of any stormwater drainage line will be required prior to release of development consent. Council will require the payment of a checking and inspection fee, which will be determined prior to release of development consent	A stormwater drainage line is not proposed.	N/A
C21. All engineering works, including those within public property, shall be designed and undertaken in accordance with the relevant aspects of the current version of Holroyd City Council's Specification for Subdivisions and Developments.	No engineering works are proposed.	N/A
C22. Where stormwater drainage is being constructed on public land, Council easements or adjoining private property, a bond and/or bank guarantee shall be lodged to cover that construction. The amount of the bond will be determined at the development application stage and payment is to be made prior to the release of the construction certificate.	Construction of stormwater drainage is not proposed.	N/A
7.4 Easements		
C1 – C8	Not applicable. There are no drainage easements on the site.	N/A

Section 7.5 under Part A of Holroyd DCP 2013 details WSUD controls required for sites over 2,500m^2. The site is less than 2,500m^2 and therefore the measures under this section are not relevant to the site. Furthermore, the site is fully developed. The existing stormwater system will be retained with the addition of rainwater tanks. No further stormwater infrastructure upgrades are considered warranted. The stormwater will continue to be managed as it currently is by isolating the stormwater and treating it within the facility.

3.2 WATER USAGE & SUPPLY

All site water requirements are currently obtained from mains supply. The proposal includes on-site reuse of collected rainwater for certain onsite procedures such as for surface cleaning.

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 which is processed through the treatment facility into settling tanks 1-4 before going into the DAF, the wastewater from the DAF is discharged as tradewaste and the DAF sludge is transferred to tanks 12/13 to be collected by a licence waste contractor for removal offsite.

No water would be discharged to waterways.

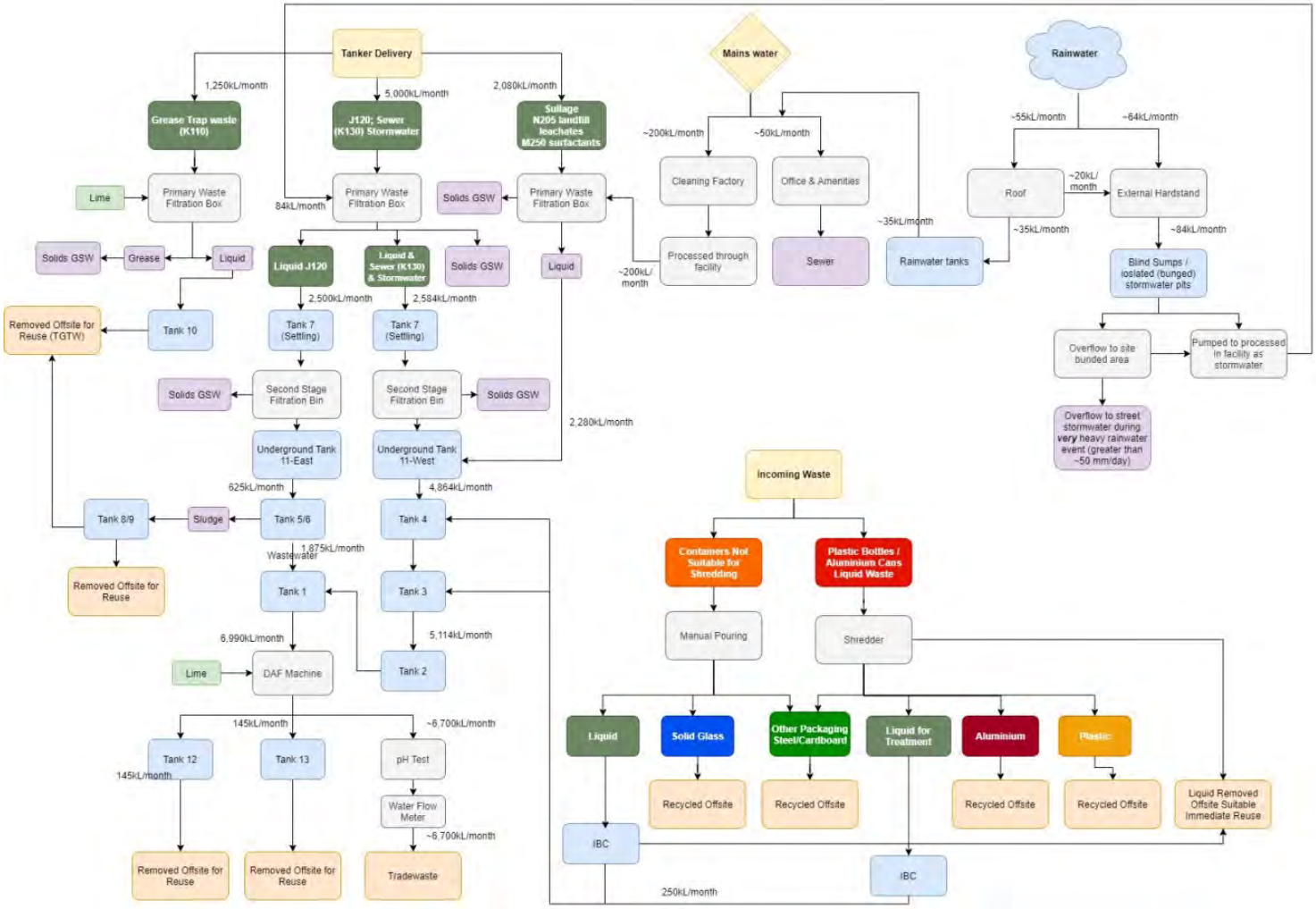
Groundwater is not proposed to be extracted nor used for the proposed development.

3.2.1 Site Water Balance

The following figure shows the site's 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. A flow chart depicting the site water balance is shown in Figure 3-1.

Figure 3-1: Flow Chart Depicting the Site Water Balance – Proposed Development



3.2.2 Wastewater

As the core nature of the business involves the treatment and storage of liquid wastes, wastewater is both collected and produced through a number of onsite processes. These include:

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

Wastewater is treated and processed before being discharged into the tradewaste system, as per Enviro Waste's current trade waste licence agreement from Sydney Water (*Consent to Discharge Industrial Trade Wastewater* Agreement see Attachment 1). Wastewater from all office amenities is piped directly into the mains sewer.

3.2.3 Blind Sump Pits

There are sealed and grated blind sump pits throughout the facility where liquid waste processing occurs. Details of the pits within each building are provided below.

14 Kiora Crescent Building
The facility contains five internal bunded areas with drains in each area leading to a blind sump pit. Three areas house the storage tanks, one area is for operational procedures the last is the receiving / dispatch area for tanker trucks. Incoming waste is pumped directly from the trucks into a receiving tank. Any wastewater runoff or spillage is captured within the bunded area and directed via a drain/s to the sump where it is pumped into a tank. Sump pits are checked and cleared regularly to ensure efficiency and excess wastewater is collected for treatment.

16 Kiora Cresent Building
The facility contains two internal bunded areas with each area graded to a blind sump pit. One area contains the shredder the other contains the IBC storage. Any wastewater runoff or spillage is captured within the bunded area and directed to the sump where it is pumped into an IBC, the spill liquids will removed offsite or processed at 14 Kiora according to the waste type. Sump pits are checked and cleared regularly to ensure efficiency and excess wastewater is collected for treatment.

3.2.4 Stormwater

The land parcel 14-16 Kiora Crescent is elevated above Kiora Crescent itself, thus the roadside verge in front of both properties, slopes down towards the road. 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 combined building footprint of both facilities (14 and 16 Kiora Cres.) covers approx. 43% of the total land surface. Stormwater falling onto roofs is directed into downpipes that empty onto the hardstand surface. Water is then corralled by guttering at the property line into blind sumps or isolated stormwater pits/gutters to be processed in the facility. The proposal includes the installation of slim-line water tanks to store rainwater captured from the roofs. This would be used for general onsite activities including office and amenities and washing down within the facility.

External surface areas are all bunded into sections with each section containing blind sumps or isolated stormwater drains. These are isolated if a spill occurs. The bunded area directly in front of the tanker truck receiving dock is directed into a sump pit and prevented from leaving the site. This is pumped into a storage tank to be treated before its disposal as trade waste.

Strict operational procedures are followed for the collection, treatment and disposal of wastewater and stormwater within the site operational areas. The combination of physical controls and proper management minimise the risk of contaminant release into the environment.

3.3 STORMWATER CHARACTERISATION

Stormwater sample collection and analysis for the purposes of characterisation of water quality was undertaken on 28 July 2020 (Attachment 3). 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 (see section 3.5.1.1) outlined in the Australian and New Zealand Guidelines for Fresh and Marine Water (ANZG, 2018) or the Australian and New Zealand Environment and Conservation Council (ANZECC) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality Guidelines* (2000) where trigger levels are not provided by the 2018 guidelines. 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.

3.4 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.

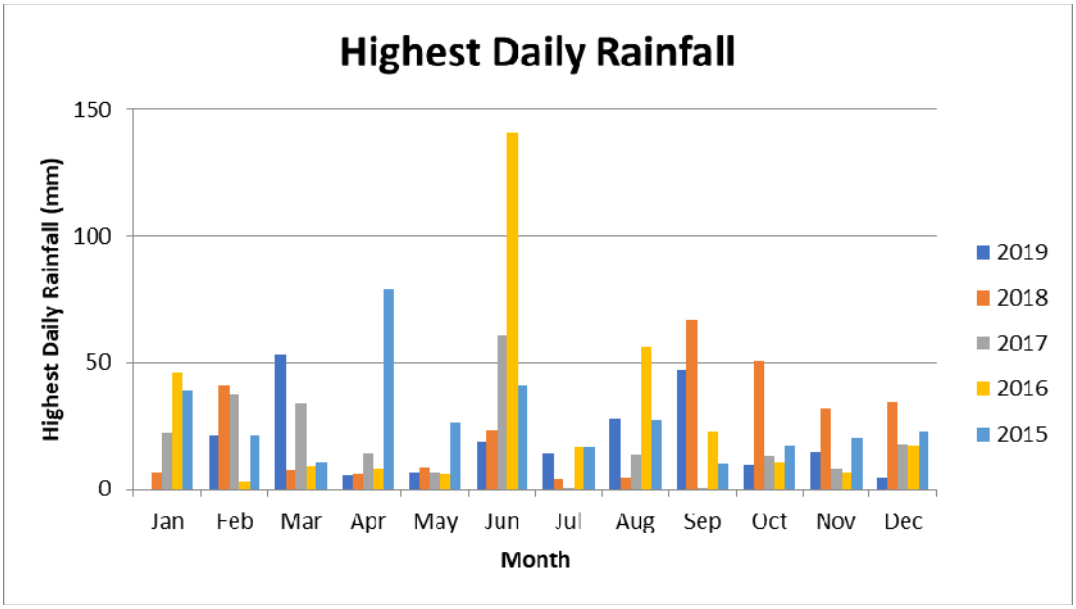
The Bankstown AWS shows that the mean number of days that exceed 25mm of rainfall is 8.5 per year and Figure 3-2 shows the highest daily rainfall events per month from the last 5 years showing rainfall events >50mm are rare.

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
- Liquid waste storage and processing is all internal in bunded areas.

Figure 3-2: Highest Daily Rainfall 2015-2019 Bankstown AWS



3.5 POTENTIAL IMPACTS ON WATER

Assessment of potential impacts of the proposed operations to surface and groundwater resources are presented in this section.

3.5.1 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. These 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.

3.5.1.1 Relevant Trigger Values

The relevant trigger levels are provided in the following table based on Australian and New Zealand Guidelines for Fresh and Marine Water (ANZG, 2018) or the Australian and New Zealand Environment and Conservation Council (ANZECC) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality Guidelines* (2000) where trigger levels are not provided by the 2018 guidelines.

Table 3-2: Relevant Trigger Levels

Analytes	Trigger Value	Test Method /Reference	Analytical Limit
Metals			
Arsenic	24 (as III), 13 µg L^{-1} (as V)	ICP-MS	0.001 mg/L
Copper	1.4 µg L^{-1}	ICP-MS	0.001 mg/L
Chromium	1.0 µg L^{-1} (as CrVI)	ICP-MS	0.001 mg/L
Zinc	8 µg L^{-1}	ICP-MS	0.005 mg/L
Lead	3.4 µg L^{-1}	ICP-MS	0.001 mg/L
Aluminium	55 µg L^{-1} (pH>6.5)	ICP-MS	0.01 mg/L
Nickel	11 µg L^{-1}	ICP-MS	0.001 mg/L
Cadmium	0.02 µg L^{-1}	ICP-MS	0.0001 mg/L
Mercury (Inorganic)	0.06 µg L^{-1}	ICP/MS	0.0001 mg/L
Nutrients			
Oxides of Nitrogen	40 µg L^{-1}	APHA 4500	0.002 mg/L
Filterable Reactive Phosphorus	20 µg L^{-1}	APHA 4500	0.01 mg/L
Total Ammonia	900 µg L^{-1} (at pH 8)	APHA 4500	0.01 mg/L
Physical			
pH	6.5-8 (Lower-Upper Limit)	APHA 4500 or in situ	0.01 (pH units)
Electrical Conductivity	200-300 µScm^{-1}	APHA 2510 or in situ	1 µS/cm
Sulfate	(1)	APHA 4500	1 mg/L
Total Suspended Solids	50 mg/L(2)	APHA 2540	1 mg/L
Polycyclic Aromatic Hydrocarbons			
Napthalene	16 µg L^{-1}	EP075B Sim	1 µg/L
BTEX			
Benzene	950 µg L^{-1}	EP080	1 µg/L
Toluene	(3)	EP080	2 µg/L
Ethylbenzene	(3)	EP080	2 µg/L
O-Xylene	350 µg L^{-1}	EP080	2 µg/L

Table 3-2: Relevant Trigger Levels

Analytes	Trigger Value	Test Method /Reference	Analytical Limit
Total Recoverable Hydrocarbons			
TRH (C6-C40)	(3)	EP071,80	20-100 µg/L
Organochlorine Pesticides			
Chlordane	0.03 µg L^{-1}	EP068A	0.5 µg/L
Endosulfan	0.003 µg L^{-1}	EP068A	0.5 µg/L
Endrin	0.01 µg L^{-1}	EP068A	0.5 µg/L
Heptachlor	0.01 µg L^{-1}	EP068A	0.5 µg/L
Organophosphorus Pesticides			
Azinphos methyl	0.01 µg L^{-1}	EP068B	0.5 µg/L
Chlorpyrifos	0.01 µg L^{-1}	EP068B	0.5 µg/L
Diazinon	0.01 µg L^{-1}	EP068B	0.5 µg/L
Malathion	0.05 µg L^{-1}	EP068B	0.5 µg/L
Parathion	0.004 µg L^{-1}	EP068B	2 µg/L
Herbicides and Fungicides			
2,4-D	280 µg L^{-1}	EP202	10 µg/L
2,4,5-T	36 µg L^{-1}	EP202	10 µg/L

3.5.2 Surface Water and Ground Water

The proposal does not require discharge into surface waters or groundwater. 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. 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 controls and operational procedures currently in place that are described in the following:

- 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
- 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, there is minimal potential for the contamination of surface or ground waters to occur as a result of onsite operations.

A conceptual site model (CSM) has been prepared in accordance with the National Environment Protection (Assessment of Site Contamination) Measure as amended in 2013 (Table 3-3).

The CSM is a representation of site-related information regarding contamination sources, contaminants of concern, exposure pathways and the implemented safeguards in place.

Table 3-3: Potential Pollutants, Sources and Mitigation Measures

Known Potential Contaminates	Primary Release Mechanism	Contaminants of Potential Concern	Exposure Pathways	Risk Level	Safeguards and Mitigation Measures
Grease trap waste Sewage sludge Surfactants Oily water	Transfer from trucks to tanks Treatment, storage and disposal Accidents or spills	Heavy metals (iron, copper, zinc, lead, nickel, chromium) Inorganic compounds (ammonium, nitrates, phosphorus, phosphates) Toxic gases (hydrogen sulphide, methane, carbon dioxide) Acids OC/OP PFC PAH TRH VOC	Surface water runoff Stormwater pit Discharge point to sewer	Low	Concrete hardstand across whole site Waste transfer is a fully enclosed process Fully bunded process and operation areas Blind sump pits within all bunded areas Clearing and maintaining blind sump pits regularly Storage areas are checked for leaks/blockages Isolated stormwater (all captured and processed within the facility)
Diesel fuel and oils	Vehicle Movements	Petroleum hydrocarbons BTEXN PAH		Low	

OC/OP: Organochlorides and organophosphates, **PFC:** Perfluorocarbons, **VOC:** Volatile Organic Compound, **BTEXN:** Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene, **PAH:** Polycyclic Aromatic Hydrocarbons

3.5.3 Flooding

Flood maps obtained from Cumberland Council show the site is not subject to:

- A high hazard flood area; (see Figure 3-3)
- A flood control lot; (see Figure 3-4)
- A flood storage or a floodway area; (Figure 3-5).
- A flood flow path; (see Figure 3-6).
- A high-risk flood area; (see Figure 3-7).

However, the road of Kiora crescent is yet to be mapped and categorised completely.

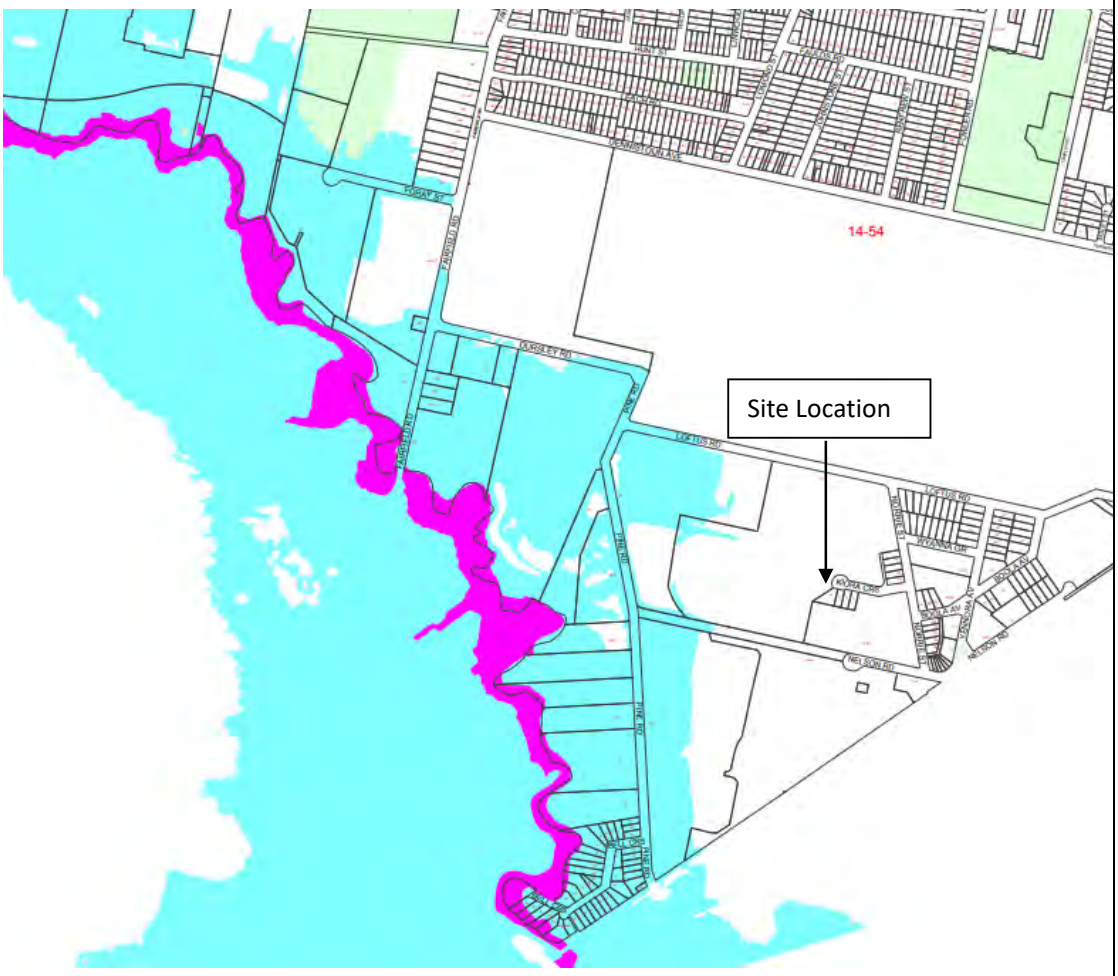
Advice was received from Cumberland Council regarding the site's flood risk for 14 Kiora crescent (Attachment 2). Council writes;

"[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"

Survey of the site shows that 16 Kiora crescent is also at 15.4 mAHD and therefore is also 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.

Figure 3-3: Provisional Flood Hazard Categories Map (July 2013)



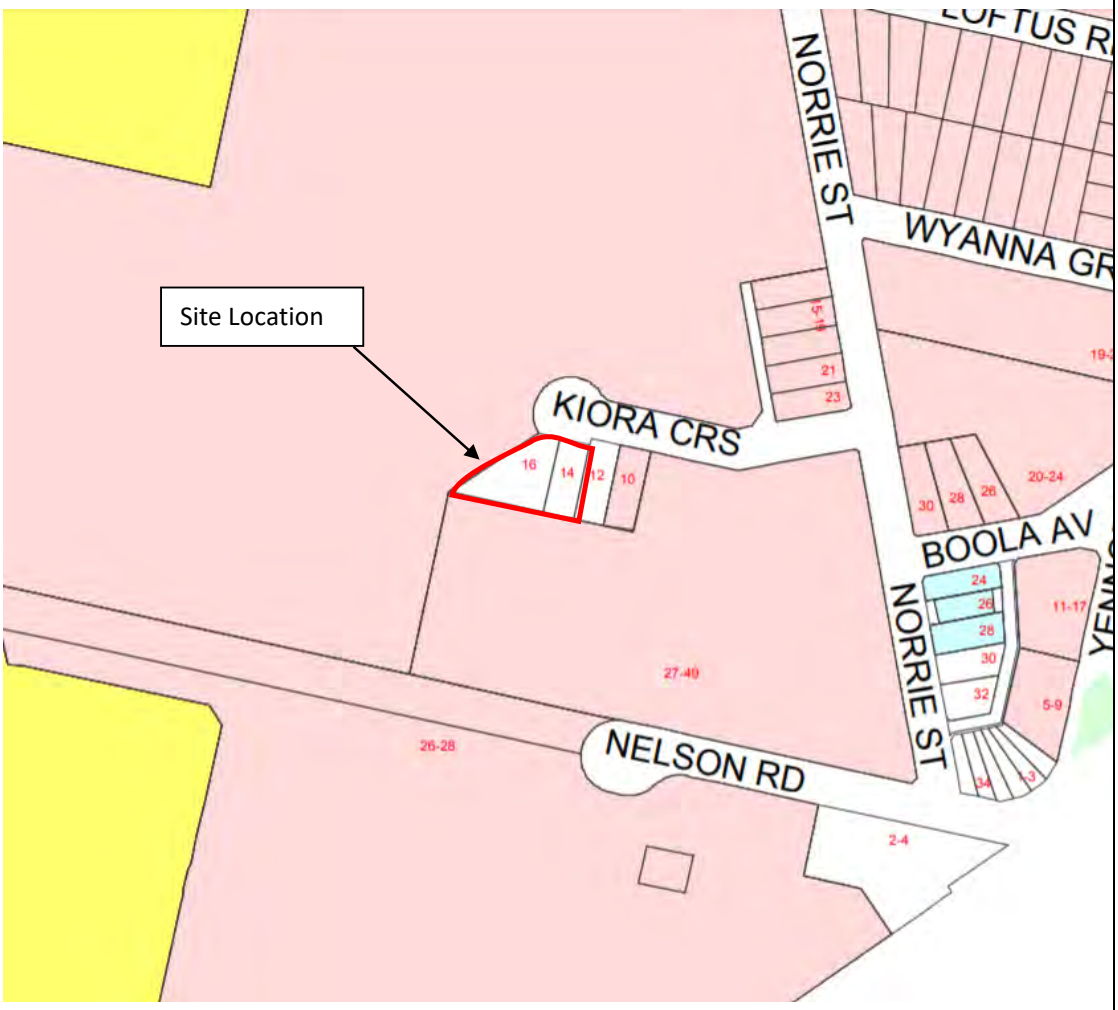
Note: Hazard mapping is incomplete

Source: https://www.cumberland.nsw.gov.au/stormwater-and-flood-maps and https://www.cumberland.nsw.gov.au/sites/default/files/inline-files/Map-4-Provisional-Flood-Hazard-Categories-Map.pdf

Accessed: June 2020

↑N Not to scale	LEGEND: High Hazard (PMF, dangerous flow & depth) High Hazard (1%) Low Hazard (PMF) Park	Benbow Environmental 25-27 Sherwood Street, Northmead NSW 2152

Figure 3-4: Flood Control Lots Map



Source: https://www.cumberland.nsw.gov.au/stormwater-and-flood-maps and
https://www.cumberland.nsw.gov.au/sites/default/files/inline-files/Map-1-Flood-Control-Lots-Map.pdf
Accessed: June 2020

↑N Not to scale	LEGEND: Mainstream flooding Overland flooding Dam Failure Floor Level Control Overland Flood Study required/in progress Park	Benbow Environmental 25-27 Sherwood Street, Northmead NSW 2152

Figure 3-5: Flood Hydraulic Categories Map (July 2013)



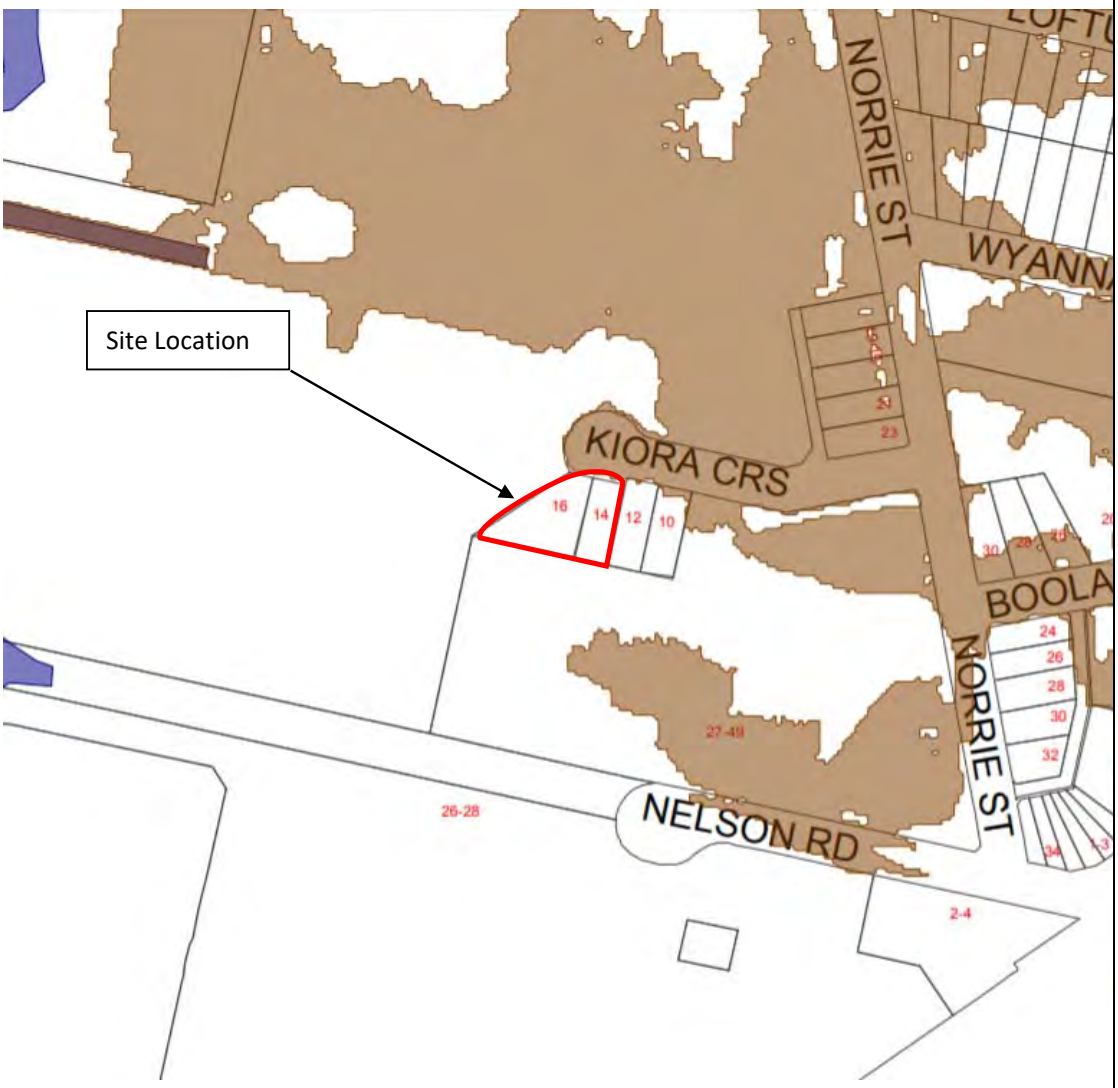
Note: Hydraulic Category (1%) mapping is incomplete

Source: https://www.cumberland.nsw.gov.au/stormwater-and-flood-maps and https://www.cumberland.nsw.gov.au/sites/default/files/inline-files/Map-3-Hydraulic-Categories-Map_0.pdf

Accessed: June 2020

↑N Not to scale	LEGEND: Floodway (1:100 AEP) Flood hydraulic category to be determined (1:100 AEP)	Benbow Environmental 25-27 Sherwood Street, Northmead NSW 2152

Figure 3-6: Flood Extent Map (July 2013)



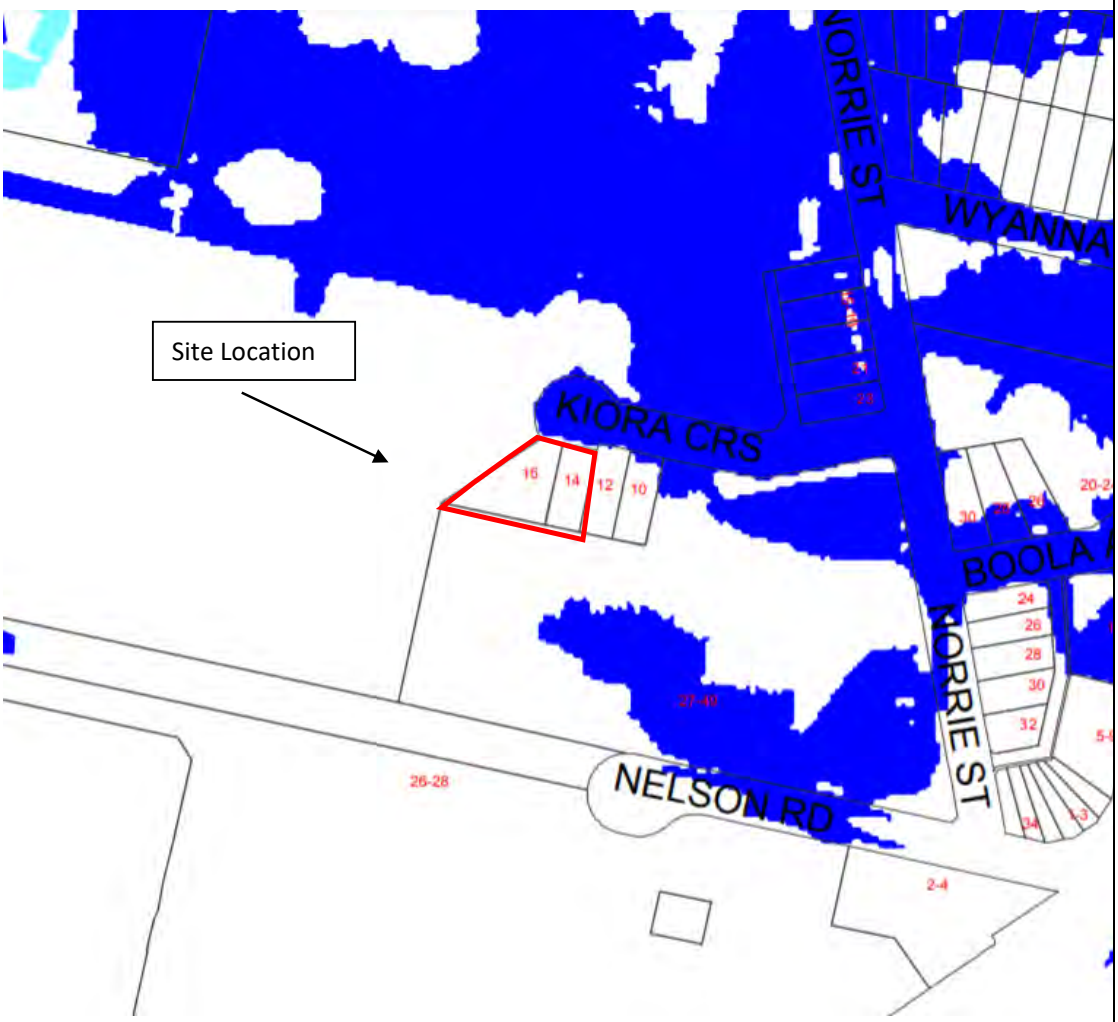
Note: Flood extents for the brown areas will be finalised after 2014/15 (reportedly)

Source: https://www.cumberland.nsw.gov.au/stormwater-and-flood-maps and https://www.cumberland.nsw.gov.au/sites/default/files/inline-files/Map-2-Flood-Extents-Map.pdf

Accessed: June 2020

↑N Not to scale	LEGEND: Flood Study in progress (1%) Extent of the 1% Flood Park	Benbow Environmental 25-27 Sherwood Street, Northmead NSW 2152

Figure 3-7: Flood Risk Precincts Map (July 2013)



Note: Flood extents for the brown areas will be finalised after 2014/15 (reportedly)

Source: https://www.cumberland.nsw.gov.au/stormwater-and-flood-maps and https://www.cumberland.nsw.gov.au/sites/default/files/inline-files/Map-2-Flood-Extents-Map.pdf

Accessed: June 2020

↑N Not to scale	LEGEND: High Risk (1%) Medium Risk (1%) Low Risk (PMF) Park	Benbow Environmental 25-27 Sherwood Street, Northmead NSW 2152

3.5.4 Climate Change

Rising temperature and sea levels are expected to increase the frequency and severity of storm events. This may increase the likelihood of wet weather events leading to stormwater release from the site. Contingency measures for this issue can include increasing the capacity of the sump pits if required.

4. SOIL ASSESSMENT

This section provides the soil assessment for the proposed development.

There are no earthworks proposed for the development or any disturbances to soil. Soil erosion and sediment management and mitigation are not required for the development.

4.1 EXISTING SOIL CONDITIONS

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:

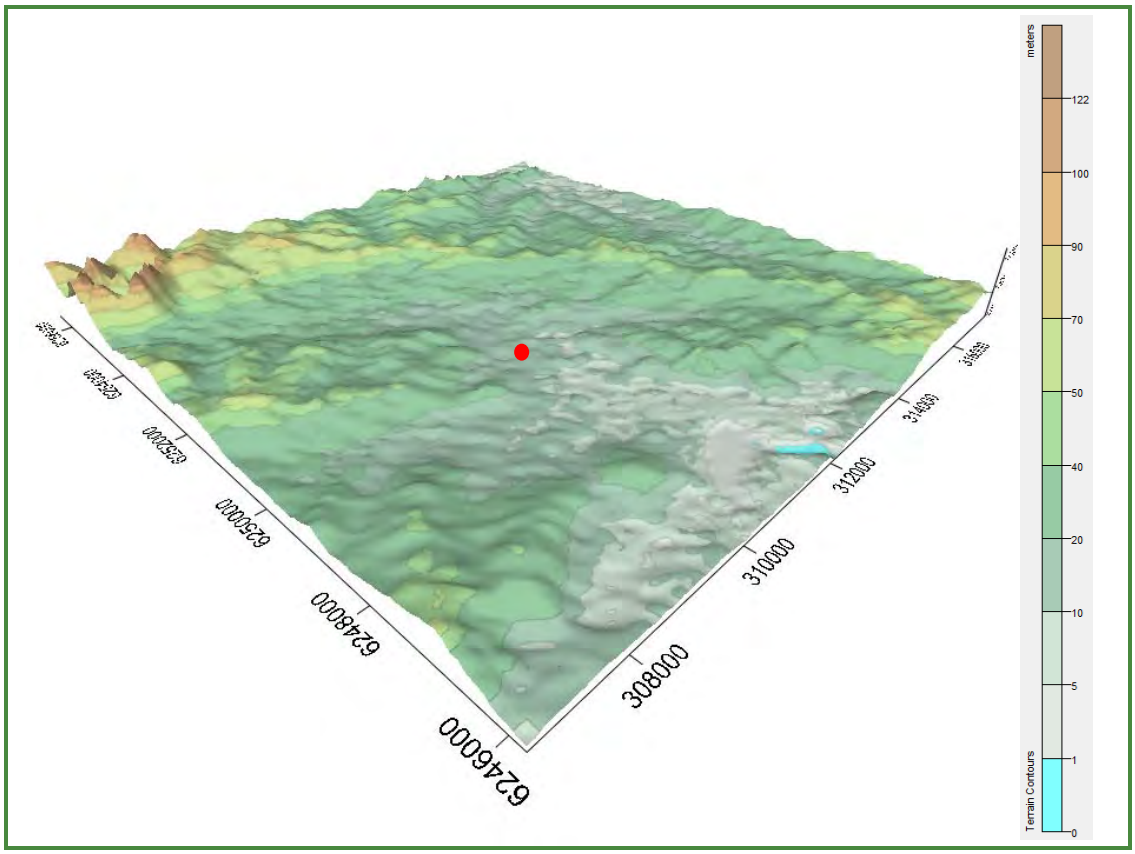
> *'Landscape* – gently undulating rises on Wianamatta Group shales. Local relief to 30 m, slopes are usually >5%. Broad rounded crests and ridges with gently inclined slopes. Cleared Eucalypt woodland and tall open-forest (dry sclerophyll forest).
>
> *Soils* – shallow to moderately deep (>100 cm) hardsetting 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.'

4.1.1 Topography, Drainage and Landscapes

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 4-1, 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 4-1: Local Topography with Vertical Exaggeration of 10



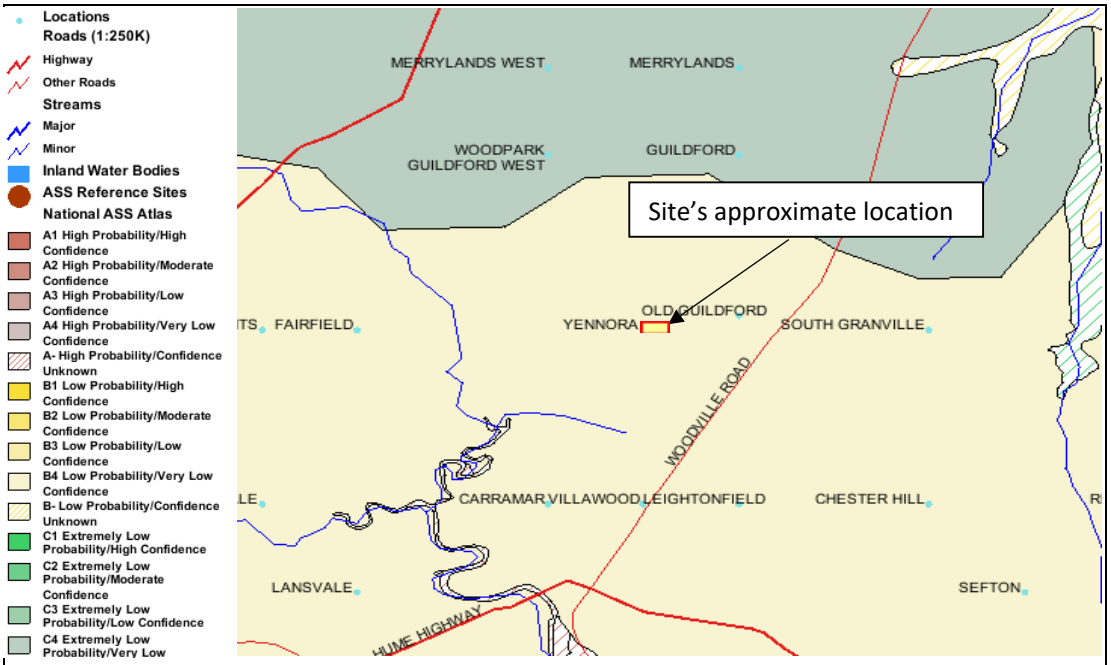
Note: ● = Approximate location of site

4.1.2 Acid Sulfate Soil

Acid Sulfate Soils (ASS) 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 decay 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 of low probability/low confidence of ASS occurrence (see Figure 4-2). Holroyd LEP 2013 ASS map does not include the site's location. Earthworks are not required for the proposal; therefore an ASS assessment is not needed.

Figure 4-2: Acid Sulfate Soil Map



Source: ASRIS CSIRO 2019

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

4.1.3 Saline Soil

Salts occur naturally in soils. However, if salt levels become elevated due to natural or human activity, they have an increasing detrimental impact on plant species and built structures. Such soil may be termed as saline. Other factors also influence the salt's impact, such as soil texture, mineral content and porosity. Concrete, metals and porous materials such as bricks or timber are at risk from saline soil. Structures built on saline soil require specific design and controls (such as vapour barriers, coverage of reinforcing, adequate damp coursing etc.) to avoid damage occurring especially to footings and metal piping. Figure 4-3 shows the Salinity Soil Map from the Holroyd LEP 2012.

The subject site is situated within "Moderate Salinity Potential" zoned land. As per the Holroyd LEP 2012 regarding saline land, Clause 6.8 states:

> ***6.8 Salinity***
>
> *(1) The objective of this clause is to provide for the appropriate management of land that is subject to salinity and the minimisation and mitigation of adverse impacts from development that contributes to salinity.*
> *(2) This clause applies to land identified as "Known Salinity", "High Salinity Potential" or "Moderate Salinity Potential" on the Salinity Map.*
> *(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider the following:*

(a) whether the development is likely to have any adverse impact on salinity processes on the land,

(b) whether salinity is likely to have an impact on the development,

(c) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:

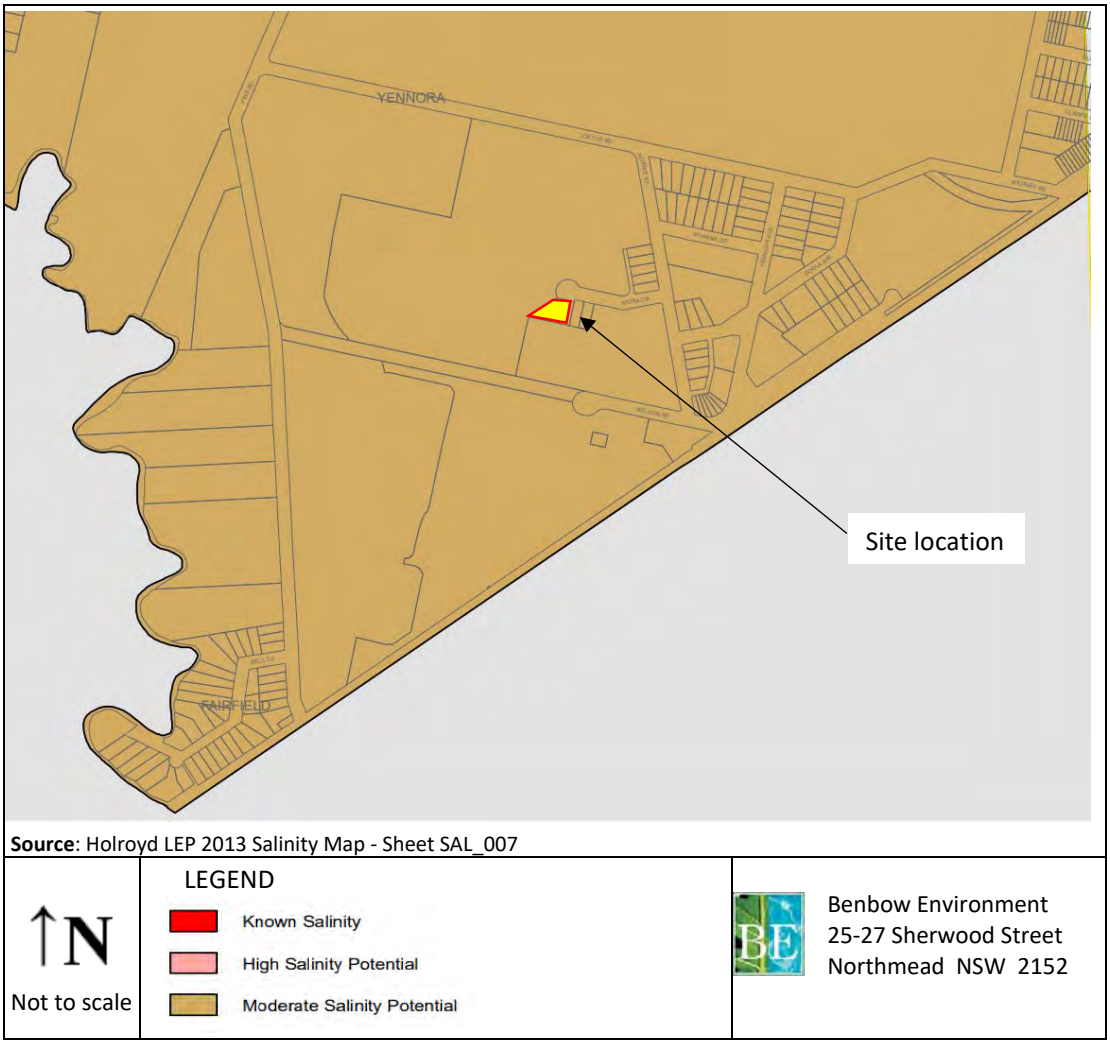
(a) the development is designed, sited and will be managed to avoid any adverse environmental impact, or

(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

All operations would take place on the established industrial and fully sealed site. The proposed increase in waste liquid capacity will not contribute to any increase in soil salinity as there is no pathway (exposed soil) onsite to allow waste water to be absorbed into the ground, since the site is fully covered by concrete hardstand.

Figure 4-3: Salinity Soil Map



Source: Holroyd LEP 2013 Salinity Map - Sheet SAL_007

↑N Not to scale	LEGEND Known Salinity High Salinity Potential Moderate Salinity Potential	Benbow Environment 25-27 Sherwood Street Northmead NSW 2152

4.1.4 Existing Contamination

An inspection of the facility and its current operations was undertaken by Benbow Environmental in September 2019. Observation of operations and processes indicate that there is no cause to believe that soil or water contamination on site has taken place.

No soil sampling or analysis was undertaken at the site. 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.

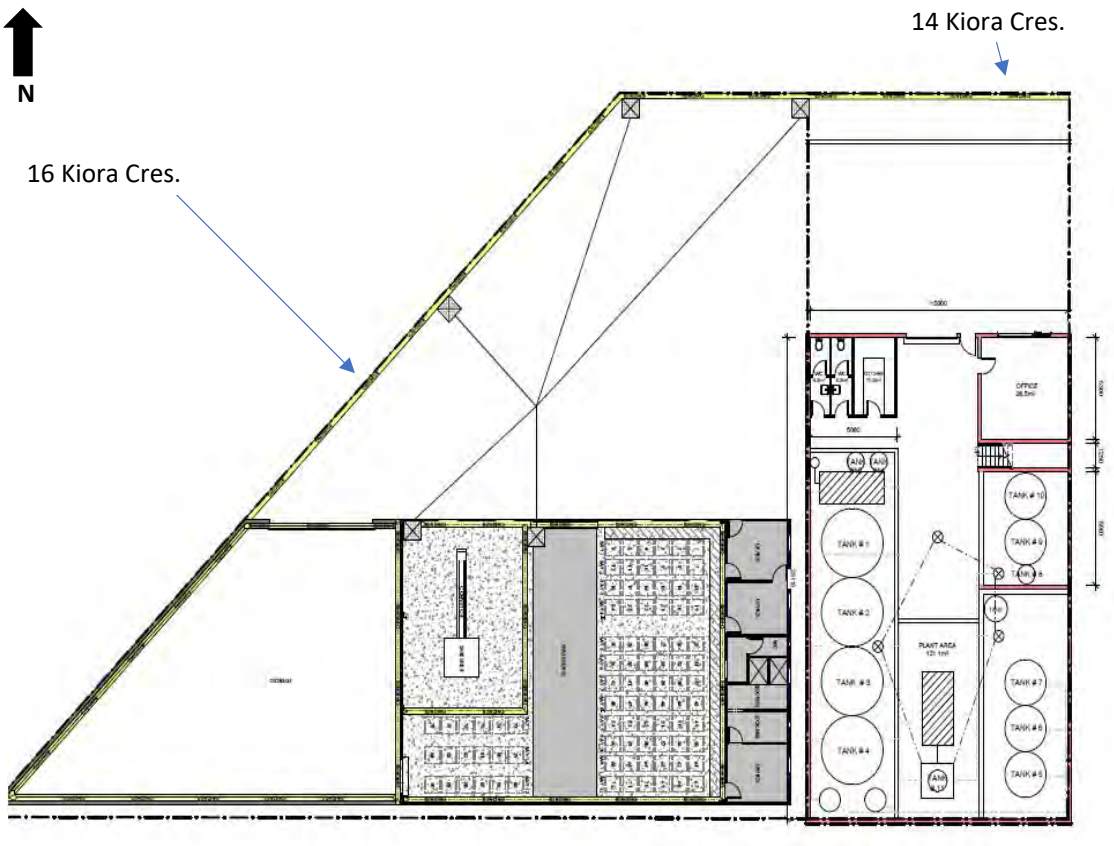
In the event of a contamination incident the site is required to comply with the Guidelines of the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015).

4.1.4.1 Exposed Soils during Construction

Construction works for the proposed development are not expected to disturb soils onsite. Given the history and nature of the site, it is considered highly unlikely that the minimal exposed soil will represent a risk to human health or the environment. The following mitigation measures will be undertaken during any construction that involves coming in contact with soil:

- PPE to be worn by all staff and contractor during construction works involving exposed soils. Required PPE is as follows:
  - P2 mask;
  - High visibility clothing;
  - Safety boots;
  - Safety glasses;
  - Impervious gloves.
- Exposed soils are to be kept lightly damp to prevent generation of dust.

Figure 4-4: Site Layout Plans For 14-16 Kiora Crescent



Source: Baini Design, 2020

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

4.2 POTENTIAL IMPACTS ON SOIL

Assessment of potential impacts on soils from the proposed increase in processing volumes and site operations is presented in this section.

4.2.1 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. These 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.

4.2.2 Risk of contamination

The risk of contaminants entering the soil through poor housekeeping, leaks or accidental spills is considered low, since:

- No excavation or earth disturbing activities are proposed. (Such disturbances allow pathways for contamination to infiltrate soils and groundwater);
- The transfer of liquid waste from tanker trucks to storage units occurs within an internal area with concrete bunding and blind sumps;
- All areas involved in processing wastes are surrounded by impervious concrete bunding;
- Sealed blind sump pits are located within bunded areas;
- Blind sump pits and storage tanks are routinely checked for leaks/blockages;
- The site is entirely covered by concrete hardstand;
- Procedures, signage and training in appropriate methods of spill avoidance and response protocols are in place; and
- Only low volumes of hazardous chemicals are stored onsite. These are within enclosed and bunded areas in accordance with relevant standards.

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 detailed in section 2.5 are considered sufficient to prevent the discharge of contaminated water to land.

5. CONCLUDING REMARKS

Benbow Environmental has been engaged by Enviro Waste Services Group Pty Ltd to undertake a Soil and Water assessment to support an Environmental Impact Statement (EIS) for the liquid waste facility located at 14 - 16 Kiora Crescent, Yennora NSW 2161. The assessment is a qualitative study that addresses the potential impacts to soil and water from the proposed operations in accordance with the Secretary's Environmental Assessment Requirements (SEARs No. 10407).

A summary of the soil and water environmental safeguards are provided as follows:

- The transfer of liquid waste from tanker trucks to storage units occurs within an internal area with concrete bunding and blind sumps;
- All areas involved in processing wastes are surrounded by impervious concrete bunding;
- Sealed blind sump pits are located within bunded areas;
- Blind sump pits and storage tanks are routinely checked for leaks/blockages;
- The site is entirely covered by concrete hardstand;
- The existing stormwater pits and gutters are isolated, all collected stormwater is processed within the facility;
- Procedures, signage and training in appropriate methods of spill avoidance and response protocols are in place; and
- Only low volumes of hazardous chemicals are stored onsite. These are within enclosed and bunded areas in accordance with relevant standards.

With the safeguards and mitigation measures recommended in this report, the potential soil and water impacts of the proposed development are considered low.

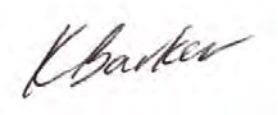
This concludes the report.



Damien Thomas
Environmental Scientist



Matthew Taylor
Environmental Scientist



Kate Barker
Environmental Scientist



R T Benbow
Principal Consultant

6. 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.

7. REFERENCES

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ATTACHMENTS

Attachment 1: *Consent to Discharge Industrial Trade Wastewater* Agreement

Sydney WATER

Consent to discharge industrial trade wastewater

Consent to Discharge Industrial Trade Wastewater

SYDNEY WATER CORPORATION

and

ENVIRO WASTE SERVICES GROUP PTY LTD
A.C.N. 613 987 438

ACTIVITY: GREASE TRAP WASTE DISPOSAL (GE02)

RISK INDEX: 05

CONSENT NO: 36782

CONNECTION NO: 1

PROPERTY NUMBER: 4535938

This **CONSENT** is made on **day:** 20 **month:** 03 **year:** 2019

Executed for and on behalf of Sydney Water Corporation

By

.....
(Signature)

Caleb Furner
Manager Major Customers

In the presence of:

Witness

.....
(Signature)

MATTHEW TRUMAN
.....
(Print name of witness)

Executed for and on behalf of the Customer:

.....
(Signature)

EDWARD HAWICH
.....
(Print name and position of person signing)
who warrants s/he has sufficient authority to execute this consent.

In the presence of:

Witness

Simon Saba
.....
(Signature)

SIMON SABA
.....
(Print name of witness)

This consent must be executed by the Customer prior to execution by Sydney Water and submitted by the Customer to Sydney Water for its consideration. Submission of a consent executed by the Customer under no circumstances obliges Sydney Water to enter into or complete the consent. Submission of an executed consent by the Customer constitutes an application for a consent which Sydney Water may in its reasonable discretion reject, or with the consent of the Customer modify any of the proposed terms thereto.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 1
(SUBJECT TO PUBLIC DISCLOSURE)
TRADE WASTEWATER WHICH MAY BE DISCHARGED

1. Trade wastewater substances

(a) The Customer may discharge trade wastewater into the Sewer in a manner whereby the substance characteristics of the trade wastewater are of a type and discharged at a rate, level or concentration equal to or less than that described in this schedule.

(b) The Customer must not discharge trade wastewater into the Sewer in a manner whereby the trade wastewater discharged;

(i) contains, possesses or produces a substance characteristic not provided in, or which may be determined as being contrary to that described in this schedule.

(ii) is at or of a rate, level, or concentration not provided in, or which may be determined as being contrary to, that described in this schedule.

SUBSTANCE	LTADM (kg/day)	MDM (kg/day)	Standard (mg/L)
AMMONIA (AS N)	5	10	100
BIOCHEMICAL OXYGEN DEMAND	75	150	
SUSPENDED SOLIDS	60	120	600
GREASE	11	22	110
SULPHATE	50	100	2000
COPPER	0.15	0.3	5
IRON	1.5	5	50
SULPHIDE	0.5	1	5
ZINC	0.5	1	5

RECONCILIATION PROCEDURES:

LONG TERM AVERAGE DAILY MASS:

The Long Term Average Daily Mass is a twelve month arithmetic average of ALL daily mass discharges as calculated for each composite sample. The Daily Mass discharged is to be calculated for each of the above substances, and checked against the above Long Term Average Daily Mass (kg/day) on the basis of average concentrations of substances discharged (mg/L) over any 24 hour period as determined from composite samples, obtained by either the Customer (in accordance with Schedule 2) or Sydney Water, or a combination of sample results by both.

This average concentration (mg/L) is to be multiplied by the total discharge (kL) as recorded by the Customer's discharge flow meter over the 24 hour period in order to calculate the Daily Mass of substances discharged (kg). Exceeding the Long Term Average Daily Mass does not constitute a Breach.

ACCEPTANCE STANDARD:

The Composite Sample Concentration is to be determined for each of the above substances, and checked against the above Acceptance Standard (mg/L) for each sample obtained. Exceeding the Acceptance Standard constitutes a Breach and will also incur an increased Quality Charge as detailed in Schedule 3.

The Discrete Sample Concentration is to be determined for each of the substances identified at Schedule 2, 2 (b) and checked against the above Acceptance Standard (mg/L) for each sample obtained. Exceeding the Acceptance Standard constitutes a Breach.

MAXIMUM DAILY MASS:

The Daily Mass discharged is to be calculated for each of the above substances, and checked against the above Maximum Daily Mass (kg/day) on the basis of average concentrations of substances discharged (mg/L) over any 24 hour period as determined from composite samples, obtained by either the Customer (in accordance with Schedule 2) or Sydney Water, or a combination of sample results by both.

This average concentration (mg/L) is to be multiplied by the total discharge (kL) as recorded by the Customer's discharge flow meter over the 24hour period in order to calculate the Daily Mass of substances discharged (kg). Exceeding the Maximum Daily Mass constitutes a Breach.

2. The trade wastewater discharged must at all times have the following properties:

Temperature	-	Not to exceed 38 degrees Celsius.
Colour	-	Determined on a system specific basis
pH	-	Within the range 7.0 to 10.0.
Fibrous material	-	None which could cause an obstruction to Sydney Water's sewerage system.
Gross solids (other than faecal)	-	A maximum linear dimension of less than 20 mm, a maximum cross section dimension of 6 mm, and a quiescent settling velocity of less than 3 m/h.
Flammability	-	Where flammable and/or explosive substances may be present, the Customer must demonstrate to the satisfaction of Sydney Water that there is no possibility of explosions or fires occurring in the sewerage system. The flammability of the discharge must never exceed 5% of the Lower Explosive Limit (LEL) at 25° Celsius.

3. Rate of discharge of waste to sewer:

(a) Instantaneous maximum rate of gravitated discharge 6 litres per second

(b) Maximum daily discharge 200 kilolitres

(c) Average daily discharge 100 kilolitres

RECONCILIATION PROCEDURE:

The data obtained from applying these procedures is to be checked by the interface of a chart recorder to the Customer's flow metering equipment, or by the installation of flow metering equipment by Sydney Water, for a minimum of 7 days.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 2

(SUBJECT TO PUBLIC DISCLOSURE)

SAMPLING, ANALYSIS, FLOW RATES AND VOLUME DETERMINATION

1. The Customer must provide and make available for the purpose of sampling and analysis;
   (a) Sampling point located at pre-treatment discharge excluding domestic sewage prior to the point of connection to the Sewer.
   (b) Equipment necessary to allow collection of composite automatic samples on either a flow proportional or a time basis.

2. The Customer is to undertake collection and analysis of samples in accordance with the schedule detailed below:
   (a) Composite samples are to be obtained:
      (i) over one full production day by combining equal volumes taken at 5 kilolitre intervals. The volumes are to be such that at least 5,000 millilitres are obtained over the full day. The reading of the Flowmeter meter is to be obtained at the commencement and conclusion of the sampling day.
      (ii) on 18 March 2019 and every 22 days thereafter. If trade wastewater is not discharged on this day, then the sample is to be taken on the next day that trade wastewater is discharged. Trade wastewater includes all non-domestic wastewater discharged to sewer from the premises, including cleaning waste.
   (b) Discrete samples are to be obtained as detailed below, and analysed according to the procedures and methods specified in Sydney Water's published analytical methods, to determine the concentrations or levels of the following substance characteristics:

pH	at the start and finish of each sample day
AMMONIA (AS N)	at the finish of each sample day

   (c) Composite samples are to be analysed according to the procedures and methods specified in Sydney Water's published analytical methods, or methods otherwise agreed to and detailed hereunder, to determine the concentrations or levels of the following substance characteristics

      AMMONIA (AS N)
      BIOCHEMICAL OXYGEN DEMAND
      SUSPENDED SOLIDS
      GREASE
      SULPHATE
      COPPER
      IRON
      SULPHIDE
      ZINC

   (d) The Customer, or the laboratory contracted by the customer, is to submit results of analyses to Sydney Water within 21 days from the date the sample was taken. All analysis results are to be submitted on the sample analysis report provided as appendices 1 and 2 to this Consent or in such format as may be specified from time to time by Sydney Water.
   (e) All data requested on the sample analysis report must be provided.
   (f) Sydney Water must be notified in writing within 7 days of;
      (i) any failure to obtain samples in accordance with the provisions of Schedule 2; or
      (ii) any loss of any analytical data.

      Where data is unavailable, lost or not provided, the Quality Charge, as detailed in Schedule 3, will be assessed on the basis of the highest Composite Sample concentration recorded in the 12 months prior to the date of the missing sample data.

3. The volume of wastewater discharged must be obtained from the reading of the total flow on the Customer's flowmetering system.

   The rate of waste discharged is to be obtained by the reading of the instantaneous flow rate indicator on the Customer's flowmetering system, or from any chart recorder interfaced to the Customer's flowmetering system.

   The flowmetering system is to be calibrated at least annually at the Customer's expense, by a person or company approved by Sydney Water and a copy of the calibration certificate supplied to Sydney Water within one month of such certificate being received by the Customer.

   If the Customer's flowmetering system fails to record data for any period, Sydney Water is to be advised in writing by the Customer within 7 days of any such failure becoming known by the Customer. An estimate of any data not recorded is to be made as follows:

   Average of the waste discharged, registered for the four weeks before and/or after the failure to record.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 3
(SUBJECT TO PUBLIC DISCLOSURE)
PAYMENTS

The charges are effective from 1 March 2019 and will continue until otherwise advised by Sydney Water.

All trade waste fees and charges are subject to CPI adjustments from 1 July each year in accordance with Determination No 1, 2012 made by the Independent Pricing and Regulatory Tribunal (IPART) and are detailed in fact sheets on the Sydney Water website.

1. CHARGES FOR TRADE WASTEWATER DISCHARGE

Sydney Water will conduct a reading of the Customer's discharge meter at approximately 90 day intervals. The volume of trade wastewater discharged for the period since the previous reading will be calculated.

Charges are based on the Daily Mass calculated from composite samples and corresponding meter readings for each sampling day in the billing period, and calculated in accord with (c), (d), (e), and (f) below. The charge for each sampling day is then multiplied by a flow weighting factor to give a flow weighted charge. The total charge for each substance for the billing period is equal to the sum of the flow weighted charges for the billing period.

Total Charge = the sum of the flow weighted charges for the billing period

Flow Weighted Charge = (charge for all sample days) x (flow weighting factor) and:

$$\text{Flow Weighting Factor} = \frac{\text{(total volume discharged during billing period)}}{\text{(sum of volumes discharged during all sample days during billing period)}}$$

In this formula volume discharged refers to the volume of trade wastewater discharged.

(a) Mass Discharged:
For each substance, the Mass Discharged is calculated by multiplying the Composite Sample concentration by the Trade Wastewater discharge for that sample day.

(b) Chargeable Trade Waste Mass:

(i) For the following substances, the Chargeable Trade Waste Mass is equal to the Mass Discharged:

SUBSTANCE
COPPER
IRON
SULPHIDE
ZINC

(ii) For the following substances, the Chargeable Trade Waste Mass is calculated by subtracting the Equivalent Domestic Mass from the Mass Discharged. The Equivalent Domestic Mass is defined as the Domestic Concentration multiplied by the Trade Wastewater discharge.

SUBSTANCE	DOMESTIC CONCENTRATION mg/L
AMMONIA (AS N)	35
BIOCHEMICAL OXYGEN DEMAND	230
SUSPENDED SOLIDS	200
GREASE	50
SULPHATE	50

If the resulting Chargeable Trade Waste Mass is zero or negative, then no Quality charges will apply for that substance for that sample day.

(c) Quality Charge:

(i) For the following substances, the Quality Charge is determined by multiplying the Chargeable Trade Waste Mass by the Rate for that substance as detailed in the Industrial Customers Acceptance Standards and charging rates for the applicable financial year fact sheet on the Sydney Water website.

SUBSTANCE
AMMONIA (AS N)
SUSPENDED SOLIDS
GREASE
COPPER
IRON
SULPHIDE
ZINC

(ii) For the following substances, the Quality Charge is determined by multiplying the Chargeable Trade Waste Mass by the Rate, where the Rate is a function of the composite sample concentration recorded for that sample day.

SUBSTANCE
BIOCHEMICAL OXYGEN DEMAND

(d) Concentration Breach Charge:
Where the Composite Sample concentration is greater than the Acceptance Standards specified in Schedule 1 (with the exception of sulphate), any charges calculated in (c) above will be doubled for that sampling day.

(e) Failure to collect required samples:
Where the Customer fails to collect and analyse samples in accord with this consent the above charges will be assessed on the basis of the highest composite concentrations recorded for any billing period within the previous 12 months and the average daily discharge for the current billing period.

(f) pH and Temperature charges:
Sydney Water regularly assesses its wastewater networks to determine if a system is affected by accelerated odour and corrosion. Where Sydney Water declares a wastewater system to be affected by accelerated odour and corrosion, the temperature and pH charge will only apply if the customer is not committed to or not complying with an effluent improvement program.

2. CHARGES FOR INSPECTIONS

(a) If, in the opinion of Sydney Water, it is necessary for a Business Customer Representative to exercise rights under clause 6.1, the Customer will incur no liability for payment for any such exercise unless the Business Customer Representative has already exercised rights under clause 6.1 on 4 occasions within a period of one year.

(b) If it is necessary, in the opinion of Sydney Water, to carry out more than 4 occasions within a period of one year, the additional inspections will be charged at the current inspection rate.

(c) Any inspection required following up an alleged breach or a default notice will result in a fee payable even if the number of inspections nominated in paragraph 2 (a) has not been exceeded.

(d) For the purposes of 2 (a) and 2 (b), above, one year is defined as the period from 1 July to 30 June the following year.

3. CHARGES FOR ADMINISTRATION OF TRADE WASTE CONSENT

A consent fee per quarter is payable from 1 March 2019.

4. CHARGES FOR VARIATION OR RENEWAL OF TRADE WASTE CONSENT

Where a Variation is made to the Consent a fee will be payable. There will be no charge for renewal.

5. CHARGES FOR GREASE TRAPS

Wastesafe administration charges are levied per pit per year.

6. PAYMENT OF FEES AND CHARGES

An account will be issued for all fees and charges. Any fees or charges payable by the Customer must be paid by the Customer within 30 days of the receipt by the Customer of the account detailing those fees and charges.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 4
ADDITIONAL REQUIREMENTS

1. EFFLUENT IMPROVEMENT PROGRAM

N/A

2. WASTE MANAGEMENT PLAN

The existing pre-treatment will result in the generation of 26 tonne per annum of waste substances in the form of a sludge containing generally solids. The waste substances are, and will continue to be disposed of, in compliance with the requirements of The Environment Protection Authority.

3. OTHER REQUIREMENTS

(a) A Backflow Containment Device must be installed and maintained at the water meter outlet/property boundary in line with Sydney Water's Responsibilities Of Connected Customers Policy.

(b) Backflow individual/zone protection is required on any tap located within 5m of the trade waste apparatus.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 5
APPARATUS, PLANT AND EQUIPMENT

EXISTING:
1 X 7,500L screening tank
5 X 20,000L settling tank
1 X SEPA DAF 5 kL/hr
1 X pH correction & control system
1 X Siemens Magflow 5000
1 X sample point
2 X charcoal filters for air scrubbing

PROPOSED: N/A

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 6
SPECIAL CONDITIONS

1. DANGEROUS DISCHARGES

In this Schedule, the term "may pose a danger to the environment, the Sewer or workers at a sewage treatment plant";

(a) means an occurrence whereby matter is discharged to the Sewer which either alone or in conjunction with other matter discharged cannot be adequately treated or may cause corrosion or a blockage, explosion or the production of dangerous gases in the Sewer or may adversely affect the operation of a sewer or sewage treatment plant; and

(b) includes, but not so as to restrict the generality of paragraph (a), matter or substances, which is or are;

(i) toxic or corrosive;
(ii) petroleum hydrocarbons;
(iii) heavy metals;
(iv) volatile solvents;
(v) phenolic compounds;
(vi) organic compounds.

2. UNINTENDED DISCHARGES

(a) For purposes of avoiding unintended discharges to the Sewer or the stormwater drainage system, all matter and substances on the Premises must be processed, handled, moved and stored in a proper and efficient manner.

(b) Any substance on the Premises which, if discharged to the Sewer, may pose a danger to the environment, the Sewer or workers at a sewage treatment plant or may harm any sewage treatment process must be handled, moved and stored in areas where leaks, spillages or overflows cannot drain by gravity or by automated or other mechanical means to the Sewer or the stormwater drainage system

3. NOTIFICATION

In the event of a discharge of matter to the sewer that poses or may pose a danger to the environment, the Sewer or workers at a sewage treatment plant the Customer must immediately notify:

(a) MALABAR STP CONTROL ROOM TEL: (02) 9931 8319 FAX: (02) 9931 8366

(b) BUSINESS CUSTOMER SERVICES (8AM TO 5PM MON TO FRI) TEL: 1300 985 227

(c) BUSINESS CUSTOMER SERVICES EMERGENCY CONTACT (24 HOURS) TEL: (02) 8849 5029

4. PROVISION OF SAFE ACCESS

The Customer shall provide safe access to Sydney Water employees visiting the site. In the event that unsafe conditions are identified the Customer must take reasonable steps to correct unsafe conditions and create safe access.

Sydney Water employees must also comply with the Customer's safety policies and procedures and any directions from the Customer's staff while on the Customer's site.

5. ELECTRONIC REPORTING OF SAMPLE ANALYSIS RESULTS

Sydney Water reserves the right to vary this consent to specify the option of reporting by electronic mail as outlined in Schedule 2, 2 (d).

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 7

1. Premises for which Consent is granted
   14 KIORA CRES, YENNORA NSW 2161

2. Industrial or other commercial activities for which Consent is granted
   GREASE TRAP WASTE DISPOSAL (GE02)

3. Discharge point for which Consent is granted
   JUNCTION IN KIORA CRES

4. The date for purposes of clause 3.1 is 1 March 2019

5. The period for purposes of clause 3.2 is 24 months

6. The receiving Treatment Plant is MALABAR Wastewater Treatment Plant / Water Recycling Plant

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 8
NOTICES AND COMMUNICATION ADDRESSES

SYDNEY WATER	MANAGER MAJOR CUSTOMERS PO Box 399 PARRAMATTA 2150	TEL: 1300 985 227 A.H: (02) 8849 5029
CUSTOMER:	EDWARD HAWACH DIRECTOR ENVIRO WASTE SERVICE GROUP PO BOX 706 PARRAMATTA NSW 2124	TEL: (02) 9721 2028 FAX: (02) 9721 1963

SCHEDULE 9
AUTHORISED OFFICERS

SYDNEY WATER:	MANAGER MAJOR CUSTOMERS PO Box 399 PARRAMATTA 2150	TEL: 1300 985 227 A.H: (02) 8849 5029
Email:	businesscustomers@sydneywater.com.au	
CUSTOMER:	EDWARD HAWACH DIRECTOR ENVIRO WASTE SERVICES GROUP 14 KIORA RD YENNORA NSW 2161	TEL: (02) 9721 2028 FAX: (02) 9721 1963
Email:	info@enviroblasting.com.au	

SCHEDULE 10
NOMINATED REPRESENTATIVES

SYDNEY WATER:	MANAGER MAJOR CUSTOMERS PO Box 399 PARRAMATTA 2150	TEL: 1300 985 227 A.H: (02) 8849 5029
CUSTOMER:	EDWARD HAWACH DIRECTOR ENVIRO WASTE SERVICES GROUP 14 KIORA RD YENNORA NSW 2161	TEL: 0420 511 727 FAX: (02) 9687 8389

Consent to Discharge Industrial Trade Wastewater

APPENDIX 1 (Example)
SAMPLE ANALYSIS REPORT (COMPOSITE) DISCHARGE METER

Consent Number:	36782
Company Name:	ENVIRO WASTE SERVICES GROUP PTY LTD
Company Address:	14 KIORA CRES, YENNORA NSW 2161

Sample Type:

☐ 6 (composite, manual time based)
☐ 7 (composite, manual flow proportional)
☐ 8 (composite, automatic time based)
☐ 9 (composite, automatic flow proportional)

Start date: ___/___/___
Finish date: ___/___/___
Start time: ____:____ am/pm
Finish time: ____:____ am/pm

grabs taken in sample period: _____
sample intervals min/kL _____
mL per grab: _____

Initial meter reading: _____kL
Final Meter reading: _____kL
Volume discharged: _____kL

Laboratory:

Substance	Acceptance Standard (mg/L)	Measured Concentration(mg/L)
AMMONIA (AS N)	100	
BIOCHEMICAL OXYGEN DEMAND		
SUSPENDED SOLIDS	600	
GREASE	110	
SULPHATE	2000	
COPPER	5	
IRON	50	
SULPHIDE	5	
ZINC	5	

COPY OF ORIGINAL ANALYTICAL LABORATORY REPORT TO BE ATTACHED
NOTE: LABORATORY REPORT MUST CERTIFY NATA REGISTRATION FOR EACH ANALYSIS

Comments: _____

Customer Signature: _____ Date: ___/___/___
Designation: _____

OFFICE USE ONLY

Sample No: | | | | | |

EMAIL TO:
matthew.truman@sydneywater.com.au

Consent to Discharge Industrial Trade Wastewater

APPENDIX 2 (Example)
SAMPLE ANALYSIS REPORT (DISCRETE SAMPLE)

Consent Number:	36782
Company Name:	ENVIRO WASTE SERVICES GROUP PTY LTD
Company Address:	14 KIORA CRES, YENNORA NSW 2161

Sample Type: DISCRETE
Start Date: ___/___/_____ Start time: __:__ am/pm
Finish Date: ___/___/_____ Finish Time: __:__ am/pm

Laboratory:

Substance	Acceptance Standard (units or mg/L)	Measured Units or Concentration.
pH at start	7 - 10	
pH at finish	7 - 10	
Ammonia (As N)	100	

COPY OF ORIGINAL ANALYTICAL LABORATORY REPORT TO BE ATTACHED
NOTE: LABORATORY REPORT MUST CERTIFY NATA REGISTRATION FOR EACH ANALYSIS

Comments: _____

Customer Signature: _____ Date: ___/___/___
Designation: _____

OFFICE USE ONLY

Sample No: | | | | | |

EMAIL TO:
matthew.truman@sydneywater.com.au

GENERAL CONDITIONS

Recitals:

A. Under its Operating Licence, Sydney Water provides sewerage services and treats and disposes of trade wastewater. The objectives of Sydney Water include operating as an efficient business, maximising the net worth of the State's investment and exhibiting a sense of social responsibility by having regard to the interests of the community. Sydney Water has special objectives of reducing risks to human health and preventing degradation of the environment.

B. Sydney Water is granted licences by the Environment Protection Authority, which are subject to conditions to discharge pollutants. A change to a licence condition may require that variations be made to a consent granted by Sydney Water.

C. In the conduct of its business operations, Sydney Water must comply with its obligations, duties and responsibilities under the Act and its Operating Licence and the Protection of the Environment Administration Act 1991, the Protection of the Environment Operations Act 1997 and the Protection of the Environment Legislation Amendment Act 2011.

D. The customer requests that Sydney Water grant consent to the customer for purposes of discharge of trade wastewater from the premises to the sewer.

Sydney Water grants to the customer consent to discharge trade wastewater, subject to the terms and conditions specified in this consent. The customer accepts the consent and agrees to be bound by the terms and conditions of this consent:

1. Definitions and interpretation

1.1 In this consent, unless the contrary intention appears;

Acceptance standards means Sydney Water's published concentration limits for certain substances in trade wastewater.

Act means the Sydney Water Act 1994.

Business Customer Representative means an officer of Sydney Water who is authorised to enter land or buildings for purposes of carrying out his or her duties in relation to Sydney Water's trade wastewater service.

Consent means this consent together with its attached schedules and appendices. Any definitions or standards referred to in this consent but not contained in it are deemed to form a part of this consent with necessary changes being made to accommodate their inclusion.

Authorised officer means:

- with respect to Sydney Water, the person from time to time holding the position pertained in schedule 9 or such other person or position as may be nominated by Sydney Water from time to time;
- with respect to the customer, the person identified, and includes the details specified, in schedule 9 or as may be notified to Sydney Water by the customer from time to time.

Breach means any contravention of or non-compliance with a term, condition or provision of this consent or the Act.

Chargeable trade waste mass means the mass of a pollutant subject to quality or critical substance charges.

Composite sample means a sample of trade wastewater obtained by combining equal volumes at either equal time or flow intervals.

Critical mass charge means the charge applied to some critical and over capacity substances as calculated in accordance with the provisions set out in schedule 3.

Critical substance means a substance determined to be critical and notified from time to time by Sydney Water.

Customer means the party or parties (except Sydney Water) who executes or execute this consent.

Daily mass means the mass of a substance discharged during a 24-hour period.

Default notice means a notice issued in accordance with clause 8.1.

Domestic concentration means the concentration of a pollutant deemed by Sydney Water to be equivalent to that found in domestic wastewater.

Domestic wastewater means water which has in it human faecal matter, urine or refuse of any type produced in, and which is permitted to be discharged to a Sydney Water sewer from, any premises used exclusively for residential purposes.

Environment Protection Authority means the statutory authority established under section15 of the Protection of the Environment Administration Act 1991

Equivalent domestic mass means the mass of a substance that would be expected in the trade wastewater if it were at domestic concentration.

Flow weighted charge means the portion of a substance's charge for a billing period that is attributed to any sample collected in accordance with schedule 2 or, if such sample is required but is not collected, then fixed by Sydney Water in accordance with schedule 2.

Flow weighting factor means a factor used to determine charges as described in schedule 3.

Long term average daily mass means, for each pollutant, the figure listed in schedule 1 and used to determine critical mass charges as described in schedule 3.

Lower explosive limit means the minimum concentration of flammable and/or explosive substances that would result in a fire or explosion.

Mass discharged means the mass of a pollutant discharged on a sample day and is measured by

multiplying the composite sample concentration by the trade wastewater discharge for that sample day.

Maximum daily mass means the greatest mass of a substance permitted for discharge within a 24-hour period.

Over capacity means the status of a substance as determined in accordance with Sydney Water's Trade Waste Policy, 2007.

Over capacity substance means a substance determined to be over capacity and notified from time to time by Sydney Water.

Premises means the land, plant and buildings described and specified in paragraph 1 of schedule 7, on or in which the customer carries on industrial or other commercial activities specified in paragraph 2 of schedule 7.

Quality charge means a pollutant charge applied to trade waste discharges based on the mass of each pollutant discharged to sewer.

Regulator means any statutory authority, which may grant permission, authority or licence to Sydney Water to operate the sewer or treat or dispose of sewage treatment by-products.

Residual products means biosolids, re-use water or such other product intended for re-use as may be developed by Sydney Water from time to time.

Risk index means a ranking applied to the consent by Sydney Water to describe the relative risk of accepting the trade wastewater. Determination of the risk index will be based on the methodology determined from time to time by Sydney Water, or as may be necessary in the opinion of Sydney Water to take into account particular circumstances. The risk index is used to determine, among other things, the amount of self-monitoring required, the number of inspections to be performed by Sydney Water, the annual consent fee and the term of the consent.

Sewer means the sewerage service of Sydney Water, including the sewage treatment plant, discharge to which is facilitated by a discharge point situated on the premises and specified in item 3 of schedule 7.

Significant breach means any breach of a nature outlined at clause 15.2. Such breaches may result in immediate suspension or termination of the consent.

Standard mass charging rate means the charge per kilogram for substances as defined in schedule 3.

Sydney Water means Sydney Water Corporation.

Responsibilities of connected customers policy means Sydney Water's policy detailing the conditions under which Sydney Water will agree to accept trade wastewater to sewer.

Trade wastewater means any liquid and any substance in it that is produced in an industrial or commercial activity at the premises and discharged into the sewer, but does not include domestic wastewater.

Trade waste residue means any substance separated and retained, from trade wastewater being discharged into the sewer.

1.2 In this consent, unless the contrary intention appears:

(a) A reference to an Act or any delegated legislation or instrument made under an Act includes any other Act delegated legislation or instrument as may amend or replace any of them.

(b) A reference to a word or expression

(i) in the singular form includes a reference to the word or expression in the plural form; and

(ii) in the plural form includes a reference to the word or expression in the singular form.

(c) A reference to a party or a natural person includes a reference to a corporation.

(d) A word or expression that indicates one or more particular genders is taken to indicate every other gender.

(e) Headings to clauses and paragraphs are included in this consent to assist understanding of its terms and conditions but are not intended to affect the meaning or application of any term or condition.

(f) A reference to a clause, schedule or appendix is a reference to a clause of or schedule or appendix to this consent and any such schedule or appendix is a part of this consent.

1.3 Remedies available to the parties under this consent;

(a) are cumulative; and

(b) do not prejudice or affect any other remedy available to the parties.

1.4 No rule of construction applies to the disadvantage of a party because that party was responsible for the preparation of this consent or any part of it.

2. Application of certain statutes and laws

2.1 This consent is made under and is subject to the provisions of the Act.

2.2 This consent is governed by and will be performed according to the law applicable in the State of New South Wales.

2.3 Subject to the terms and conditions of this consent the customer has lawful authority to dispose of trade wastewater for purposes of;

(i) Section 115 of the Protection of the Environment Operations Act 1997; and

(ii) Section 49 of the Act; and

3. Commencement and term of consent

3.1 This consent commences on the date specified in paragraph 4 of schedule 7.

3.2 This consent will, unless terminated or renewed in accordance with this consent, continue for the period specified in item 5 of schedule 7.

GENERAL CONDITIONS

4. Discharge of trade wastewater into sewer

4.1 The customer may discharge trade wastewater from the premises into the sewer in accordance with the provisions of schedule 1 and schedule 4.

4.2 The customer must not discharge trade wastewater from the premises into the sewer contrary to the provisions of schedule 1 and schedule 4.

4.3 The customer indemnifies Sydney Water against all damages, losses, costs or expenses suffered or incurred by Sydney Water, caused by any unauthorised discharge from the premises in respect of:

(a) injury (including death) or harm to any person; or

(b) damage to property vested in Sydney Water; or

(c) contamination of residual products; or

(d) material harm to any sewage treatment process

provided that the said damages, losses, costs or expenses suffered or incurred by Sydney Water are caused by any unauthorised discharge of trade wastewater or other matter into the sewer by the customer which is in breach of this consent or by any other person from the customer's premises, except to the extent to which the damages, losses, costs or expenses (as the case may be) were caused by either the negligent or wilful act or omission of Sydney Water or a breach of this consent by Sydney Water.

4.4 The customer must take all precautions reasonably practicable to ensure that no person, other than a person acting for or on behalf of or with the consent of the customer, discharges any matter from the premises into the sewer.

4.5 For purposes of this consent, every discharge of matter from the premises into the sewer will be taken to have been a discharge by a person acting for or on behalf of, or with the consent of, the customer.

5. Charges

5.1 The customer must pay Sydney Water charges with respect to trade wastewater discharged to the sewer, the administration of this consent and, when applicable, the processing of grease trap waste determined in accordance with, and within the time and in the manner specified in schedule 3.

5.2 Sydney Water may vary the basis of charges or the charging rates in schedule 3;

(a) as and when determined by the Independent Pricing and Regulatory Tribunal of New South Wales (IPART); or

(b) by written consent with the customer.

6. Inspections

6.1 A Business Customer Representative may enter the premises at any time;

(a) for purposes of inspecting whether the activities of the customer are being conducted in accordance with this consent; or

(b) for the purposes described in Section 38 of the Act or exercising any right or function conferred on Sydney Water under this consent.

This clause does not limit Sydney Water's statutory powers of entry.

6.2 When exercising rights under clause 6.1;

(a) a Business Customer Representative must not cause any delay or inconvenience to the efficient conduct of business activities by the customer which could be reasonably avoided; and

(b) except for any relevant safety precautions, a Business Customer Representative must not be impeded or delayed by any person on the premises.

6.3 If, in the opinion of Sydney Water, it is necessary for a Business Customer Representative to exercise rights under clause 6.1, the customer will make payment in accordance with the provisions of schedule 3.

7. Inquiries

7.1 Sydney Water may convene and determine the terms of reference of a joint inquiry about the circumstances relating to an incident that may have caused a breach.

7.2 An inquiry under clause 7.1 is to be conducted informally and without legal representation for purposes of gathering information about an incident directly from any person who may be expected to know, from his or her own observations, about the circumstances relating to the incident.

7.3 An inquiry under clause 7.1 may be conducted irrespective of whether the incident, the subject of the inquiry, is also the subject of a default notice.

7.4 Before conducting an inquiry under clause 7.1, the customer and Sydney Water may agree about what action, if any (except any action pursuant to a statutory obligation), may be taken with respect to any information that may be gathered during the inquiry.

8. Default procedures

8.1 If, in the opinion of Sydney Water, the customer commits, causes or allows a breach to occur, Sydney Water may issue to the customer a default notice.

8.2 A default notice must;

(a) provide any relevant particular of the breach alleged by Sydney Water, including any particular known to Sydney Water that may assist the customer to ascertain the alleged breach; and

(b) specify that the customer must provide a response in writing to Sydney Water within seven days of receipt of the notice.

8.3 A default notice is not invalid merely because it does not provide a particular that may assist the customer to ascertain the alleged breach.

8.4 Any supply to the customer by Sydney Water of particulars under clause 8.7(a) is taken, for purposes of clause 8.5, to be a default notice under clause 8.1.

8.5 The customer must supply to Sydney Water a written response to a default notice within seven days of receipt of the default notice which must;

(a) request further particulars of the alleged breach; or

(b) describe or explain the circumstances causing;

(i) the event which appeared to Sydney Water to be a breach; or

(ii) the breach to occur; and

(c) describe any action taken with respect to the alleged breach; and

(d) provide a plan of action to be taken by the customer to avoid the occurrence of any incident similar to the alleged breach; or

(e) explain the reasons of the customer for disputing the alleged breach.

8.6 The customer may make one request only for particulars under clause 8.5(a) with respect to a default notice.

8.7 When the customer responds in writing to Sydney Water in accordance with clause 8.5, Sydney Water must within seven days of receipt of that response either;

(a) with respect to clause 8.5(a), provide in writing to the customer any further particulars that it may be able to provide in which case the customer shall be allowed a further seven days from receipt of those particulars to respond as required by clause 8.5(b)

(b) specify to what extent it accepts, rejects or disagrees with the response under 8.5(b) and provide details of any action it proposes to take (including any special requirements it may impose) to deal with the breach.

8.8 The issue by Sydney Water of a default notice is without prejudice to any right or power Sydney Water may have pursuant to this consent or conferred on it by statute or statutory rule.

9. Improvement program

9.1 The customer must, at its own expense, establish and carry out the improvement program specified in, and in accordance with the provisions of, schedule 4.

9.2 If, prior to any failure to comply, the customer notifies Sydney Water that it may not be able to comply with any obligation under clause 9.1, Sydney Water will consider any reasonable proposal of the customer to vary a term or condition of the improvement program.

10. Diligence program

10.1 Within six months of the making of this consent, the customer must give a notice to Sydney Water specifying a current diligence program.

10.2 For purposes of clause 10.1, a diligence program includes a plan, whereby the customer demonstrates that the management of the customer is exercising reasonable care in planning and taking appropriate action, to prevent or minimise the effects of any incident that may constitute a breach.

11. Suspension or termination of consent to discharge trade wastewater

11.1 Sydney Water may suspend the consent granted in clause 4.1 if;

(a) the customer does not comply with clause 8.5, 9.1, 12.1, 12.2 or notice of the suspension is given to the customer; or

(b) Sydney Water is for any reason specified in clause 11.2 unable to accept for treatment trade wastewater that may be discharged by the customer.

11.2 Sydney Water may, by a notice given to the customer, suspend the consent granted in clause 4.1 if, in the reasonable opinion of Sydney Water;

(a) an emergency prevents the sewer from accepting any or certain specified categories of trade wastewater that may be discharged by the customer; or

(b) an event has occurred, which could have an adverse effect on any employee or agent of or contractor to Sydney Water or the sewer, including any biological process.

whether the emergency or event is caused by fire, storm, tempest, flood, malicious damage, act of war, civil disobedience, explosion, earthquake or an act or omission of an employee, or agent of, or contractor to Sydney Water, or an unlawful discharge of matter into the sewer, or some other cause.

11.3 The period of any notice of suspension given under clause 11.2 will be no shorter than any period, which in the opinion of Sydney Water the circumstances dictate.

11.4 The customer must comply with any notice under clause 11.1 or 11.2 subject only to any delay that may be required to safeguard the health or life of any person.

11.5 Any suspension under clause 11.1 or 11.2 must not be for a period longer than, in the opinion of Sydney Water, the circumstances dictate.

11.6 If the customer does not cease discharging trade wastewater in accordance with a notice given under clause 11.1 or 11.2 and Sydney Water is of the opinion that the customer is not taking appropriate measures to stop the discharge, a Business Customer Representative may, with such other persons as he or she may think necessary, enter the premises and take such measures as he or she may think necessary to stop the discharge.

11.7 A suspension under clause 11.1 or 11.2 or any action that may be taken in accordance with clause 11.6 does not give rise to any remedy to the customer against Sydney Water for, or in respect of, the suspension or action.

11.8 Any costs incurred by Sydney Water with regard to taking action under clause 11.6 is a debt payable to

Sydney Water by the customer on demand made by Sydney Water.

11.9 Sydney Water may suspend the consent granted in clause 4.1 if; the discharge of trade wastewater by the customer in accordance with the consent granted under clause 4.1, by itself or in conjunction with the discharges of other persons is likely, in the opinion of Sydney Water, to cause Sydney Water to contravene any legislation, permission, authority or licence granted by a regulator, or any other regulatory authority.

11.10 Any suspension under clause 11.9 must be terminated as soon as Sydney Water is reasonably satisfied that the conditions giving rise to the suspension no longer exist.

11.11 If the customer and Sydney Water cannot agree in accordance with clause 11.10, they will initiate and attend discussions with the regulator to resolve any relevant matter.

11.12 If, after discussions under clause 11.11 the customer and Sydney Water fail to agree in accordance with clause 11.10, the consent granted in clause 4.1 may be terminated by Sydney Water.

11.13 Without limitation of the effect of any other clause in this consent, Sydney Water may terminate or suspend the customer's permission to discharge trade wastewater immediately by written notice to the customer, if in the opinion of Sydney Water the customer's discharge of trade wastewater is in breach of this consent and is likely to cause;

(a) Sydney Water's contravention of the condition of any licence issued to it by the EPA; or

(b) the failure to meet a product specification of

any of Sydney Water's residual products.

(c) Sydney Water to breach or fail to comply with any legislation.

11.14 A suspension under clause 11.9 or 11.13 in accordance with the terms of this consent or a termination under clause 11.12 or 11.13 in accordance with the terms of this consent does not give rise to any remedy to the customer against Sydney Water for or in respect of the suspension or termination.

11.15 Without limitation of the effect on any other clause in this consent, Sydney Water may terminate or suspend the customer's consent to discharge trade wastewater immediately by written notice served on the customer in accordance with Section 100 of the Act, on the occurrence of any one of the following events;

(a) The customer fails to pay to Sydney Water any amount due and payable under this consent within twenty-one days of the due date for payment and such payment is not made within fourteen days of a written request from Sydney Water to do so.

(b) The customer is in breach of the consent and is unable or unwilling to remedy the breach of consent as required by Sydney Water.

The customer acknowledges and agrees that if, following the termination of the consent, it continues to discharge trade wastewater into the sewer, a Business Customer Representative may enter the customer's premises and take all reasonable necessary steps to stop the customer's continued discharge of trade wastewater to the sewer. The right of entry conferred by this clause is in addition to, and not in substitution for, any power of entry conferred on Sydney Water by the Act.

12. Supply of information

12.1 Any information supplied by the customer to Sydney Water for purposes of making this consent or for any purpose of this consent must as far as reasonably possible be a true and complete disclosure by the customer for purposes of enabling Sydney Water to;

(a) determine whether to grant the consent in clause 4.1; and

(b) determine whether there has been any breach of this consent.

12.2 The customer must not, in or in connection with a document supplied to Sydney Water for purposes of making this consent or for any purpose of this consent, furnish information, which is false or misleading in a material particular with regard to the trade wastewater to be discharged to the sewer.

12.3 Sydney Water must not disclose any confidential information obtained in connection with the administration or execution of this consent, unless that disclosure is made;

(a) with the consent in writing of the customer

(b) with other lawful excuse.

13. Sampling

13.1 For purposes of this consent, schedule 2 specifies sampling and analysis criteria, flow rates and volume determinations of trade wastewater to be discharged or discharged under clause 4.1.

13.2 A Business Customer Representative may take as many samples of trade wastewater at any point in any production process or storage facility, or at any other point on the premises, as he or she thinks fit.

13.3 The customer must comply with the provisions of schedule 2.

14. Apparatus, plant and equipment for recording or treating trade wastewater

14.1 The customer must, at its own cost, provide, operate and maintain in an effective and efficient working order, the apparatus, plant and equipment described in schedule 5 for purposes of regulating, treating, determining and measuring the quality, quantity and

rate of discharge of trade wastewater under clause 4.1.

14.2 Sydney Water may require the customer to use its discretion to formulate and take such additional actions as may be appropriate to achieve the objects which, in the opinion of Sydney Water, are necessary for the customer to regulate, treat, determine or measure trade wastewater for purposes of discharge under clause 4.1.

14.3 The customer must, at its own costs, maintain records in such manner as may be required by Sydney Water, of all measurements, sampling and results obtained in the course of treatment and discharge of trade wastewater under clause 4.1.

14.4 The customer must submit to Sydney Water documents containing records of results specified in schedule 2.

14.5 The customer must maintain records of particulars and dates of cleaning and maintaining all apparatus, plant and equipment described in schedule 5 and particulars, dates and method of disposal of trade waste residue from such apparatus, plant and equipment.

14.6 The customer acknowledges that Sydney Water does not approve or warrant that any apparatus, plant or equipment used by the customer is sufficient for purposes of processing or treating trade wastewater for discharge under clause 4.1.

15. Variation and renewal of consent

15.1 Before varying, substituting or adding any process conducted or to be conducted on the premises that may cause the volume, rate or quality of wastewater discharged to change from that agreed under schedule 1 and schedule 4, the customer shall give Sydney Water not less than 14 days written notice of its intention. Any variation, substitution or addition shall only be conducted after receipt of written approval to same and subject to any conditions (including any requirement to vary the terms of this consent) that Sydney Water may impose.

15.2 Sydney Water may vary the terms of this consent where:

(a) Sydney Water alleges a single significant breach or three breaches of the same nature, to have occurred in a six month period; or

(b) in the opinion of Sydney Water, a substantial or material part of any plan of action under clause 8.5(d) may not be completed for a period exceeding 90 days; or

(c) the customer gives Sydney Water notice under clause 15.1.

For the purposes of this clause and without limitation, the following circumstances shall be regarded as being a single significant breach:

(i) an activity or event that could adversely affect; the health and safety of any employee, agent or contractor to Sydney Water, the integrity of Sydney Water assets or the viability of any of Sydney Water's treatment processes or products; or

(ii) failure to achieve effluent improvement program milestone; or

(iii) failure to install pre-treatment; or

(iv) by-pass pre-treatment and/or installation of equipment that facilitates by-pass of pre-treatment; or

(v) flow-meter turned off or bypassed.

15.3 A renewal of this consent may be initiated by the customer:

(a) not less than two months before the date of expiration of this consent, and

(b) not more than six months before the date of expiration of this consent.

15.4 If this consent remains current immediately prior to the expiration of the term detailed in 3.2, or any subsequent terms renewed in accordance with this clause, and:

(a) the customer has not given notice in accordance with clause 20.1 of this consent and;

(b) Sydney Water has not given to the customer at least 30 days' notice prior to the expiration of this consent, of its intention to permit the consent to expire in accordance with clause 3.2

Then this consent shall be deemed to be renewed immediately following its expiration, for a further period of six months.

15.5 Any amended schedules that Sydney Water prepares in response to a variation or renewal will be taken to be incorporated into this consent;

(a) on execution by the customer; or

(b) after 14 days of receipt by the customer of the notice of the variation or renewal.

15.6 The notification of alterations to the critical status of any pollutants does not constitute a variation.

16. Disposal of trade waste residue

The customer must not dispose of any trade waste residue, except in accordance with the requirements of the EPA.

17. Disposal of grease trap wastes

The customer must not dispose of grease trap wastes other than in accordance with Sydney Water's 'Wastesafe' Management System.

18. This consent comprises all applicable terms and conditions

18.1 The provisions of this consent comprise all of the applicable terms and conditions between the parties.

18.2 It is declared by the parties that no further or other promises or provisions are, or will be claimed to be implied, or to arise between the parties by way of collateral or other agreement by reason of any promise, representation, warranty or undertaking given or made by any party (or its agent) to another, on or prior to the

execution of this deed, and the existence of any such implication or collateral or other agreement, is hereby negated by the parties.

18.3 Clauses 18.1 and 18.2 do not prejudice the ability of the parties to vary or amend this consent in accordance with the provisions of this consent or by a further consent in writing.

19. No transfer or assignment

The customer cannot transfer or assign the consent granted in clause 4.1 nor any other right or obligation the customer has or may have under this consent, without the prior consent in writing of Sydney Water.

20. Termination of consent by customer

20.1 Termination of this consent may be effected by the customer upon the giving of at least 30 days' notice in writing to Sydney Water. The notice must state the date on which this consent terminates.

20.2 The customer is bound by the provisions of this consent with regard to any discharge of trade wastewater into the sewer from the premises, including the payment of charges under clause 5.1, from the commencement of this consent until its termination.

20.3 Notwithstanding provisions contained elsewhere in this consent the parties may terminate this consent in writing by mutual agreement provided the parties enter into a further trade waste consent immediately following termination of this consent.

21. Notices and communications

21.1 A notice or communication under this consent must be in writing.

21.2 For purposes of clause 21.1, a notice or communication may;

(a) be left at the address of the addressee; or

(b) be sent by prepaid ordinary post to the address of the addressee; or

(c) sent by facsimile transmission to the facsimile number of the addressee

(d) sent by email to the email address of the addressee

as specified in schedule 8 or such other address as may be notified by the addressee to the other party.

21.3 Unless a later time is specified in it, a notice or communication takes effect from the time it is received.

21.4 Unless the contrary is shown, for purposes of clause 21.3, if a notice or communication is;

(a) a letter sent by pre-paid post, it will be taken to have been received on the third day after posting; or

(b) a facsimile, it will be taken to have been received on receipt by the sender, of the written or oral advice of the addressee that the whole of the facsimile transmission has been received by the addressee in a form that is legible.

22. Miscellaneous

Each party must act in good faith in the implementation of this consent and, without limiting the scope of this obligation, must also seek to resolve any difference or dispute between them as to the consent in good faith.

23. Entire consent

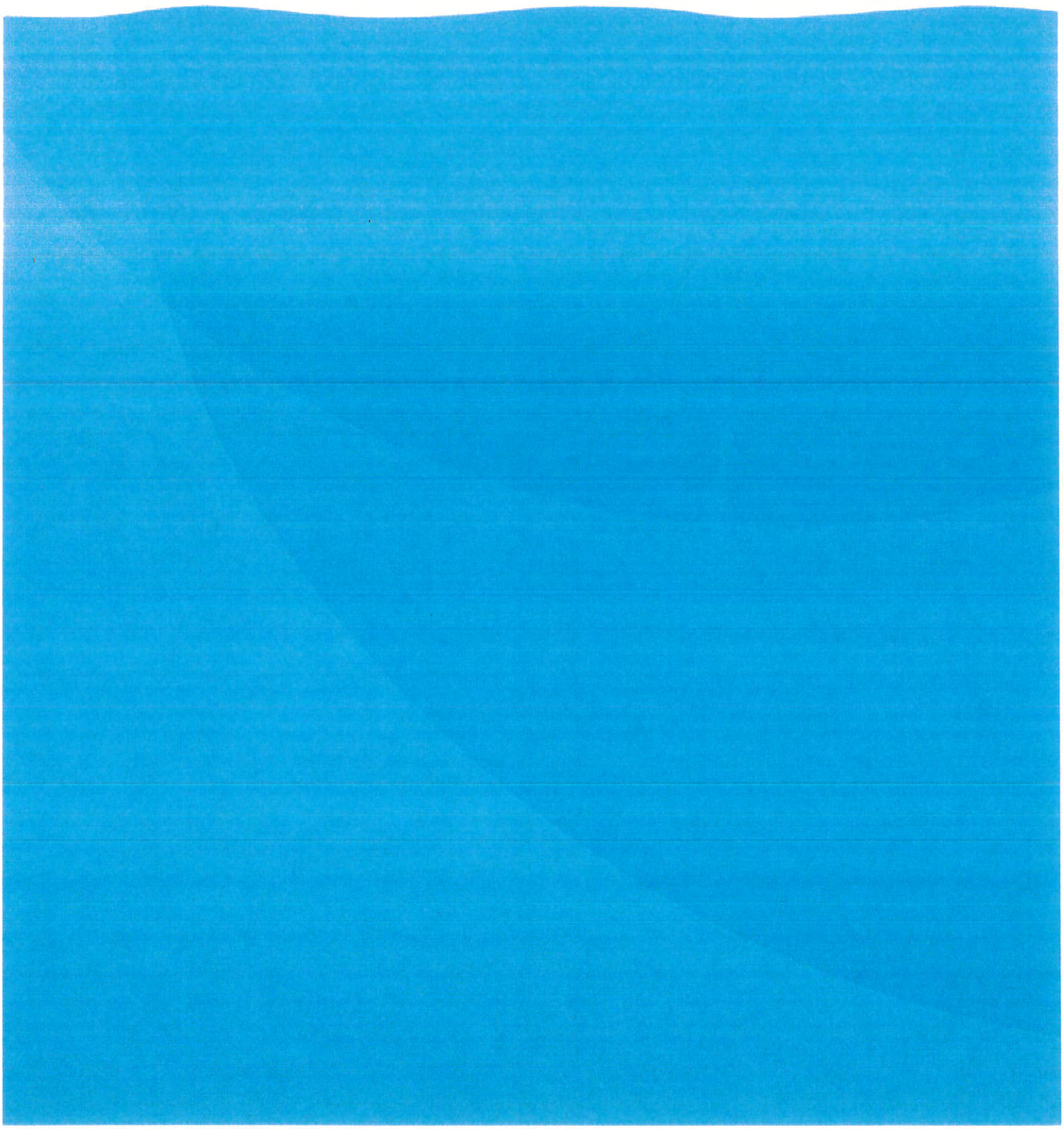
This consent constitutes the entire agreement between the parties in relation to its subject matter. No understanding, arrangement or provision not expressly set out in this consent will bind the parties. Accordingly all correspondence, negotiations and other communications between the parties in relation to the subject matter of this consent that precede this consent are superseded by and merged in it.

Note: This consent has no effect until it is executed for and on behalf of Sydney Water Corporation.

Contact Us
To find out more visit
sydneywater.com.au
or call 13 20 92

Postal address
Sydney Water
PO Box 399
Parramatta NSW 2124

Sydney Water
ABN 49 776 225 038
BCS034



Attachment 2: Flood Advice Letter from Cumberland Council

CUMBERLAND COUNCIL

26 February 2020

Sarah New-Beall c/o Benbow Environmental
25-27 Sherwood Street
NORTHMEAD NSW 2152

Our Reference EC2020/0155
Contact Rolyn Sario
Telephone 8757 9536

Dear Sir/Madam

FLOOD LEVELS AT NO 14 KIORA CRESCENT, YENNORA
BEING LOT 49 DP 18211

Council refers to your request dated 24 February 2020, requesting flood information at the above property.

According to the information available to Council from the "Prospect Creek Overland Flood Study" prepared by Lyall and Associates Consulting Water Engineers in June 2017, the above 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.

The 1% AEP flood level refers to a flood which has a 1% chance of being equalled or exceeded in any one year. It should be noted that a flood could occur that is more severe than the 1% AEP flood at any time.

The maximum 1% AEP flood level relevant to the subject property has been determined (see the attached plan) to Australian Height Datum (AHD) is:

1. At location A - 15.4 mAHD

Minimum habitable floor levels shall be 0.5m above the flood level at the upstream side of the structure. Minimum non-habitable floor levels (garages, laundry, sheds, etc.) shall be 0.15m above the flood level at the upstream side of the structure.

The relationship between these levels and the ground surface may be determined by a survey of the property undertaken by a Registered Surveyor.

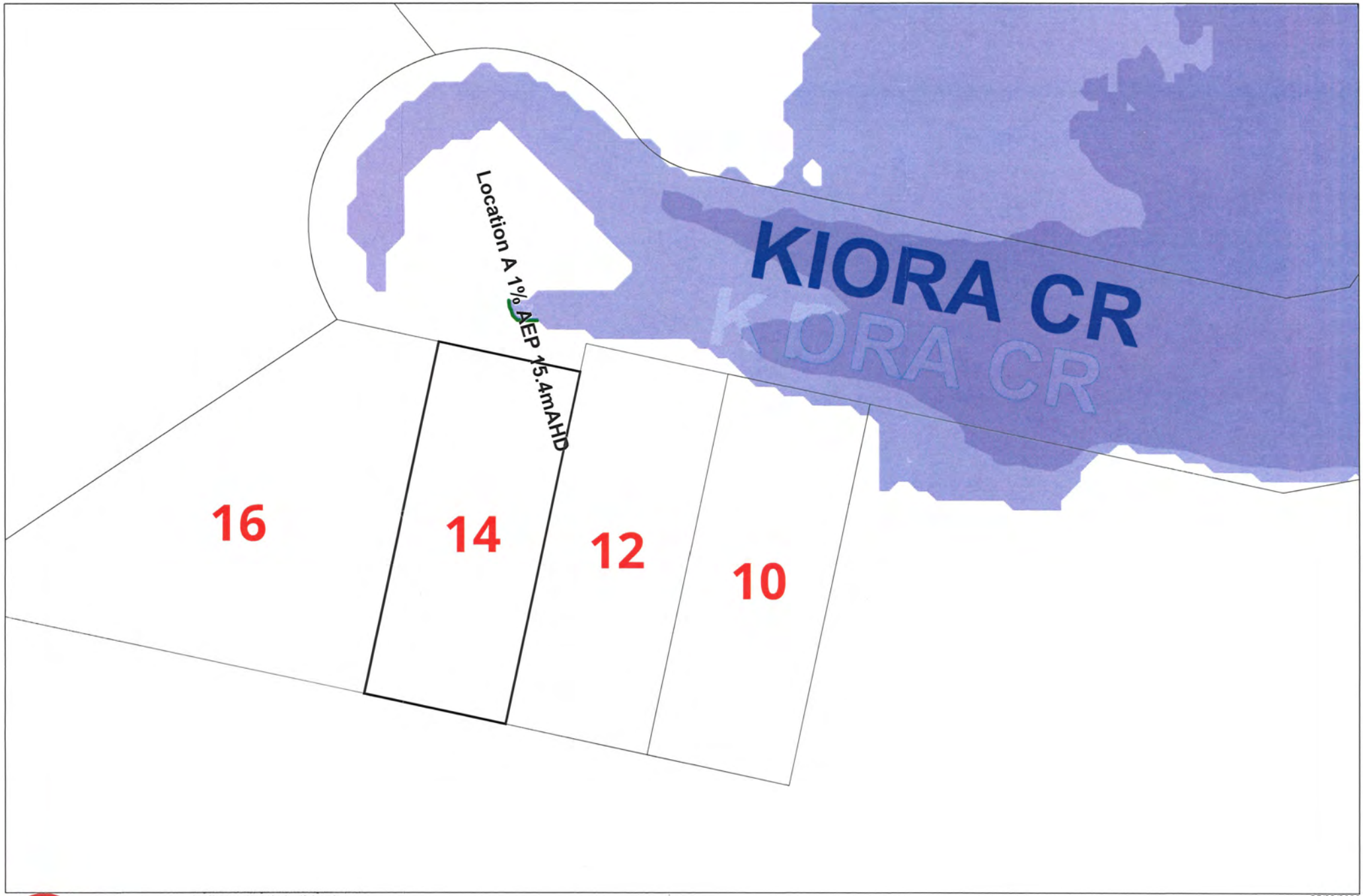
It should be noted that where the development or redevelopment of the property is proposed, reference should be made to the relevant Development Control Plan with regard to flooding and drainage issues. Please include a copy of this letter and map with any Development Application that you may lodge with Council for the subject site.

Flood levels are not static due to changing circumstances (e.g. revision of the flood model) and accordingly the above flood level is only valid for six months from the above date.

If you have any questions please do not hesitate to contact Council's Senior Stormwater Engineer, Mr Mark Evens on 8757 9538 or Council's Drainage Engineer, Mr Rolyn Sario on 02 8757 9536.

Yours sincerely,

SIVA SIVAKUMAR
MANAGER – ENGINEERING & TRAFFIC



CUMBERLAND COUNCIL

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25/02/2020

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Scale 1 : 500
when printed at A4

Attachment 3: Certificate of Analysis

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2025861**	Page	: 1 of 9
Client	: **BENBOW ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: Matthew Taylor	Contact	: Customer Services ES
Address	: 25-27 SHERWOOD STREET NORTHMEAD NSW, AUSTRALIA 2152	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 191251_Stormwater	Date Samples Received	: 28-Jul-2020 10:20
Order number	: 191251	Date Analysis Commenced	: 28-Jul-2020
C-O-C number	: ----	Issue Date	: 04-Aug-2020 13:55
Sampler	: Matthew Taylor		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 6		
No. of samples analysed	: 6		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- Samples containing fine particulate matter less than 1.2 µm may bias low for TSS via EA025H.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	S-1	S-1	S-2	S-2	S-1
			Client sampling date / time	28-Jul-2020 09:45	28-Jul-2020 09:45	28-Jul-2020 09:25	28-Jul-2020 09:25	28-Jul-2020 09:45
Compound	CAS Number	LOR	Unit	ES2025861-001	ES2025861-002	ES2025861-003	ES2025861-004	ES2025861-005
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	----	----	----	----	**8.41**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	----	----	----	----	**223**
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	----	----	----	----	**29**
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	<0.001	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	<0.0001	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	<0.001	----	----
Copper	7440-50-8	0.001	mg/L	**0.006**	----	**0.001**	----	----
Nickel	7440-02-0	0.001	mg/L	**0.001**	----	<0.001	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	<0.001	----	----
Zinc	7440-66-6	0.005	mg/L	**0.092**	----	**0.034**	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	<0.0001	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	5	µg/L	----	<5	----	<5	----
Isopropylbenzene	98-82-8	5	µg/L	----	<5	----	<5	----
n-Propylbenzene	103-65-1	5	µg/L	----	<5	----	<5	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	----	<5	----	<5	----
sec-Butylbenzene	135-98-8	5	µg/L	----	<5	----	<5	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	----	<5	----	<5	----
tert-Butylbenzene	98-06-6	5	µg/L	----	<5	----	<5	----
p-Isopropyltoluene	99-87-6	5	µg/L	----	<5	----	<5	----
n-Butylbenzene	104-51-8	5	µg/L	----	<5	----	<5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	----	<50	----	<50	----
2-Butanone (MEK)	78-93-3	50	µg/L	----	<50	----	<50	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	----	<50	----	<50	----
2-Hexanone (MBK)	591-78-6	50	µg/L	----	<50	----	<50	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	----	<5	----	**18**	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	----	<5	----	<5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	S-1	S-1	S-2	S-2	S-1
				Client sampling date / time	28-Jul-2020 09:45	28-Jul-2020 09:45	28-Jul-2020 09:25	28-Jul-2020 09:25	28-Jul-2020 09:45
Compound	CAS Number	LOR	Unit		ES2025861-001	ES2025861-002	ES2025861-003	ES2025861-004	ES2025861-005
					Result	Result	Result	Result	Result
EP074D: Fumigants - Continued									
1.2-Dichloropropane	78-87-5	5	µg/L		----	<5	----	<5	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		----	<5	----	<5	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		----	<5	----	<5	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		----	<5	----	<5	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		----	<50	----	<50	----
Chloromethane	74-87-3	50	µg/L		----	<50	----	<50	----
Vinyl chloride	75-01-4	50	µg/L		----	<50	----	<50	----
Bromomethane	74-83-9	50	µg/L		----	<50	----	<50	----
Chloroethane	75-00-3	50	µg/L		----	<50	----	<50	----
Trichlorofluoromethane	75-69-4	50	µg/L		----	<50	----	<50	----
1.1-Dichloroethene	75-35-4	5	µg/L		----	<5	----	<5	----
Iodomethane	74-88-4	5	µg/L		----	<5	----	<5	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		----	<5	----	<5	----
1.1-Dichloroethane	75-34-3	5	µg/L		----	<5	----	<5	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		----	<5	----	<5	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		----	<5	----	<5	----
1.1-Dichloropropylene	563-58-6	5	µg/L		----	<5	----	<5	----
Carbon Tetrachloride	56-23-5	5	µg/L		----	<5	----	<5	----
1.2-Dichloroethane	107-06-2	5	µg/L		----	<5	----	<5	----
Trichloroethene	79-01-6	5	µg/L		----	<5	----	<5	----
Dibromomethane	74-95-3	5	µg/L		----	<5	----	<5	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		----	<5	----	<5	----
1.3-Dichloropropane	142-28-9	5	µg/L		----	<5	----	<5	----
Tetrachloroethene	127-18-4	5	µg/L		----	<5	----	<5	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		----	<5	----	<5	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		----	<5	----	<5	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		----	<5	----	<5	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		----	<5	----	<5	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		----	<5	----	<5	----
Pentachloroethane	76-01-7	5	µg/L		----	<5	----	<5	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		----	<5	----	<5	----
Hexachlorobutadiene	87-68-3	5	µg/L		----	<5	----	<5	----
EP074F: Halogenated Aromatic Compounds									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	S-1	S-1	S-2	S-2	S-1
				Client sampling date / time	28-Jul-2020 09:45	28-Jul-2020 09:45	28-Jul-2020 09:25	28-Jul-2020 09:25	28-Jul-2020 09:45
Compound	CAS Number	LOR	Unit		ES2025861-001	ES2025861-002	ES2025861-003	ES2025861-004	ES2025861-005
					Result	Result	Result	Result	Result
EP074F: Halogenated Aromatic Compounds - Continued									
Chlorobenzene	108-90-7	5	µg/L		----	<5	----	<5	----
Bromobenzene	108-86-1	5	µg/L		----	<5	----	<5	----
2-Chlorotoluene	95-49-8	5	µg/L		----	<5	----	<5	----
4-Chlorotoluene	106-43-4	5	µg/L		----	<5	----	<5	----
1.3-Dichlorobenzene	541-73-1	5	µg/L		----	<5	----	<5	----
1.4-Dichlorobenzene	106-46-7	5	µg/L		----	<5	----	<5	----
1.2-Dichlorobenzene	95-50-1	5	µg/L		----	<5	----	<5	----
1.2.4-Trichlorobenzene	120-82-1	5	µg/L		----	<5	----	<5	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		----	<5	----	<5	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		----	**21**	----	<5	----
Bromodichloromethane	75-27-4	5	µg/L		----	**10**	----	<5	----
Dibromochloromethane	124-48-1	5	µg/L		----	<5	----	<5	----
Bromoform	75-25-2	5	µg/L		----	<5	----	<5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	<1.0	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	<1.0	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	<1.0	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	<1.0	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	<1.0	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	<1.0	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	<1.0	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	<1.0	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	<1.0	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	<1.0	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	<1.0	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	<1.0	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	<1.0	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	<1.0	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	<1.0	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	<0.5	----	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	<0.5	----	<0.5	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	S-1	S-1	S-2	S-2	S-1
				Client sampling date / time	28-Jul-2020 09:45	28-Jul-2020 09:45	28-Jul-2020 09:25	28-Jul-2020 09:25	28-Jul-2020 09:45
Compound	CAS Number	LOR	Unit		ES2025861-001	ES2025861-002	ES2025861-003	ES2025861-004	ES2025861-005
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		----	<20	----	<20	----
C10 - C14 Fraction	----	50	µg/L		----	140	----	100	----
C15 - C28 Fraction	----	100	µg/L		----	960	----	610	----
C29 - C36 Fraction	----	50	µg/L		----	700	----	80	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	1800	----	790	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		----	<20	----	<20	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		----	<20	----	<20	----
>C10 - C16 Fraction	----	100	µg/L		----	210	----	180	----
>C16 - C34 Fraction	----	100	µg/L		----	1360	----	570	----
>C34 - C40 Fraction	----	100	µg/L		----	450	----	<100	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	2020	----	750	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	210	----	180	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		----	<1	----	<1	----
Toluene	108-88-3	2	µg/L		----	<2	----	<2	----
Ethylbenzene	100-41-4	2	µg/L		----	<2	----	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		----	<2	----	<2	----
ortho-Xylene	95-47-6	2	µg/L		----	<2	----	<2	----
^ Total Xylenes	----	2	µg/L		----	<2	----	<2	----
^ Sum of BTEX	----	1	µg/L		----	<1	----	<1	----
Naphthalene	91-20-3	5	µg/L		----	<5	----	<5	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		----	104	----	99.5	----
Toluene-D8	2037-26-5	5	%		----	121	----	124	----
4-Bromofluorobenzene	460-00-4	5	%		----	109	----	111	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	22.2	----	23.9	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	40.6	----	52.2	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	36.8	----	50.6	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	74.5	----	65.9	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	S-1	S-1	S-2	S-2	S-1
				Client sampling date / time	28-Jul-2020 09:45	28-Jul-2020 09:45	28-Jul-2020 09:25	28-Jul-2020 09:25	28-Jul-2020 09:45
Compound	CAS Number	LOR	Unit		ES2025861-001	ES2025861-002	ES2025861-003	ES2025861-004	ES2025861-005
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	1.0	%		----	**69.9**	----	**67.2**	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**70.7**	----	**66.0**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		----	**110**	----	**105**	----
Toluene-D8	2037-26-5	2	%		----	**114**	----	**117**	----
4-Bromofluorobenzene	460-00-4	2	%		----	**104**	----	**109**	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)				Client sample ID	**S-2**	----	----	----	----
				Client sampling date / time	28-Jul-2020 09:25	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**ES2025861-006**	--------	--------	--------	--------
					Result	----	----	----	----
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.35**	----	----	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**135**	----	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L		**5**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

TRAFFIC MANAGEMENT PLAN
FOR ENVIRO WASTE SERVICES GROUP PTY LTD
14-16 KIORA AVE, YENNORA

Prepared for: Enviro Waste Services Group Pty Ltd

Prepared by: Emma Hansma, Senior Engineer
Kate Barker, Environmental Scientist
R T Benbow, Principal Consultant

Report No: 191251_TMP_Rev2
February 2021
(Released: 11 February 2021)

Benbow ENVIRONMENTAL

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Attachments

Attachment 1: Swept Paths

1. INTRODUCTION

Benbow Environmental has been engaged by Enviro Waste Services Group Pty Ltd (Enviro Waste) to develop a Traffic Management Plan (TMP) for the increase in processing quantities at the liquid waste recycling facility located at 14-16 Kiora Crescent, Yennora NSW 2161.

A traffic and parking assessment has been undertaken and found that the proposed design of the development is acceptable in most aspects of its traffic design given the existing site constraints. 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.

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.

The expected peak truck demand is four per hour for the proposed development.

Trucks (empty) will be parked offsite at 27-49 Nelson Road, Yennora, a facility operated by CDM logistics.

1.1 SCOPE OF WORKS

The scope of this report is limited to the following:

- Summary of traffic generation;
- Traffic entrance and egress;
- Procedure for truck driver training;
- Procedure for scheduling/booking vehicles arrivals; and
- Procedure for traffic control officer receiving trucks on-site.

1.2 TRAFFIC GENERATION

The majority of truck movements would be within the 6am to 7pm timeframe. Grease trap trucks would typically access the site between 12am to 4am. 4 trucks per hour is peak vehicle movements. The following distribution would be typical of a standard 24 hour period which if distributed over the site's existing fleet would accommodate 110,000 tpa.

Table 1-1: Truck Distribution

Time	Incoming trucks per hour	Outgoing trucks per hour
1:00	0.25	0.25
2:00	0.25	0.25
3:00	0.25	0.25
4:00	0.5	0.25
5:00	0.5	0.25
6:00	1	0.25
7:00	1	0.25
8:00	2	0.25
9:00	2	0.5
10:00	2	0.5

Table 1-1: Truck Distribution

Time	Incoming trucks per hour	Outgoing trucks per hour
11:00	2	0.5
12:00	2	0.5
13:00	2	0.5
14:00	2	0.5
15:00	2	0.5
16:00	2	0.5
17:00	2	0.5
18:00	2	0.25
19:00	1	0.25
20:00	1	0.25
21:00	1	0.25
22:00	0.5	0.25
23:00	0.5	0.25
0:00	0.25	0.25
Total	30	8.25
		38

1.3 TRAFFIC IMPACT SIDRA SUMMARY

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 1-2 displays the SIDRA criteria for intersection operating performance.

Table 1-2: 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.

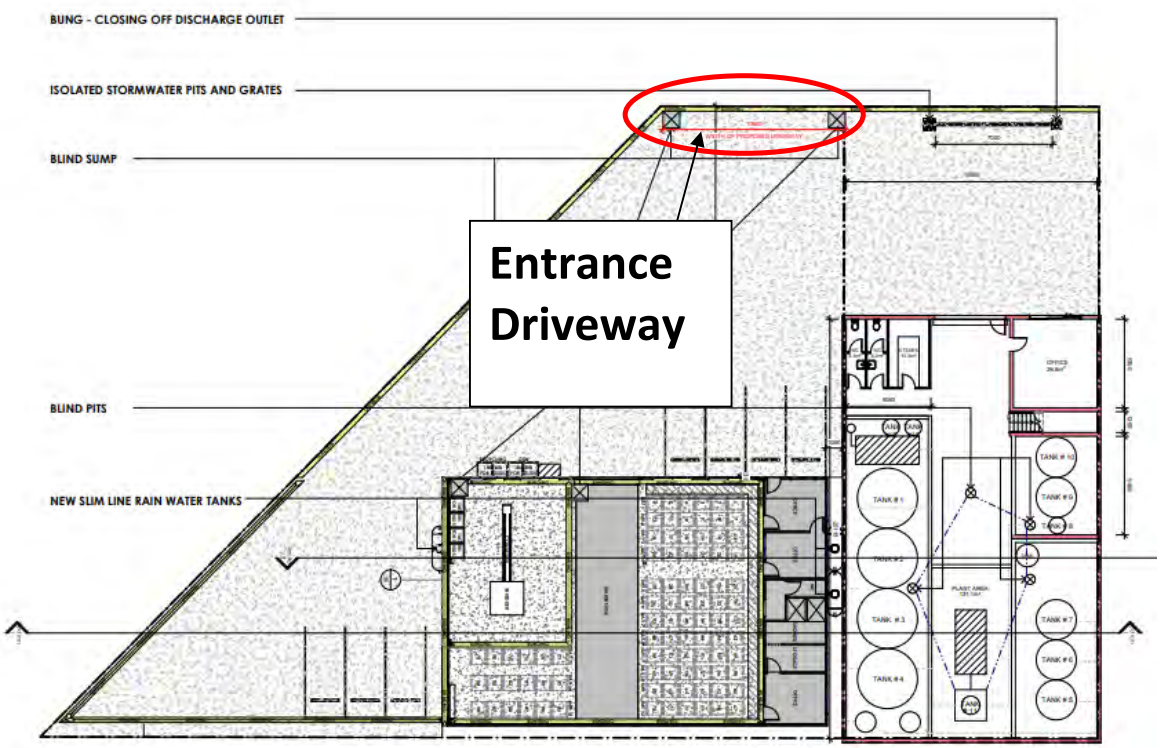
In summary, the proposed development will be a low trip generator for the weekday AM and PM peak hours. The additional trips from the proposed expansion to an existing liquid waste facility can be accommodated at the nearby intersections without significantly affecting intersection performance, delays or queues.

2. TRAFFIC ENTRANCE AND EGRESS PROCEDURE

2.1 DRIVEWAY ENTRANCE

All traffic is to enter in a forward direction via the driveway at 16 Kiora Crescent. The site entrance will be clearly sign-posted indicating that this is the only entrance for all vehicles to the site.

Figure 2-1: 16 Kiora Entrance Driveway



2.2 TANKER UNLOADING

After entering 16 Kiora, tankers are to reverse into the building at 14 Kiora in accordance with the swept paths shown in Attachment 1. Drivers must ensure all measures are taken to avoid encroaching on the nature strip. If the building is occupied by another truck, the tanker is to proceed to the truck waiting area in 16 Kiora (see section 2.4).

2.3 TRUCK LOADING

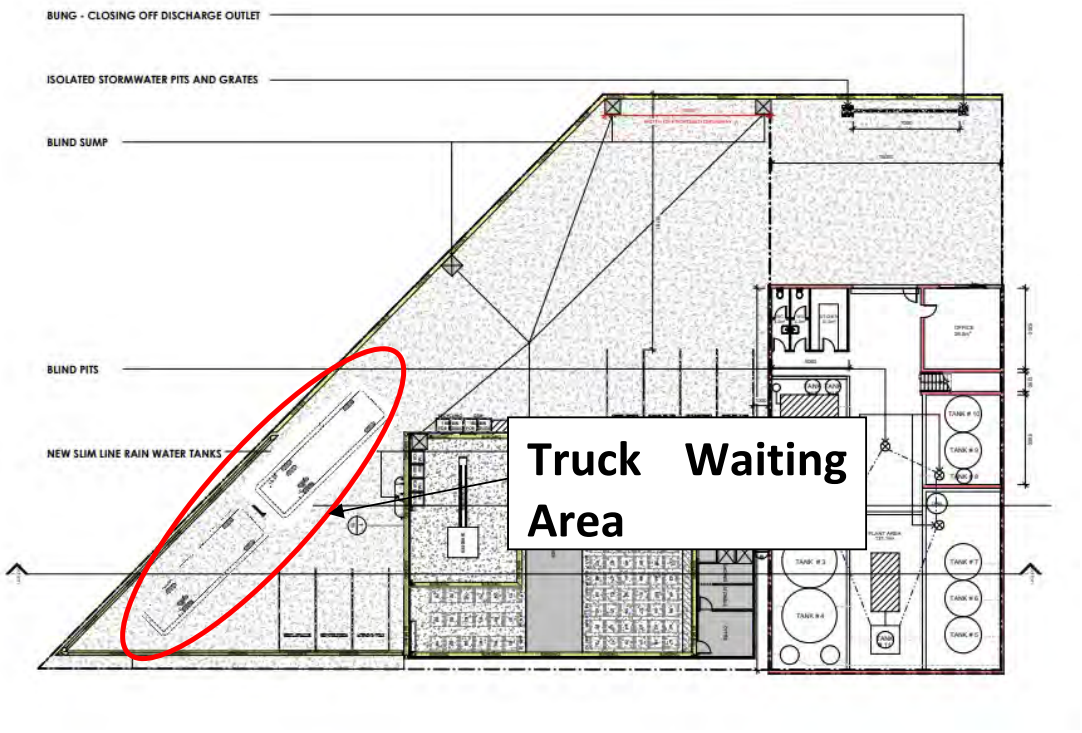
Empty trucks entering the site to pick up liquid waste will enter in a forward direction via 16 Kiora and reverse into the building at 14 Kiora in accordance with the swept paths shown in Attachment 1. Drivers must ensure all measures are taken to avoid encroaching on the nature strip. If the building is occupied by another truck, proceed to 27-49 Nelson Road, Yennora and await call to arrive by the Traffic Control Officer.

If the loading truck contains waste they are to proceed to the waiting area to await further instructions. (see section 2.4).

2.4 TRUCK WAITING/QUEUING

Trucks are not to queue on the street. The on-site truck waiting area is located at the rear of 16 Kiora Crescent as shown in the figure below. If required, this area is to be used for queuing. There is room for two trucks to queue in this area if needed.

Figure 2-2: Truck Waiting Area



2.5 PALLET TRUCK LOADING/UNLOADING

Pallet trucks delivering or picking up waste are to enter the site in a forward direction via the 16 Kiora driveway as per section 2.1. The pallet truck is to park for loading and unloading where it least obstructs current operations, this may be in the truck waiting area if empty, inside the building depending on the doorway clearance, or in the external area immediately infront of building at 16 Kiora.

2.6 TRUCK EGRESS

All trucks shall exit the site via the driveway in a forward direction from 14 Kiora Crescent. This driveway will be clearly sign-posted to indicate that no vehicles shall enter the site from this driveway.

3. TRUCK DRIVER TRAINING

All Enviro-Waste truck drivers are to undertake Kiora Crescent site-specific Truck Driver Training. This includes performing required tasks safely and competently as well as answering five "true or false" quiz questions correctly.

The following information is to be provided to truck drivers prior to completing the on site training:

- Copy of the swept path diagrams (Attachment 1) showing how trucks are to manoeuvre on site shall be provided to all truck drivers.
- All drivers must follow the directions given by the site's Traffic Control Officer.
- All trucks accessing the site must not queue on the street.
- Truck parking is provided at 27-49 Nelson Road, Yennora (entrance and exit via Kiora Crescent) for empty Enviro Waste owned trucks.
- All trucks requiring access to the site for loading or unloading must book in the load and access the site at the allocated time as per the truck scheduling procedure.
- All trucks approaching the site must call in over CB radio prior to entering the site.
- All vehicles must enter the site via 16 Kiora Crescent.
- When manoeuvring on site, trucks must take all precautions to avoid encroaching on the nature strip.

3.1 QUIZ QUESTIONS AND ANSWERS

Q: Trucks can wait for access to the site anywhere on the street of Kiora Crescent.
A: False

Q: Empty trucks must park at 27-49 Nelson Road, Yennora by accessing via the driveway on Kiora Crescent.
A: True

Q: Trucks can arrive at the site any time of the day without making a booking.
A: False

Q: Up to two trucks can wait in the truck waiting bay at 16 Kiora Crescent
A: True

Q: All truck drivers must follow instructions of the sites Traffic Control Officer.
A: True

The following checklist/form is provided which presents the necessary tasks required to be completed by all truck drivers.

KIORA CRESCENT TRUCK DRIVER TRAINING	FORM

This is to certify that _____ (name) has completed Kiora Crescent truck driver training and is competent in the following areas:

Training Completed:	**(Tick)**
• Safely manoeuvre truck into truck waiting area (Swept paths, Attachment 1).	☐
• Safely manoeuvre truck from the waiting area at 16 Kiora into the building at 14 Kiora Crescent.	☐
• Safely proceed to the truck parking area at 27-49 Nelson Road and park truck in allocated bay.	☐
• Driver is able to adequately follow instructions from Traffic Control Officer to proceed from truck parking area to the entrance at 16 Kiora Crescent, truck waiting area and truck loading/unloading area.	☐
• All quiz questions answered correctly.	☐

I verify that I understand the information provided herein as part of the truck driver training and agree to abide by the site's procedures.

Signed: .....

Name: .....

Date: .....

Confirmed by _____ (Name of person providing training)

Signed: .....

Date: .....

4. TRUCK SCHEDULING PROGRAM

Each vehicle takes approximately 5-20 minutes to unload depending on the quantity of the load.

It is expected that there will generally be 2 or less truck trips per hour, with a maximum of 4 trips per hour.

A truck waiting bay is located at the rear external area at 16 Kiora Crescent, Yennora which provides space for two trucks to queue if needed.

Empty truck parking is available at 27-49 Nelson Road, Yennora.

A 24-hour truck schedule is to be managed by admin, the traffic control officer(s) and communicated to the drivers. The truck schedule allows for three truck loads to be processed per hour at maximum. This must account for any incoming or outgoing loads. The schedule is to made available to regulatory authorities upon request.

Scheduled waste deliveries are to be assigned with an estimated turn around time. Turnaround time includes:

- Time to reach pick up site;
- Time to pick up load; and
- Time to return to home site.

This estimated turnaround time is then used to log an expected return time. The expected return time is scheduled. The following tables are provided as a guide to the schedule procedure. An actual return time is to be recorded to allow for a clear assessment of errors such that adjustments can be made and the scheduling system can be optimised.

Table 4-1: Truck Schedule Form 1

Date	Truck identifier	Pick up destination	Load type	Load quantity	Pick up time	Expected turn around	Scheduled return time	Actual return time

Date	Truck identifier	Pick up destination	Load type	Load quantity	Pick up time	Expected turn around	Scheduled return time	Actual return time

Table 4-2: Truck Schedule Form 2

Date	Time of Day	Truck scheduled for site entry
	00:00 AM	1.
	00:20 AM	2.
	00:40 AM	3.
	01:00 AM	1.
	01:20 AM	2.
	01:40 AM	3.
	02:00 AM	1.
	02:20 AM	2.
	02:40 AM	3.
	03:00 AM	1.
	03:20 AM	2.
	03:40 AM	3.
	04:00 AM	1.
	04:20 AM	2.
	04:40 AM	3.
	05:00 AM	1.
	05:20 AM	2.
	05:40 AM	3.
	06:00 AM	1.
	06:20 AM	2.
	06:40 AM	3.
	07:00 AM	1.
	07:20 AM	2.
	07:40 AM	3.
	08:00 AM	1.
	08:20 AM	2.
	08:40 AM	3.

Date	Time of Day	Truck scheduled for site entry
	09:00 AM	1.
	09:20 AM	2.
	09:40 AM	3.
	10:00 AM	1.
	10:20 AM	2.
	10:40 AM	3.
	11:00 AM	1.
	11:20 AM	2.
	11:40 AM	3.
	12:00 PM	1.
	12:20 PM	2.
	12:40 PM	3.
	01:00 PM	1.
	01:20 PM	2.
	01:40 PM	3.
	02:00 PM	1.
	02:20 PM	2.
	02:40 PM	3.
	03:00 PM	1.
	03:20 PM	2.
	03:40 PM	3.
	04:00 PM	1.
	04:20 PM	2.
	04:40 PM	3.
	05:00 PM	1.
	05:20 PM	2.
	05:40 PM	3.
	06:00 PM	1.
	06:20 PM	2.
	06:40 PM	3.

Date	Time of Day	Truck scheduled for site entry
	07:00 PM	1.
	07:20 PM	2.
	07:40 PM	3.
	08:00 PM	1.
	08:20 PM	2.
	08:40 PM	3.
	09:00 PM	1.
	09:20 PM	2.
	09:40 PM	3.
	10:00 PM	1.
	10:20 PM	2.
	10:40 PM	3.
	11:00 PM	1.
	11:20 PM	2.
	11:40 PM	3.
	00:00 AM	1.
	00:20 AM	2.
	00:40 AM	3.

5. TRAFFIC CONTROL OFFICER

The traffic control officer responsibilities are provided below:

- A nominated traffic control officer is to be present on site at all times during operation.
- The traffic control officer(s) is/are responsible for implementing the truck scheduling program.
- The traffic control officer(s) is/are responsible for directing vehicles to the waiting area and off-site parking.
- The traffic control officer(s) are to be allocated a working CB radio to undertake communications with truck drivers.
- The traffic control officer(s) is/are to ensure only empty vehicles park at the off-site parking location.
- The traffic control officer(s) is/are to ensure vehicles follow the procedures presented in the traffic management plan.
- The traffic control officer(s) is/are to ensure all Enviro Waste truck drivers are trained in follow the procedures presented in the traffic management plan.

This concludes the report.

Emma Hansma	Kate Barker	R T Benbow
Senior Engineer	Environmental Scientist	Principal Consultant

6. 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.

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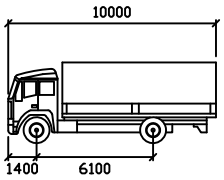
Any opinions and judgements expressed herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal advice.

ATTACHMENTS

Attachment 1: Swept Paths



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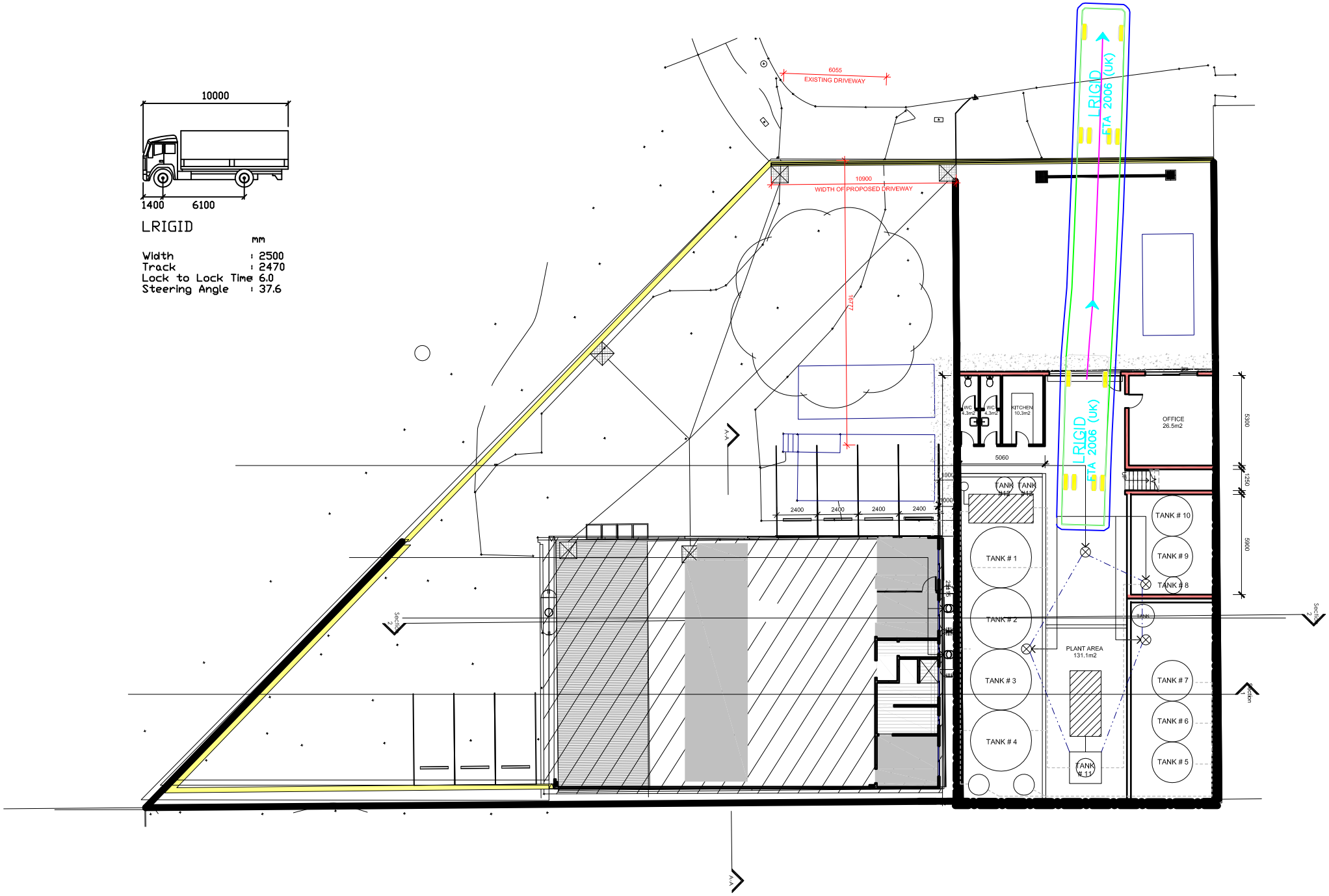
Steering Angle	: 37.6


10000
1400
6100
LRIGID
mm
Width : 2500
Track : 2470
Lock to Lock Time 6.0
Steering Angle : 37.6
6055
EXISTING DRIVEWAY
10900
WIDTH OF PROPOSED DRIVEWAY
16772
LRIGID
FTA 2006 (UK)
LRIGID
FTA 2006 (UK)
WC 4.3m2
WC 4.3m2
KITCHEN 10.3m2
OFFICE 26.5m2
5060
5300
1250
6900
2400
2400
2400
2400
TANK # 1
TANK # 2
TANK # 3
TANK # 4
TANK # 5
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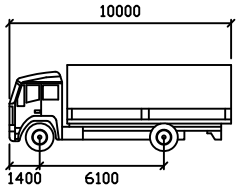
Section 1
Section 2
Section 3



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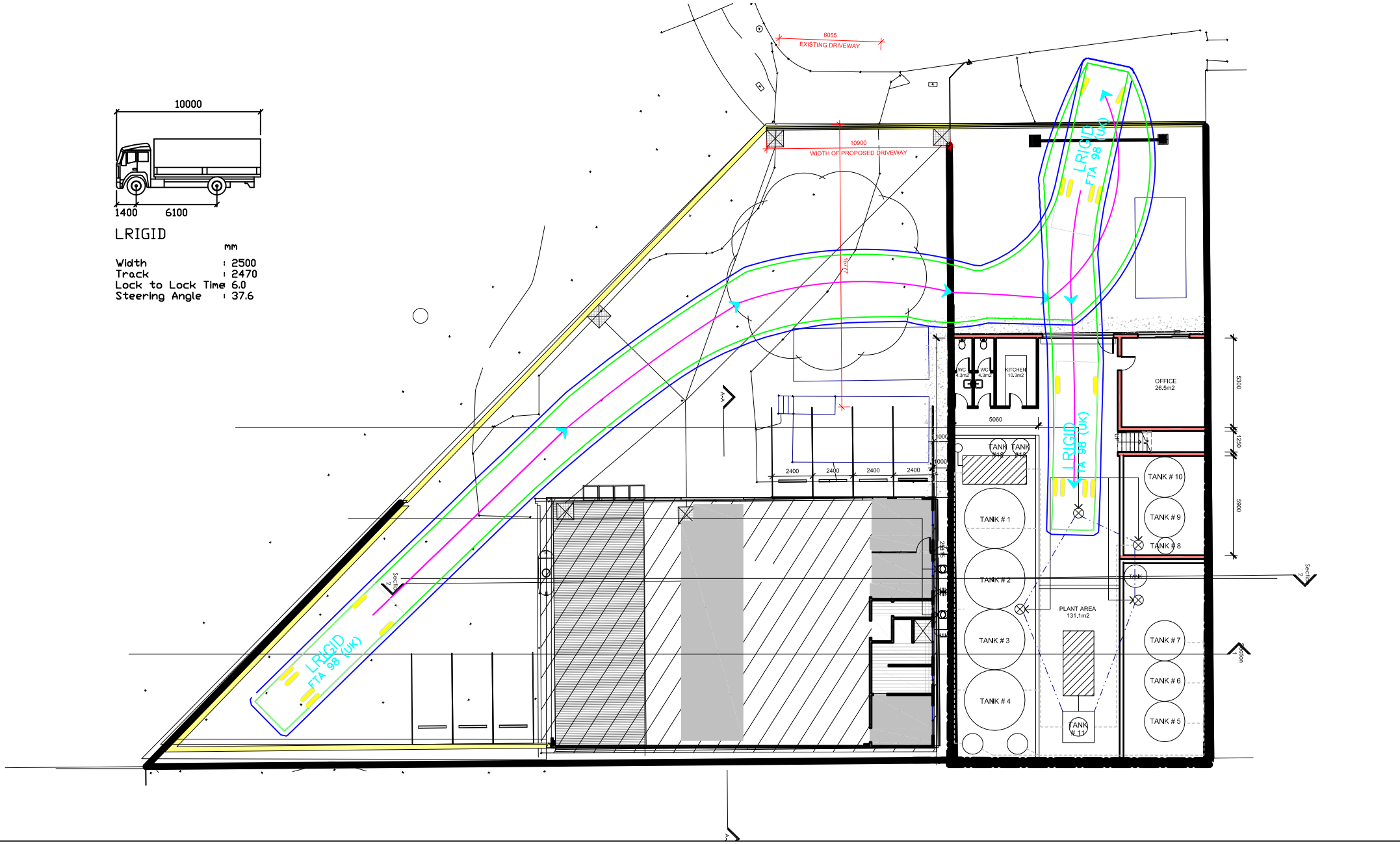
10000
1400
6100
LRIGID
mm
Width : 2500
Track : 2470
Lock to Lock Time 6.0
Steering Angle : 37.6
6055
EXISTING DRIVEWAY
10900
WIDTH OF PROPOSED DRIVEWAY
LRIGID
FTA 98 (UK)
WC 4.3m2
WC 4.3m2
KITCHEN 10.3m2
OFFICE 26.5m2
5060
TANK # 10
TANK # 9
TANK # 8
TANK # 1
TANK # 2
TANK # 3
TANK # 4
PLANT AREA 131.1m2
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TANK # 6
TANK # 5
TANK # 11
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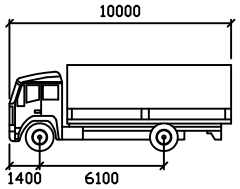
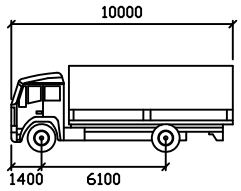
5300
1250
5900
Section



LRIGID

	mm
Width	: 2500
Track	: 2470
Lock to Lock Time	6.0
Steering Angle	: 37.6



LRIGID

	mm
Width	: 2500
Track	: 2470
Lock to Lock Time	6.0
Steering Angle	: 37.6

6055
EXISTING DRIVEWAY

10900
WIDTH OF PROPOSED DRIVEWAY

LRIGID
FTA 98 (UK)

WC
4.3m2

WC
4.3m2

KITCHEN
10.3m2

OFFICE
26.5m2

5060

2400
2400
2400
2400

TANK
#18

TANK
#18

TANK # 1

TANK # 2

TANK # 3

TANK # 4

TANK # 10

TANK # 9

TANK # 8

TANK

PLANT AREA
131.1m2

TANK # 7

TANK # 6

TANK # 5

TANK
11

5300

1250

5900

Section 2

Section 1

TRAFFIC AND PARKING IMPACT ASSESSMENT OF A PROPOSED EXPANSION OF A LIQUID WASTE PROCESSING BUSINESS

14-16 Kiora Crescent in Yennora

Traffic and Parking Impact Report

Prepared for: Enviro Waste Services Group

N1915887A (February 2021)

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ABN 69 981 485 197

1. INTRODUCTION

ML Traffic Engineers was commissioned by Enviro Waste Services Group to undertake a traffic and parking impact assessment of a proposed expansion of a liquid waste processing business at 14-16 Kiora Crescent in Yennora.

The vehicle access and egress to the car park is via Kiora Crescent. Kiora Crescent ends in cul-de-sac.

This traffic report focuses on the proposed expansion of a liquid waste processing business and changes in car usage and car park utilisation and additional trips from the proposed expansion of a liquid waste processing business.

In the course of preparing this assessment, the subject site and its environs have been inspected, plans of the development examined, and all relevant traffic and parking data collected and analysed.

2. BACKGROUND AND EXISTING CONDITIONS OF THE PROPOSED LOCATION

2.1 Location and Land Use

The proposed expansion of a liquid waste processing business is located to the North-West of Yennora Train Station and Yennora Public School respectively. Yennora Distribution Centre is located north of the site. The liquid waste processing business lies in the area which is primarily industrial. Residential buildings are primarily located north and west to the site.

Figure 1 shows the location of the liquid waste processing business from the aerial map perspective.

Figures 2a and 2b shows the location of the liquid waste processing business from the street map perspective and assessed intersections respectively.

Figures 3 and 4 show the existing site.



Figure 1: Location of the Subject Site on Aerial



Figure 2a: Street Map of the Location of the Liquid waste processing business and Assessed Intersections

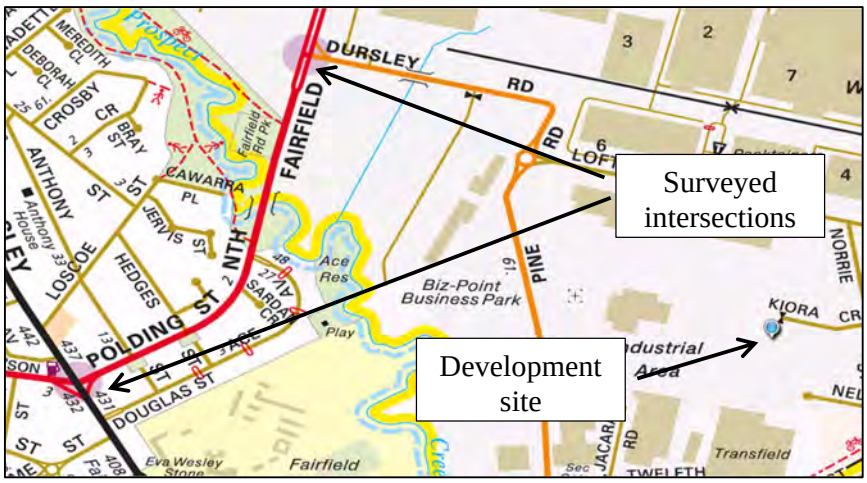

Figure 2b: surveyed signalised intersections in relation to development site



Figure 3: Liquid waste processing business (14 Kiora Crescent, Yennora)



Figure 4: Liquid waste processing business (16 Kiora Crescent, Yennora)

2.2 Road Network

This section describes the roads near the proposed expansion of a liquid waste processing business. The entrance to the liquid waste processing business is from Kiora Crescent.

Kiora Crescent is a local road with one lane each way. The default speed limit is 50km/hr. Unlimited on-street parking is permitted on both sides of the road. Kiora Crescent ends in cul de sac. Figure 4a shows the photograph of Kiora Crescent.

Norrie Street is a local road with one lane each way. The default speed limit is 50km/hr. Unlimited on-street parking is permitted on both sides of the road. Figure 4b shows the photograph of Norrie Street.

Loftus Road is a local road with one lane each way. The default speed limit is 50km/hr. Unlimited on-street parking is permitted on both sides of the road. Figure 4c shows the photograph of Loftus Road.

Dursley Road is a local road with one lane each way. The sign posted speed limit is 50km/hr. Unlimited on-street parking is permitted on both sides of the road except near the intersection of Dursley Road with Fairfield Road. Figure 4d shows the photograph of Dursley Road.

Fairfield Road is a local collector road with one lane each way. The sign posted speed limit is 60km/hr. On-street parking is not permitted on either side of the road. Figure 4e shows the photograph of Fairfield Road.

Polding Street is a local collector road with one lane each way. The sign posted speed limit is 60km/hr. On-street parking is not permitted on either side of the road. Figure 4f shows the photograph of Polding Street.

The Horsley Drive is a sub arterial road with two lane each way. The sign posted speed limit is 60km/hr. On-street parking is not permitted on either side of the road. School zone restrictions apply in the south east. Figure 4g shows the photograph of Polding Street.



Figure 4a: Kiora Crescent Facing East from liquid waste processing business



Figure 4b: Norrie Street facing North from Kiora Crescent



Figure 4c: Loftus Road facing West



Figure 4d: Dursley Road facing East



Figure 4e: Fairfield Road facing North



Figure 4f: Polding Street facing North East



Figure 4g: The Horsley Drive facing North West

2.3 Public Parking Opportunities

The liquid waste processing business is located in an industrial zone. On-street parking is available on both sides of Kiora Crescent and Norrie Street.

Site visits show that there are vacant car spaces on Kiora Crescent and Norrie Street.

2.4 Intersection Description

As part of this traffic impact assessment the following intersections are assessed:

- 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
- Signalised intersection of The Horsley Drive with Polding Street

External traffic travelling to and from the site will most likely need to travel through the above intersections.

The priority intersection of Norrie Street with Kiora Crescent is a three-leg intersection with all turn movements permitted. Traffic on Kiora Crescent must give way to traffic on Norrie Street. Figure 5a shows a layout of the intersection using SIDRA (8) – an industry standard intersection assessment software.

The priority intersection of Loftus Road with Norrie Street is a three-leg intersection with all turn movements permitted. Traffic on Norrie Street must give way to traffic on Loftus Road. Figure 5b shows a layout of the intersection using SIDRA.

The priority intersection of Loftus Road with Yennora Avenue is a three-leg intersection with all turn movements permitted. Traffic on Yennora Avenue must give way to traffic on Loftus Road. Figure 5c shows a layout of the intersection using SIDRA.

The signalised intersection of Fairfield Road with Dursley Road is a three-leg intersection. All turn movements are permitted. Pedestrian crossings are provided on all approaches. Figure 5d presents the layout of the intersection using SIDRA.

The signalised intersection of The Horsley Drive with Polding Street is a four-leg intersection. All turn movements are permitted except right turn movement from north east approach of Polding Street into The Horsley Drive. Pedestrian crossings are provided on all approaches except south east approach. Figure 5e presents the layout of the intersection using SIDRA.

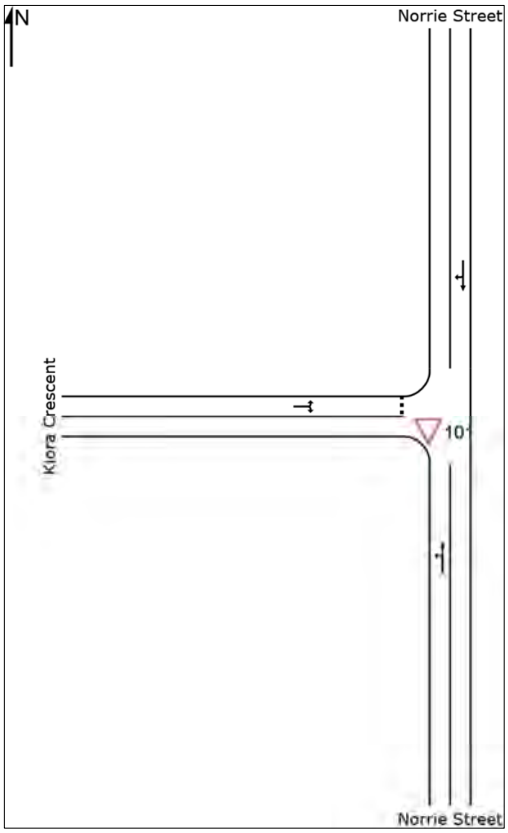

Figure 5a: Priority Intersection of Norrie Street with Kiora Crescent (SIDRA)

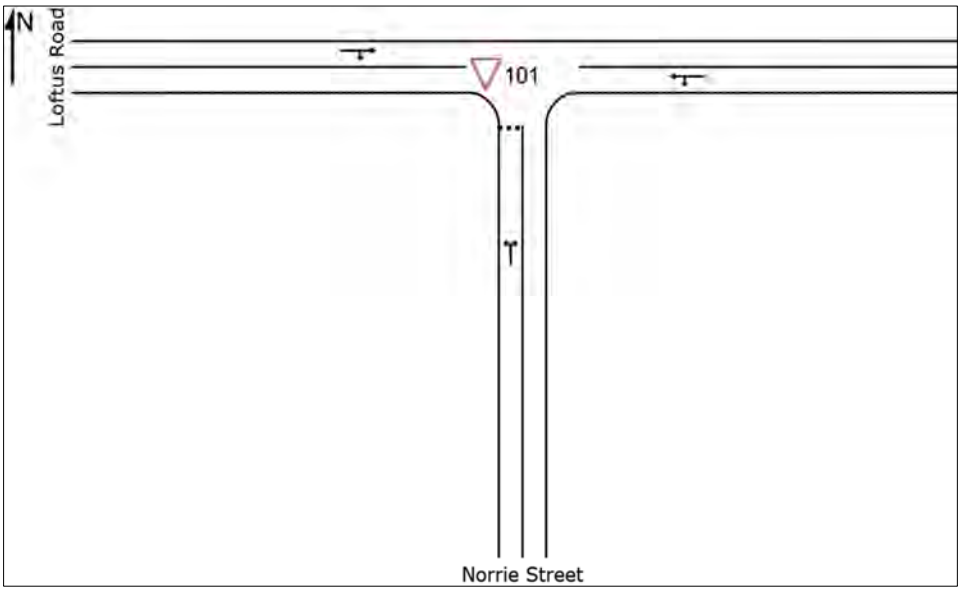

Figure 5b: Priority Intersection of Loftus Road with Norrie Street (SIDRA)

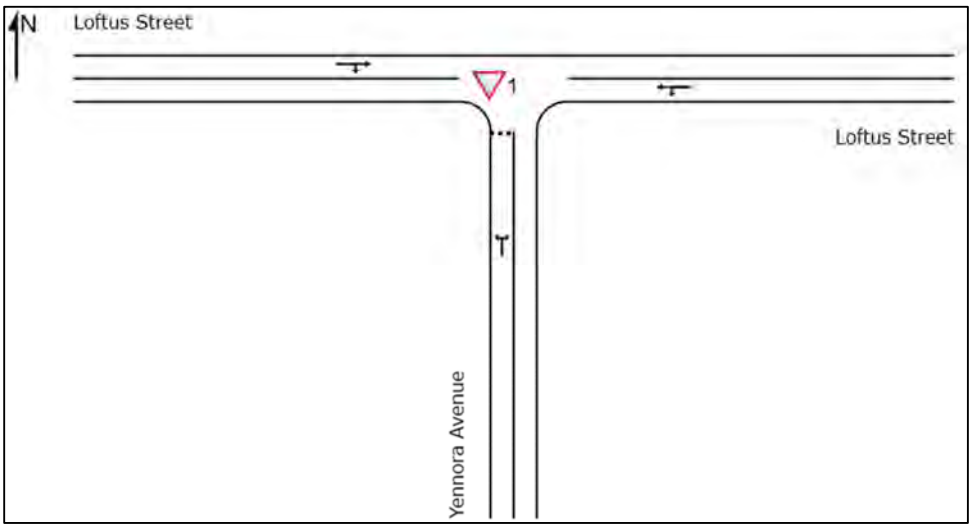

Figure 5c: Priority Intersection of Loftus Road with Norrie Street (SIDRA)

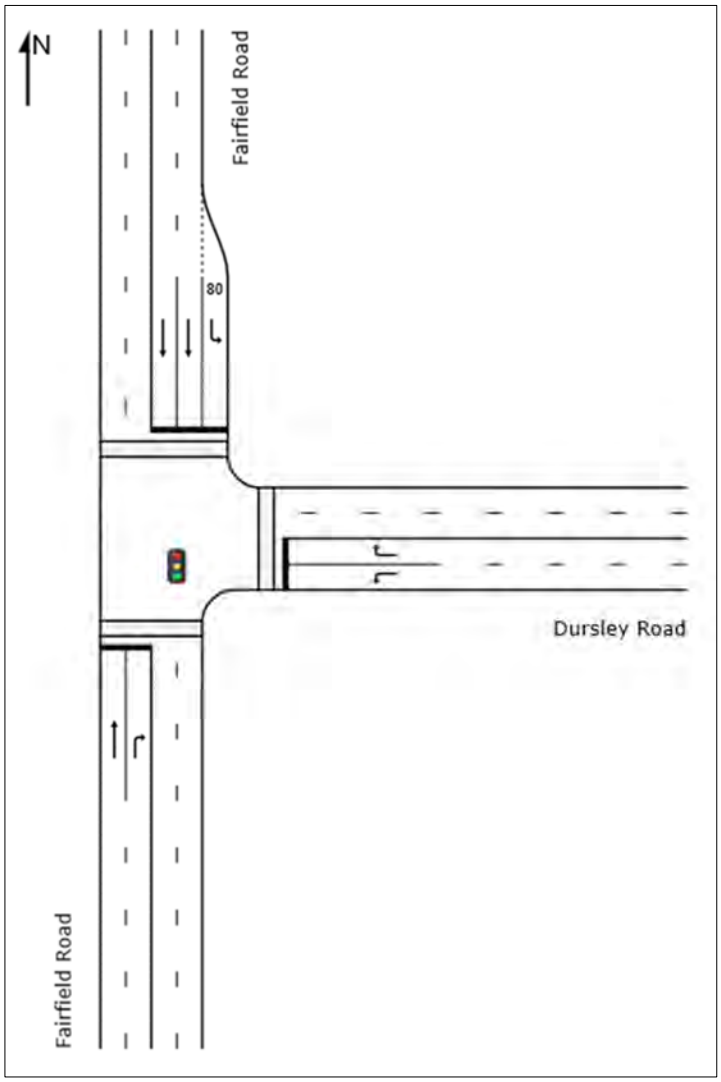

Figure 5d: Signalised Intersection of Fairfield Road with Dursley Road (SIDRA)

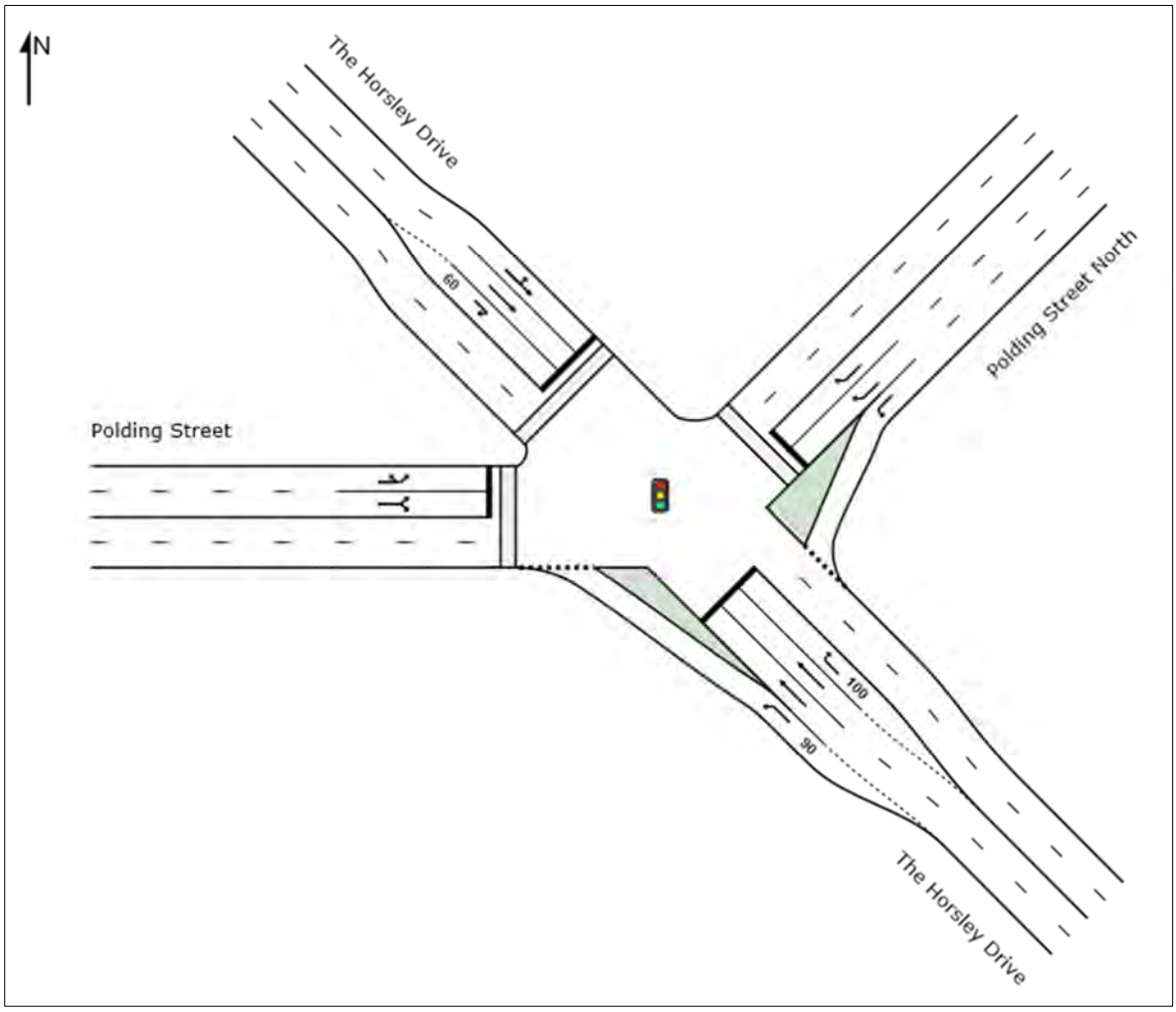

Figure 5e: Signalised Intersection of The Horsley Drive with Polding Street (SIDRA)

2.5 Existing Traffic Volumes

As part of the traffic assessment, traffic counts have been undertaken at the intersection for the weekday AM and PM peak hour periods on 4th February 2020 and 1st July 2020. The peak hours are 8:00am to 9:00am and 5:00pm to 6:00pm for the weekday AM and PM peak hours respectively.

Figures 6a and 6b presents in vehicle numbers the existing weekday AM and PM peak hour traffic volumes respectively.

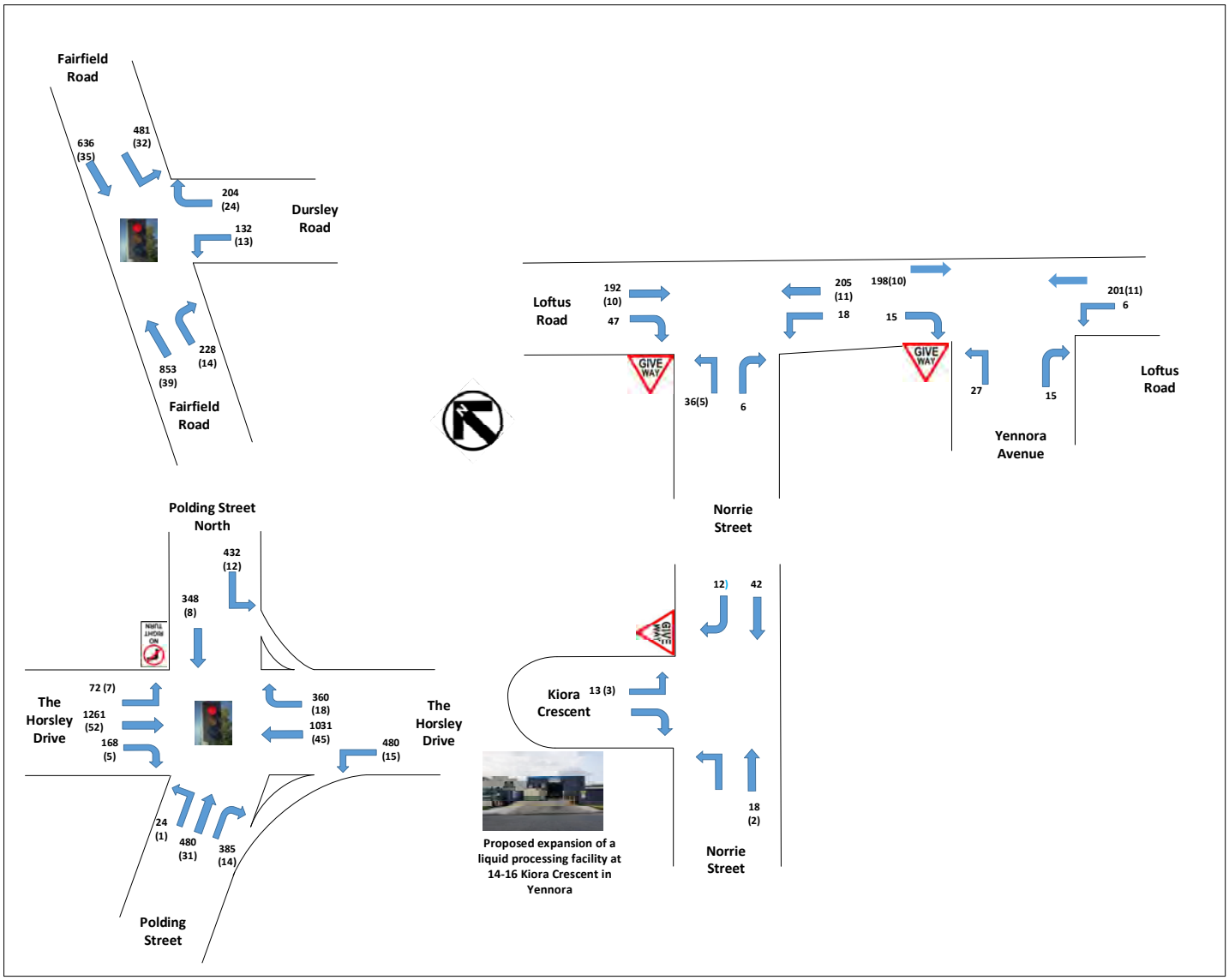

Figure 6a: Existing Weekday Traffic Volumes AM Peak Hour

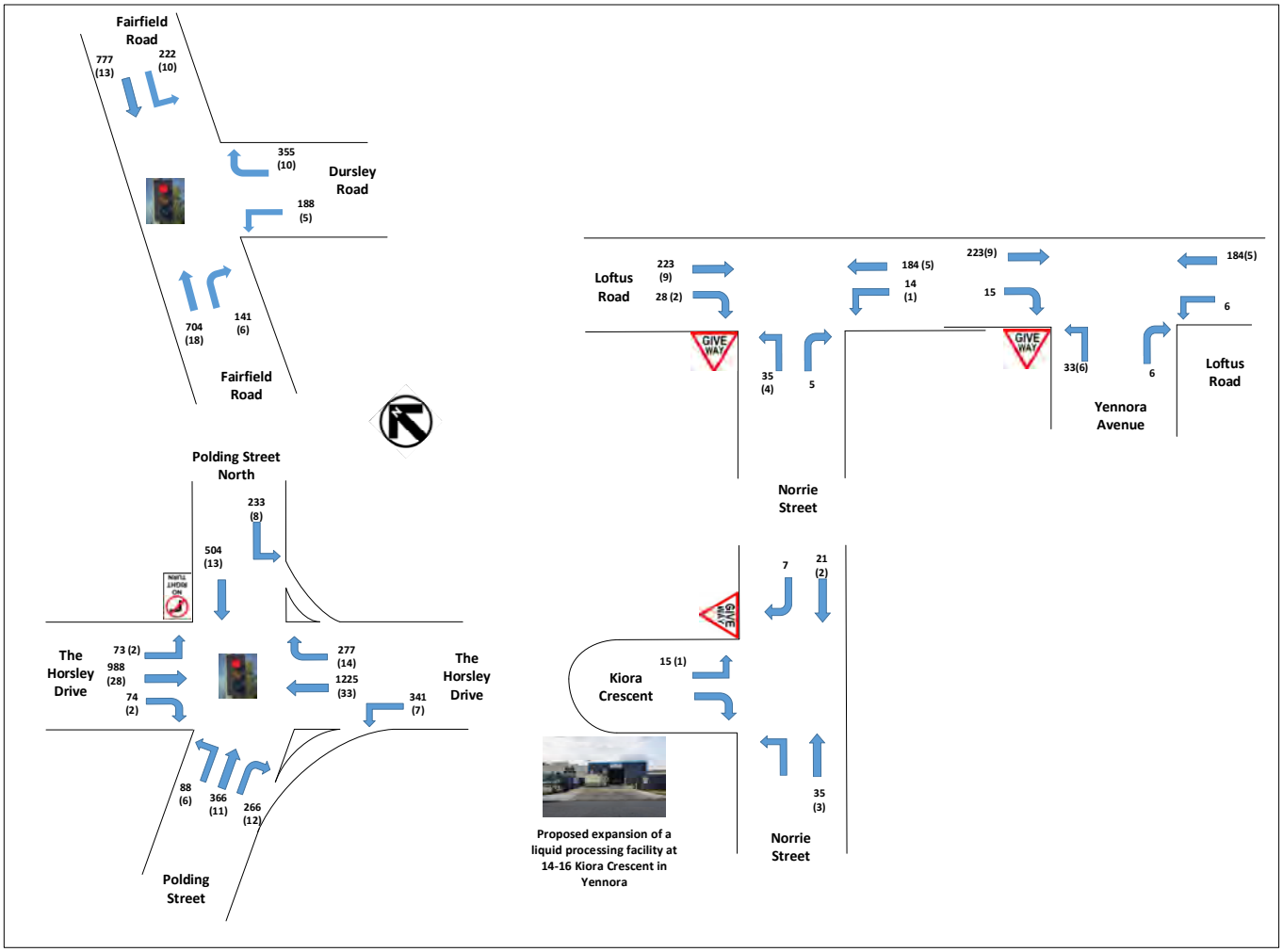

Figure7: Existing Weekday Traffic Volumes PM Peak Hour

2.6 Intersection Assessment

An intersection assessment has been undertaken for:

- 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
- Signalised intersection of The Horsley Drive with Polding Street

The existing intersection operating performance was assessed using the SIDRA software package (version 9) to determine the Degree of Saturation (DS), Average Delay (AVD in seconds) and Level of Service (LoS) at each intersection. The SIDRA program provides Level of Service Criteria Tables for various intersection types. The key indicator of intersection performance is Level of Service, where results are placed on a continuum from 'A' to 'F', as shown in Table 1.

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

Table 1: Intersection Level of Service

The Average Vehicle Delay (AVD) provides a measure of the operational performance of an intersection as indicated below, which relates AVD to LOS. The AVD's should be taken as a guide only as longer delays could be tolerated in some locations (i.e. inner-city conditions) and on some roads (i.e. minor side street intersecting with a major arterial route). For traffic signals, the average delay over all movements should be taken. For roundabouts and priority control intersections (sign control) the critical movement for level of service assessment should be that movement with the highest average delay.

LoS	Average Delay per Vehicles (seconds/vehicle)
A	Less than 14
B	15 to 28
C	29 to 42
D	43 to 56
E	57 to 70
F	>70

Table 2: Intersection Average Delay (AVD)

The degree of saturation (DS) is another measure of the operational performance of individual intersections. For intersections controlled by traffic signals both queue length and delay increase rapidly as DS approaches 1. It is usual to attempt to keep DS to less than 0.9. Degrees of Saturation in the order of 0.7 generally represent satisfactory intersection operation. When DS exceed 0.9 queues can be anticipated.

The result of the intersection analysis is as follows:

Priority Intersection of Norrie Street with Kiora Crescent

- The turn movements have a LoS A for the AM and PM peak hours
- There is a spare capacity at this intersection

Priority Intersection of Loftus Road with Norrie Street

- The turn movements have a LoS A or B for the AM and PM peak hours
- There is spare capacity at this intersection.

Priority Intersection of Loftus Road with Yennora Avenue

- The turn movements have a LoS A for the AM and PM peak hours
- There is spare capacity at this intersection.

Signalised Intersection of Fairfield Road with Dursley Road

- Overall intersection has a LoS C and B for AM and PM peak hours respectively
- There is spare capacity at this intersection

Signalised Intersection of The Horsley Drive with Polding Street

- Overall intersection has a LoS D and C for the AM and PM peak hours respectively
- There is spare capacity at this intersection

The full Sidra results are presented in Appendix A.

2.7 Public Transport

The nearest bus stop to the liquid waste processing business is 550 metres away on Railway Street. This stop is serviced by Bus Route N60. This public transport service provides access to a range of suburbs including Fairfield, Merrylands, Parramatta, Lidcombe, Strathfield and City.

Yennora Train Station is within 500 metres from the liquid waste processing business. Yennora Train Station is frequently serviced by Sydney Trains T2 Inner West & Leppington and T5 Cumberland line services during both AM and PM peak hours.

Figure 11 shows the public transport network map.

Overall, the site has excellent access to public transport.



Figure 11: Public Transport Network Map

2.8 Conclusions on the Existing Conditions

The proposed expansion of a liquid waste processing business is in an area where there are vacant car spaces on Kiora Crescent and Norrie Street.

The nearby intersection performs well to accommodate additional traffic of the liquid waste processing business.

The local area is serviced by both train and bus.

3. PROPOSED EXPANSION OF A LIQUID PROCESSING FACILITY

The details of the proposed expansion of a liquid processing facility are as follows:

Infrastructure

A total of 3 existing car parking spaces are provided at the rear 16 Kiora Crescent. There are 7 car spaces proposed. The remaining external hardstand area is proposed to be unoccupied to allow for greater vehicle manoeuvrability.

The parking is provided on the ground floor level.

The site has frontage to Kiora Crescent. The vehicle access and egress to the car park area is from Kiora Crescent.

Truck entrance is via the existing driveway 16 Kiora Crescent and the exit is via the driveway on 14 Kiora Crescent.

A truck queuing area is provided on the south west area of 16 Kiora Crescent within a bunded hardstand area. This area allows for up to two 10m trucks to queue at any one time.

Operational

Currently the liquid processing facility processes 900 tonnes of liquid waste per annum.

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 liquid processing facility is proposed to operate 24 hours seven days a week.

Currently a truck arrives and departs per hour (typically). The number of staff will increase by three resulting in a total of 5 staff. The truck sizes are rigid trucks up to 10 metres.

Staff arrivals and departures are outside of the weekday peak hours.

A full scaled plan of the proposed expansion of a liquid processing facility is provided as part of the Development Application.

4. CAR AND TRUCK PARKING CONSIDERATIONS

4.1 Holroyd Council Development Control Plan 2013

The car parking requirements for the proposed expansion of a liquid processing facility is presented in the *Holroyd Council Development Control Plan August 2013* with the parking rates as follows as it applies to this development:

Factory

- 1 car parking space per 70m^2 of GFA

Office Units (ancillary)

- 1 car parking space per 40m^2 of GFA

Table 3 summarises the car parking requirements of the proposed development.

Use	Number	GFAm2	Parking Rate	Required Car Spaces	Provided Car Spaces
Factory	14 Kiora	324	0.014	4.6	7
Office		106	0.025	2.7	
Factory	16 Kiora	318	0.014	4.5	
Office		78	0.025	2	
Total				13.8=14	

Table 3: Summary of Car Parking Requirements

The proposed Liquid processing facility is provided 7 car spaces versus 14 car spaces required by Council's requirement.

The liquid processing facility is an uncommon (or unique) use. A number of measures including the removal of the demountable offices has been undertaken to improve the car parking situation. No changes to the building footprint are proposed. The site has never been capable of accommodating 14 carparks. Furthermore, the facility would employ a total of 5 personnel. Therefore seven (7) car parking spaces is more than adequate for the proposed use. Visitors arriving by car is a rare event. Business is generated by staff visiting the customers premises, discussions over the phone, and email etc.

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

5. VEHICLE TRAFFIC IMPACT CONSIDERATIONS

5.1 Truck Traffic Generation

The NSW RTA Guide to Traffic Generating Development Documents does not publish truck trip generation rates for liquid processing facilities premises.

Traffic generation for the proposed development has been determined based on the annual tonnage of 110,000,000 litres per year and operation of the site 7 days per week. Material would be transported in trucks ranging from 2000 to 15,000 litres in size. Using the truck register provided by the proponent (4x15,000L tankers, 1x6,000L tanker, 1x3,000L tanker, 1x2,000L tanker, the average truck capacity is 10,000L.

For outgoing waste, 80,000 tonnes per year will be discharged as tradewaste with the remaining 30,000 tonnes per year being removed offsite by trucks.

The following calculations are provided:

10,000 litres trucks capacity

Average loads and truck movements using 10,000L trucks for all loads.

Incoming Materials:	110,000,000/10000=	11000	Trucks p/a
Outgoing Materials:	30,000,000/10000=	3,000	Trucks p/a
Totals		**14,000**	**Trucks p/a**

Average annual truck trips

Using 10,000 litres trucks	14,000 trucks per year / 365 =	38 trucks per day

Based on the use of 10,000 litres trucks, the number of truck movements expected would be 38 truck trips over a 24-hour period which equates to 1.6 trucks per hour. Based on consultation with the proponent the site will most likely have 2 arrivals and 1 departure truck for the AM peak hour and 1 arrival and 2 departure truck for PM peak hour.

5.2 Car Traffic Generation

The NSW RTA Guide to Traffic Generating Development 2002 publishes car trip generation rates for warehouse and office as follows:

warehouse

- 0.5 trips per 100m^2 gross floor area for AM peak hour
  - It is assumed that generated trips for PM peak hour is as same as AM peak hour

Office

- 2 trips per 100 m^2 of Gross Floor Area in the PM peak hours
  - It is assumed that generated trips for AM peak hour is as same as PM peak hour

Table 4 summarises the trip generations for the respective land uses during the peak hours.

14 Kiora				
Peak Hour	**Use**	**GFA(m^2)**	**Trip Generation Rate per 100m2**	**Trips Generated**
AM	Warehouse Unit	324	0.5	1.62
PM			0.5	1.62
AM	Office Unit	106	2	2.12
PM			2	2.12
AM	Total trip Generation			3.74
PM				3.74

16 Kiora				
Peak Hour	**Use**	**GFA(m^2)**	**Trip Generation Rate per 100m2**	**Trips Generated**
AM	Warehouse Unit	318	0.5	1.59
PM			0.5	1.59
AM	Office Unit	78	2	1.56
PM			2	1.56
AM	Total trip Generation			3.15
PM				3.15

Table 4: Trip Generations in the Weekday Peak Hours

The total car trips can be obtained as the sum of the 14 and 16 Kiora Crescent. Table 5 presents the net trip generations and distributions. The generated trips in the peak hours are modest.

Peak Hour	**Origin**	**Destination**	**Total**
AM	0	7	6.9
PM	7	0	6.9

Table 5: Net Trip Generations and Distributions in the Weekday Peak Hours

5.3 Traffic Volumes

The additional development trips are assigned onto the local traffic network. The following figures present the existing with the development trips (in red for origin and blue for destination trips) for the respective peak hours.

The additional development trips represent a low proportion of the existing traffic volumes.

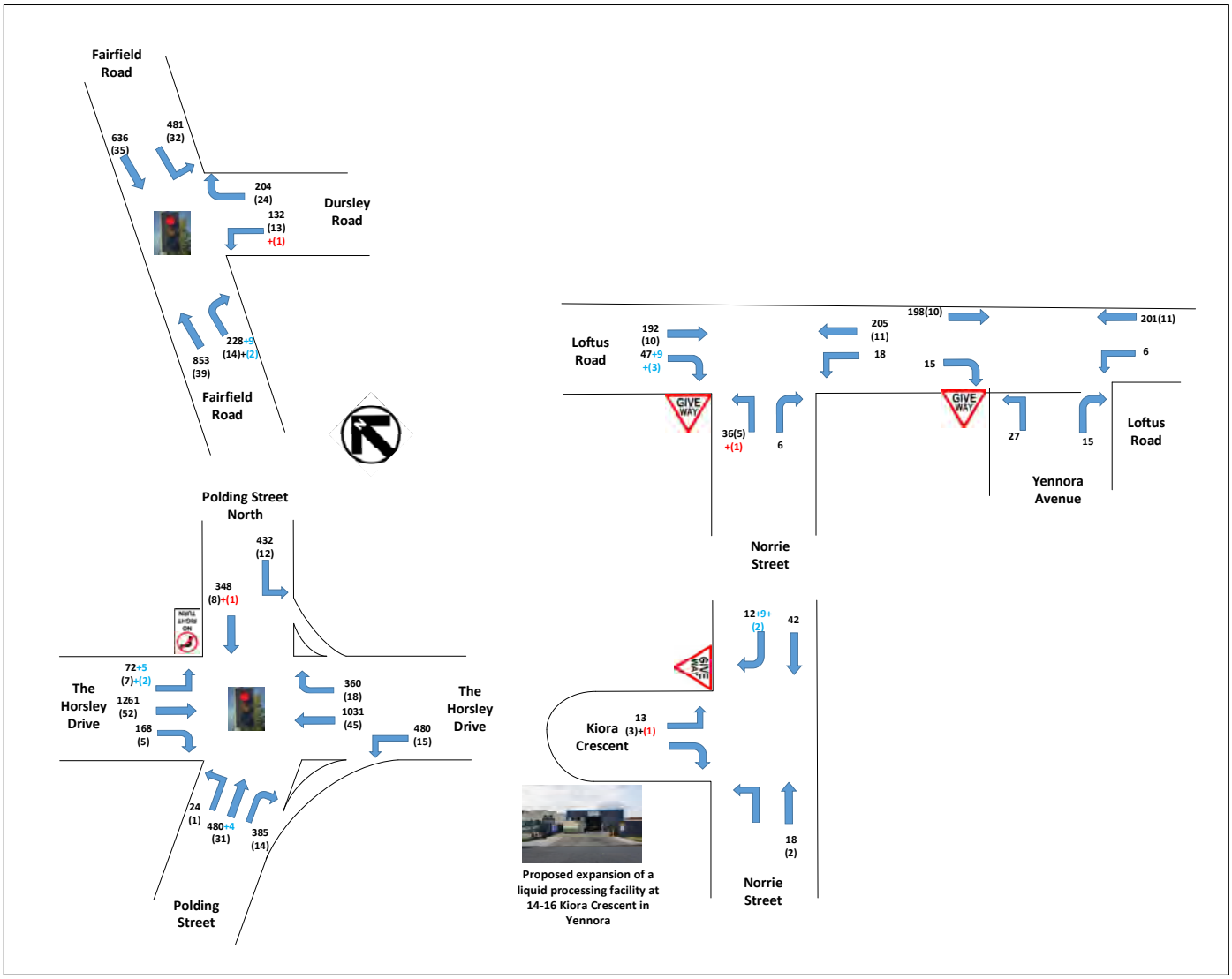

Figure 12: Weekday AM Peak Hour Traffic Volumes with Proposed Expansion Traffic

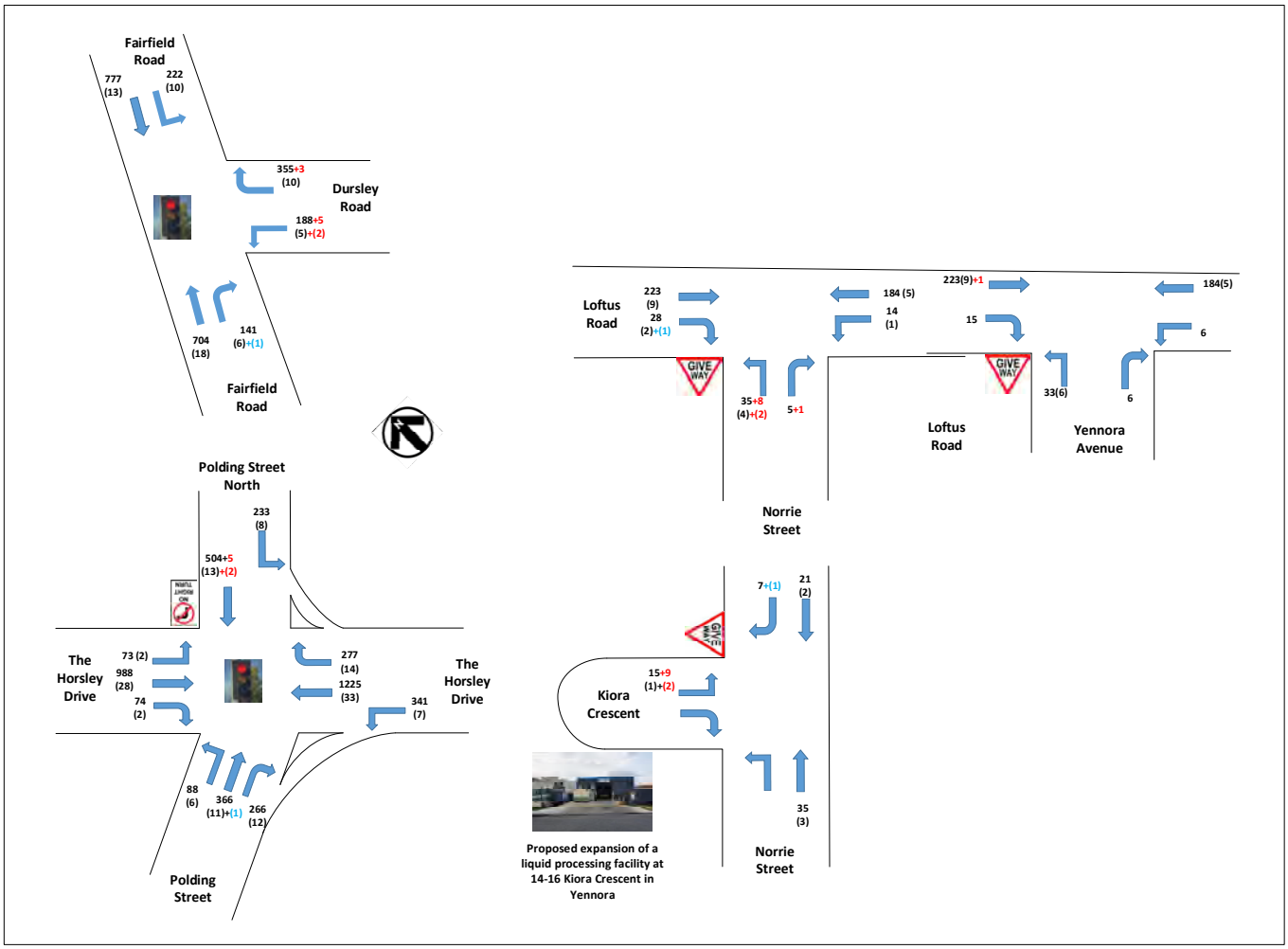

Figure 13: Weekday PM Peak Hour Traffic Volumes with Proposed Expansion Traffic

5.4 Intersection Assessment

An intersection assessment has been undertaken for the surveyed intersection.

The results of the intersection analysis are as follows:

Priority Intersection of Norrie Street with Kiora Crescent

- All turn movements have a LoS A for both the AM and PM peak hours
- The additional trips do not change the LoS for any turn movement or the overall intersection.

Priority Intersection of Loftus Road with Norrie Street

- All turn movements have a LoS A for both AM and PM peak hours
- The additional trips do not change the LoS for any turn movement or the overall intersection.

Priority Intersection of Loftus Road with Yennora Avenue

- All turn movements have a LoS A for AM and PM peak hours
- The additional trips do not change the LoS for any turn movement or the overall intersection.

Signalised intersection of Fairfield Road with Dursley Road

- The overall intersection has a LoS C and B for the AM and PM peak hours respectively
- The additional trips do not change the LoS for any turn movement or the overall intersection.

Signalised intersection of The Horsley Drive with Polding Street

- The overall intersection has a LoS 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.

The full SIDRA results with the development traffic are presented in Appendix B.

6. CONCLUSIONS

Based on the considerations presented in this report, it is considered that:

Parking

- The proposed expansion of the liquid processing facility provides sufficient car spaces on site for staff and visitor parking.

Traffic

- 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.
- There are no traffic engineering reasons why a development consent for the proposed expansion of a liquid processing facility at 14-16 Kiora Crescent Yennora should be refused.

APPENDIX A

SIDRA Intersection Results for Existing Traffic Conditions

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Norrie Street														
1	L2	1	0	1	0.0	0.012	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	49.3
2	T1	20	2	21	10.0	0.012	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	49.8
Approach		21	2	22	9.5	0.012	0.2	NA	0.0	0.0	0.00	0.03	0.00	49.8
North: Norrie Street														
8	T1	42	0	44	0.0	0.030	0.0	LOS A	0.1	0.5	0.04	0.12	0.04	49.2
9	R2	12	0	13	0.0	0.030	4.6	LOS A	0.1	0.5	0.04	0.12	0.04	48.3
Approach		54	0	57	0.0	0.030	1.0	NA	0.1	0.5	0.04	0.12	0.04	49.0
West: Kiora Crescent														
10	L2	16	3	17	18.8	0.012	4.8	LOS A	0.0	0.4	0.08	0.50	0.08	46.2
12	R2	1	0	1	0.0	0.012	4.8	LOS A	0.0	0.4	0.08	0.50	0.08	46.0
Approach		17	3	18	17.6	0.012	4.8	LOS A	0.0	0.4	0.08	0.50	0.08	46.2
All Vehicles		92	5	97	5.4	0.030	1.5	NA	0.1	0.5	0.04	0.17	0.04	48.6

Table A1: Weekday Priority Intersection Performance of Norrie Street with Kiora Crescent AM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Norrie Street														
1	L2	41	5	43	12.2	0.043	5.5	LOS A	0.2	1.2	0.32	0.55	0.32	45.7
3	R2	6	0	6	0.0	0.043	6.7	LOS A	0.2	1.2	0.32	0.55	0.32	45.5
Approach		47	5	49	10.6	0.043	5.6	LOS A	0.2	1.2	0.32	0.55	0.32	45.7
East: Loftus Road														
4	L2	18	0	19	0.0	0.131	4.6	LOS A	0.0	0.0	0.00	0.04	0.00	49.2
5	T1	216	11	227	5.1	0.131	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		234	11	246	4.7	0.131	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
West: Loftus Road														
11	T1	202	10	213	5.0	0.148	0.3	LOS A	0.4	2.7	0.16	0.11	0.16	49.0
12	R2	47	0	49	0.0	0.148	5.5	LOS A	0.4	2.7	0.16	0.11	0.16	48.0
Approach		249	10	262	4.0	0.148	1.3	NA	0.4	2.7	0.16	0.11	0.16	48.8
All Vehicles		530	26	558	4.9	0.148	1.3	NA	0.4	2.7	0.10	0.12	0.10	48.9

Table A2: Weekday Priority Intersection Performance of Loftus Street with Norrie Street AM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Yennora Avenue														
1	L2	27	0	28	0.0	0.040	5.3	LOS A	0.1	1.0	0.33	0.57	0.33	45.9
3	R2	15	0	16	0.0	0.040	6.5	LOS A	0.1	1.0	0.33	0.57	0.33	45.5
Approach		42	0	44	0.0	0.040	5.7	LOS A	0.1	1.0	0.33	0.57	0.33	45.7
East: Loftus Street														
4	L2	6	0	6	0.0	0.122	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	49.4
5	T1	212	11	223	5.2	0.122	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.9
Approach		218	11	229	5.0	0.122	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
West: Loftus Street														
11	T1	208	10	219	4.8	0.127	0.1	LOS A	0.1	0.9	0.06	0.04	0.06	49.6
12	R2	15	0	16	0.0	0.127	5.4	LOS A	0.1	0.9	0.06	0.04	0.06	48.7
Approach		223	10	235	4.5	0.127	0.4	NA	0.1	0.9	0.06	0.04	0.06	49.6
All Vehicles		483	21	508	4.3	0.127	0.8	NA	0.1	1.0	0.05	0.07	0.05	49.3

Table A3: Weekday Priority Intersection Performance of Loftus Street with Yennora Avenue AM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairfield Road														
11	T1	891	39	938	4.4	* 0.938	47.5	LOS D	61.1	443.9	1.00	1.11	1.23	33.7
12	R2	242	14	255	5.8	0.683	50.1	LOS D	13.0	95.4	0.98	0.84	1.00	32.3
Approach		1133	53	1193	4.7	0.938	48.1	LOS D	61.1	443.9	1.00	1.05	1.18	33.4
East: Dursley Road														
1	L2	145	13	153	9.0	0.240	30.8	LOS C	5.7	42.9	0.74	0.75	0.74	34.9
3	R2	228	24	240	10.5	0.382	32.4	LOS C	9.5	72.6	0.79	0.78	0.79	34.5
Approach		373	37	393	9.9	0.382	31.8	LOS C	9.5	72.6	0.77	0.76	0.77	34.6
North: Fairfield Road														
4	L2	513	32	540	6.2	* 0.682	19.3	LOS B	13.7	101.0	0.85	0.83	0.85	44.5
5	T1	671	35	706	5.2	0.710	40.3	LOS C	17.5	127.8	0.97	0.84	0.98	36.1
Approach		1184	67	1246	5.7	0.710	31.2	LOS C	17.5	127.8	0.92	0.84	0.92	39.3
All Vehicles		2690	157	2832	5.8	0.938	38.4	LOS C	61.1	443.9	0.93	0.92	1.01	36.0

Table A4: Weekday Signalised Intersection Performance of Fairfield Road with Dursley Road AM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: The Horsley Drive														
21a	L1	495	15	521	3.0	0.393	8.9	LOS A	9.1	65.4	0.42	0.70	0.42	48.5
22	T1	1076	45	1133	4.2	0.759	29.8	LOS C	29.2	211.6	0.89	0.80	0.90	40.4
23	R2	378	18	398	4.8	* 0.963	81.1	LOS F	28.4	206.7	1.00	1.08	1.51	25.1
Approach		1949	78	2052	4.0	0.963	34.4	LOS C	29.2	211.6	0.79	0.83	0.90	37.1
NorthEast: Polding Street North														
24	L2	444	12	467	2.7	0.827	41.8	LOS C	20.5	146.6	0.97	1.02	1.09	35.0
26a	R1	356	8	375	2.2	0.365	42.7	LOS D	8.5	60.6	0.89	0.78	0.89	31.2
Approach		800	20	842	2.5	0.827	42.2	LOS C	20.5	146.6	0.94	0.91	1.00	33.4
NorthWest: The Horsley Drive														
27	L2	79	7	83	8.9	0.960	68.4	LOS E	56.1	408.1	1.00	1.17	1.34	28.5
28	T1	1313	52	1382	4.0	* 0.960	62.8	LOS E	56.1	408.1	0.98	1.16	1.34	29.5
29b	R3	173	5	182	2.9	0.496	48.4	LOS D	8.8	63.0	0.93	0.81	0.93	29.1
Approach		1565	64	1647	4.1	0.960	61.5	LOS E	56.1	408.1	0.97	1.12	1.30	29.5
West: Polding Street														
10b	L3	25	1	26	4.0	0.981	87.1	LOS F	36.2	266.0	1.00	1.15	1.53	21.4
10a	L1	511	31	538	6.1	0.981	84.9	LOS F	36.9	266.9	1.00	1.15	1.53	20.9
12a	R1	399	14	420	3.5	* 0.981	84.7	LOS F	36.9	266.9	1.00	1.13	1.53	21.4
Approach		935	46	984	4.9	0.981	84.9	LOS F	36.9	266.9	1.00	1.14	1.53	21.1
All Vehicles		5249	208	5525	4.0	0.981	52.7	LOS D	56.1	408.1	0.91	0.98	1.15	30.6

Table A5: Weekday Signalised Intersection Performance of the Horsley Drive with Polding Street AM Peak Hour

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Norrie Street														
1	L2	1	0	1	0.0	0.022	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	49.4
2	T1	38	3	40	7.9	0.022	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		39	3	41	7.7	0.022	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
North: Norrie Street														
8	T1	23	2	24	8.7	0.017	0.0	LOS A	0.0	0.3	0.06	0.13	0.06	49.1
9	R2	7	0	7	0.0	0.017	4.7	LOS A	0.0	0.3	0.06	0.13	0.06	48.1
Approach		30	2	32	6.7	0.017	1.1	NA	0.0	0.3	0.06	0.13	0.06	48.8
West: Kiora Crescent														
10	L2	16	1	17	6.3	0.012	4.7	LOS A	0.0	0.3	0.11	0.50	0.11	46.3
12	R2	1	0	1	0.0	0.012	4.8	LOS A	0.0	0.3	0.11	0.50	0.11	45.9
Approach		17	1	18	5.9	0.012	4.7	LOS A	0.0	0.3	0.11	0.50	0.11	46.3
All Vehicles		86	6	91	7.0	0.022	1.4	NA	0.0	0.3	0.04	0.15	0.04	48.8

Table A6: Weekday Priority Intersection Performance of Norrie Street with Kiora Crescent PM Peak Hour

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Norrie Street														
1	L2	39	4	41	10.3	0.038	5.3	LOS A	0.1	1.1	0.30	0.54	0.30	45.8
3	R2	5	0	5	0.0	0.038	6.6	LOS A	0.1	1.1	0.30	0.54	0.30	45.5
Approach		44	4	46	9.1	0.038	5.5	LOS A	0.1	1.1	0.30	0.54	0.30	45.8
East: Loftus Road														
4	L2	15	1	16	6.7	0.113	4.6	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
5	T1	189	5	199	2.6	0.113	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		204	6	215	2.9	0.113	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
West: Loftus Road														
11	T1	232	9	244	3.9	0.152	0.1	LOS A	0.3	1.9	0.10	0.07	0.10	49.4
12	R2	30	2	32	6.7	0.152	5.5	LOS A	0.3	1.9	0.10	0.07	0.10	48.3
Approach		262	11	276	4.2	0.152	0.8	NA	0.3	1.9	0.10	0.07	0.10	49.3
All Vehicles		510	21	537	4.1	0.152	1.0	NA	0.3	1.9	0.07	0.10	0.07	49.1

Table A7: Weekday Priority Intersection Performance of Loftus Street with Norrie Street PM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Yennora Avenue														
1	L2	39	6	41	15.4	0.040	5.4	LOS A	0.2	1.2	0.30	0.54	0.30	45.7
3	R2	6	0	6	0.0	0.040	6.5	LOS A	0.2	1.2	0.30	0.54	0.30	45.5
Approach		45	6	47	13.3	0.040	5.6	LOS A	0.2	1.2	0.30	0.54	0.30	45.7
East: Loftus Street														
4	L2	6	0	6	0.0	0.107	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	49.4
5	T1	189	5	199	2.6	0.107	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.9
Approach		195	5	205	2.6	0.107	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
West: Loftus Street														
11	T1	232	9	244	3.9	0.139	0.1	LOS A	0.1	0.9	0.05	0.03	0.05	49.7
12	R2	15	0	16	0.0	0.139	5.3	LOS A	0.1	0.9	0.05	0.03	0.05	48.7
Approach		247	9	260	3.6	0.139	0.4	NA	0.1	0.9	0.05	0.03	0.05	49.6
All Vehicles		487	20	513	4.1	0.139	0.8	NA	0.2	1.2	0.05	0.07	0.05	49.3

Table A8: Weekday Priority Intersection Performance of Loftus Street with Yennora Avenue PM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairfield Road														
11	T1	722	18	760	2.5	* 0.754	16.4	LOS B	23.6	168.5	0.85	0.77	0.86	47.3
12	R2	147	6	155	4.1	0.686	44.8	LOS D	6.3	45.4	1.00	0.85	1.12	34.0
Approach		869	24	915	2.8	0.754	21.2	LOS B	23.6	168.5	0.87	0.79	0.90	44.3
East: Dursley Road														
1	L2	193	5	203	2.6	0.343	26.9	LOS B	6.1	43.6	0.80	0.77	0.80	36.3
3	R2	365	10	384	2.7	0.649	29.8	LOS C	13.0	93.5	0.91	0.83	0.91	35.4
Approach		558	15	587	2.7	0.649	28.8	LOS C	13.0	93.5	0.87	0.81	0.87	35.7
North: Fairfield Road														
4	L2	232	10	244	4.3	* 0.310	13.8	LOS A	3.3	23.6	0.69	0.75	0.69	47.7
5	T1	790	13	832	1.6	0.663	25.4	LOS B	14.2	100.6	0.92	0.79	0.92	42.4
Approach		1022	23	1076	2.3	0.663	22.7	LOS B	14.2	100.6	0.87	0.78	0.87	43.5
All Vehicles		2449	62	2578	2.5	0.754	23.6	LOS B	23.6	168.5	0.87	0.79	0.88	41.7

Table A9: Weekday Signalised Intersection Performance of Fairfield Road with Dursley Road PM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: The Horsley Drive														
21a	L1	348	7	366	2.0	0.284	7.5	LOS A	3.8	26.8	0.42	0.68	0.42	49.7
22	T1	1258	33	1324	2.6	* 0.879	32.2	LOS C	26.0	186.4	1.00	1.07	1.26	39.3
23	R2	291	14	306	4.8	* 0.835	41.7	LOS C	11.7	85.1	1.00	0.96	1.30	34.7
Approach		1897	54	1997	2.8	0.879	29.1	LOS C	26.0	186.4	0.89	0.98	1.11	39.7
NorthEast: Polding Street North														
24	L2	241	8	254	3.3	0.356	12.6	LOS A	3.8	27.1	0.67	0.74	0.67	48.9
26a	R1	517	13	544	2.5	0.603	32.4	LOS C	8.7	62.3	0.96	0.81	0.96	35.3
Approach		758	21	798	2.8	0.603	26.1	LOS B	8.7	62.3	0.87	0.79	0.87	39.4
NorthWest: The Horsley Drive														
27	L2	75	2	79	2.7	0.785	30.1	LOS C	19.5	139.5	0.96	0.91	1.05	41.2
28	T1	1016	28	1069	2.8	0.785	24.4	LOS B	19.5	139.5	0.95	0.90	1.04	42.7
29b	R3	76	2	80	2.6	0.245	33.5	LOS C	2.4	17.3	0.89	0.76	0.89	34.4
Approach		1167	32	1228	2.7	0.785	25.4	LOS B	19.5	139.5	0.94	0.89	1.03	42.1
West: Polding Street														
10b	L3	94	6	99	6.4	0.902	47.9	LOS D	16.1	116.5	1.00	1.07	1.45	30.1
10a	L1	377	11	397	2.9	0.902	45.6	LOS D	16.7	121.2	1.00	1.07	1.45	29.8
12a	R1	278	12	293	4.3	* 0.902	45.5	LOS D	16.7	121.2	1.00	1.07	1.44	30.3
Approach		749	29	788	3.9	0.902	45.8	LOS D	16.7	121.2	1.00	1.07	1.45	30.0
All Vehicles		4571	136	4812	3.0	0.902	30.4	LOS C	26.0	186.4	0.92	0.94	1.11	38.5

Table A10: Weekday Signalised Intersection Performance of the Horsley Drive with Polding Street PM Peak Hour

APPENDIX B

SIDRA Intersection Results for Existing Conditions with Expansion Traffic

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Norrie Street														
1	L2	1	0	1	0.0	0.012	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	49.3
2	T1	20	2	21	10.0	0.012	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	49.8
Approach		21	2	22	9.5	0.012	0.2	NA	0.0	0.0	0.00	0.03	0.00	49.8
North: Norrie Street														
8	T1	42	0	44	0.0	0.038	0.0	LOS A	0.1	0.9	0.06	0.19	0.06	48.8
9	R2	23	2	24	8.7	0.038	4.7	LOS A	0.1	0.9	0.06	0.19	0.06	47.7
Approach		65	2	68	3.1	0.038	1.7	NA	0.1	0.9	0.06	0.19	0.06	48.4
West: Kiora Crescent														
10	L2	17	4	18	23.5	0.013	4.8	LOS A	0.1	0.4	0.08	0.50	0.08	46.1
12	R2	1	0	1	0.0	0.013	4.8	LOS A	0.1	0.4	0.08	0.50	0.08	46.0
Approach		18	4	19	22.2	0.013	4.8	LOS A	0.1	0.4	0.08	0.50	0.08	46.1
All Vehicles		104	8	109	7.7	0.038	1.9	NA	0.1	0.9	0.05	0.21	0.05	48.3

Table B1: Weekday Priority Intersection Performance of Norrie Street with Kiora Crescent AM Peak Hour

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Norrie Street														
1	L2	42	6	44	14.3	0.044	5.5	LOS A	0.2	1.3	0.33	0.55	0.33	45.7
3	R2	6	0	6	0.0	0.044	6.8	LOS A	0.2	1.3	0.33	0.55	0.33	45.4
Approach		48	6	51	12.5	0.044	5.7	LOS A	0.2	1.3	0.33	0.55	0.33	45.6
East: Loftus Road														
4	L2	18	0	19	0.0	0.131	4.6	LOS A	0.0	0.0	0.00	0.04	0.00	49.2
5	T1	216	11	227	5.1	0.131	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		234	11	246	4.7	0.131	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
West: Loftus Road														
11	T1	202	10	213	5.0	0.159	0.4	LOS A	0.5	3.5	0.19	0.13	0.19	48.8
12	R2	59	3	62	5.1	0.159	5.6	LOS A	0.5	3.5	0.19	0.13	0.19	47.8
Approach		261	13	275	5.0	0.159	1.5	NA	0.5	3.5	0.19	0.13	0.19	48.5
All Vehicles		543	30	572	5.5	0.159	1.4	NA	0.5	3.5	0.12	0.13	0.12	48.7

Table B2: Weekday Priority Intersection Performance of Loftus Street with Norrie Street AM Peak Hour

Vehicle Movement Performance															
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Yennora Avenue														
1	L2	27	0	28	0.0	0.040	5.3	LOS A	0.1	1.0	0.33	0.57	0.33	45.9
3	R2	15	0	16	0.0	0.040	6.5	LOS A	0.1	1.0	0.33	0.57	0.33	45.5
Approach		42	0	44	0.0	0.040	5.7	LOS A	0.1	1.0	0.33	0.57	0.33	45.7
East: Loftus Street														
4	L2	6	0	6	0.0	0.122	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	49.4
5	T1	212	11	223	5.2	0.122	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.9
Approach		218	11	229	5.0	0.122	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
West: Loftus Street														
11	T1	208	10	219	4.8	0.127	0.1	LOS A	0.1	0.9	0.06	0.04	0.06	49.6
12	R2	15	0	16	0.0	0.127	5.4	LOS A	0.1	0.9	0.06	0.04	0.06	48.7
Approach		223	10	235	4.5	0.127	0.4	NA	0.1	0.9	0.06	0.04	0.06	49.6
All Vehicles		483	21	508	4.3	0.127	0.8	NA	0.1	1.0	0.05	0.07	0.05	49.3

Table B3: Weekday Priority Intersection Performance of Loftus Street with Yennora Avenue AM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairfield Road														
11	T1	891	39	938	4.4	* 0.938	47.5	LOS D	61.1	443.9	1.00	1.11	1.23	33.7
12	R2	253	16	266	6.3	0.717	51.2	LOS D	13.8	102.2	0.99	0.86	1.04	32.0
Approach		1144	55	1204	4.8	0.938	48.4	LOS D	61.1	443.9	1.00	1.05	1.19	33.3
East: Dursley Road														
1	L2	146	14	154	9.6	0.243	30.8	LOS C	5.7	43.4	0.74	0.75	0.74	34.9
3	R2	228	24	240	10.5	0.382	32.4	LOS C	9.5	72.6	0.79	0.78	0.79	34.5
Approach		374	38	394	10.2	0.382	31.8	LOS C	9.5	72.6	0.77	0.76	0.77	34.6
North: Fairfield Road														
4	L2	513	32	540	6.2	* 0.682	19.3	LOS B	13.7	101.0	0.85	0.83	0.85	44.5
5	T1	671	35	706	5.2	0.710	40.3	LOS C	17.5	127.8	0.97	0.84	0.98	36.1
Approach		1184	67	1246	5.7	0.710	31.2	LOS C	17.5	127.8	0.92	0.84	0.92	39.3
All Vehicles		2702	160	2844	5.9	0.938	38.6	LOS C	61.1	443.9	0.93	0.92	1.02	35.9

Table B4: Weekday Signalised Intersection Performance of Fairfield Road with Dursley Road AM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: The Horsley Drive														
21a	L1	495	15	521	3.0	0.397	8.9	LOS A	8.6	61.8	0.44	0.70	0.44	48.5
22	T1	1076	45	1133	4.2	0.743	27.6	LOS B	23.3	168.7	0.90	0.80	0.90	41.4
23	R2	378	18	398	4.8	* 1.007	97.1	LOS F	30.0	218.6	1.00	1.18	1.76	22.5
Approach		1949	78	2052	4.0	1.007	36.3	LOS C	30.0	218.6	0.80	0.85	0.95	36.3
NorthEast: Polding Street North														
24	L2	444	12	467	2.7	0.817	37.7	LOS C	18.2	130.6	0.96	1.00	1.08	36.4
26a	R1	357	9	376	2.5	0.362	39.1	LOS C	7.7	55.4	0.89	0.77	0.89	32.5
Approach		801	21	843	2.6	0.817	38.4	LOS C	18.2	130.6	0.93	0.90	1.00	34.8
NorthWest: The Horsley Drive														
27	L2	86	9	91	10.5	0.984	77.2	LOS F	56.9	414.6	1.00	1.28	1.49	26.6
28	T1	1313	52	1382	4.0	* 0.984	71.6	LOS F	56.9	414.6	0.99	1.29	1.50	27.6
29b	R3	173	5	182	2.9	0.519	45.7	LOS D	8.1	58.3	0.94	0.81	0.94	30.0
Approach		1572	66	1655	4.2	0.984	69.1	LOS E	56.9	414.6	0.98	1.23	1.44	27.7
West: Polding Street														
10b	L3	25	1	26	4.0	0.973	79.1	LOS F	33.0	242.6	1.00	1.15	1.55	22.7
10a	L1	515	31	542	6.0	0.973	76.9	LOS F	33.7	243.5	1.00	1.15	1.55	22.3
12a	R1	399	14	420	3.5	* 0.973	76.7	LOS F	33.7	243.5	1.00	1.14	1.54	22.8
Approach		939	46	988	4.9	0.973	76.8	LOS F	33.7	243.5	1.00	1.15	1.54	22.5
All Vehicles		5261	211	5538	4.0	1.007	53.6	LOS D	56.9	414.6	0.91	1.02	1.21	30.3

Table B5: Weekday Signalised Intersection Performance of the Horsley Drive with Polding Street AM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Norrie Street														
1	L2	1	0	1	0.0	0.022	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	49.4
2	T1	38	3	40	7.9	0.022	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		39	3	41	7.7	0.022	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
North: Norrie Street														
8	T1	23	2	24	8.7	0.019	0.0	LOS A	0.0	0.4	0.07	0.14	0.07	49.0
9	R2	8	1	8	12.5	0.019	4.8	LOS A	0.0	0.4	0.07	0.14	0.07	47.9
Approach		31	3	33	9.7	0.019	1.3	NA	0.0	0.4	0.07	0.14	0.07	48.7
West: Kiora Crescent														
10	L2	27	3	28	11.1	0.020	4.8	LOS A	0.1	0.6	0.11	0.50	0.11	46.2
12	R2	1	0	1	0.0	0.020	4.8	LOS A	0.1	0.6	0.11	0.50	0.11	45.9
Approach		28	3	29	10.7	0.020	4.8	LOS A	0.1	0.6	0.11	0.50	0.11	46.2
All Vehicles		98	9	103	9.2	0.022	1.8	NA	0.1	0.6	0.05	0.19	0.05	48.4

Table B6: Weekday Priority Intersection Performance of Norrie Street with Kiora Crescent PM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Norrie Street														
1	L2	49	6	52	12.2	0.048	5.4	LOS A	0.2	1.4	0.30	0.54	0.30	45.8
3	R2	6	0	6	0.0	0.048	6.7	LOS A	0.2	1.4	0.30	0.54	0.30	45.5
Approach		55	6	58	10.9	0.048	5.5	LOS A	0.2	1.4	0.30	0.54	0.30	45.7
East: Loftus Road														
4	L2	15	1	16	6.7	0.113	4.6	LOS A	0.0	0.0	0.00	0.04	0.00	49.1
5	T1	189	5	199	2.6	0.113	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.7
Approach		204	6	215	2.9	0.113	0.4	NA	0.0	0.0	0.00	0.04	0.00	49.7
West: Loftus Road														
11	T1	232	9	244	3.9	0.153	0.2	LOS A	0.3	2.0	0.10	0.07	0.10	49.4
12	R2	31	3	33	9.7	0.153	5.5	LOS A	0.3	2.0	0.10	0.07	0.10	48.2
Approach		263	12	277	4.6	0.153	0.8	NA	0.3	2.0	0.10	0.07	0.10	49.2
All Vehicles		522	24	549	4.6	0.153	1.1	NA	0.3	2.0	0.08	0.11	0.08	49.0

Table B7: Weekday Priority Intersection Performance of Loftus Street with Norrie Street PM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Yennora Avenue														
1	L2	39	6	41	15.4	0.040	5.4	LOS A	0.2	1.2	0.30	0.54	0.30	45.7
3	R2	6	0	6	0.0	0.040	6.5	LOS A	0.2	1.2	0.30	0.54	0.30	45.5
Approach		45	6	47	13.3	0.040	5.6	LOS A	0.2	1.2	0.30	0.54	0.30	45.7
East: Loftus Street														
4	L2	6	0	6	0.0	0.107	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	49.4
5	T1	189	5	199	2.6	0.107	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.9
Approach		195	5	205	2.6	0.107	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.8
West: Loftus Street														
11	T1	233	9	245	3.9	0.140	0.1	LOS A	0.1	0.9	0.05	0.03	0.05	49.7
12	R2	15	0	16	0.0	0.140	5.3	LOS A	0.1	0.9	0.05	0.03	0.05	48.7
Approach		248	9	261	3.6	0.140	0.4	NA	0.1	0.9	0.05	0.03	0.05	49.6
All Vehicles		488	20	514	4.1	0.140	0.8	NA	0.2	1.2	0.05	0.07	0.05	49.3

Table B8: Weekday Priority Intersection Performance of Loftus Street with Yennora Avenue PM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Fairfield Road														
11	T1	722	18	760	2.5	* 0.754	16.4	LOS B	23.6	168.5	0.85	0.77	0.86	47.3
12	R2	148	7	156	4.7	0.694	45.0	LOS D	6.3	46.1	1.00	0.85	1.13	33.9
Approach		870	25	916	2.9	0.754	21.3	LOS B	23.6	168.5	0.87	0.79	0.90	44.3
East: Dursley Road														
1	L2	200	7	211	3.5	0.358	27.1	LOS B	6.4	45.8	0.81	0.77	0.81	36.2
3	R2	368	10	387	2.7	0.654	29.9	LOS C	13.2	94.4	0.91	0.83	0.91	35.4
Approach		568	17	598	3.0	0.654	28.9	LOS C	13.2	94.4	0.88	0.81	0.88	35.7
North: Fairfield Road														
4	L2	232	10	244	4.3	* 0.310	13.8	LOS A	3.3	23.6	0.69	0.75	0.69	47.7
5	T1	790	13	832	1.6	0.663	25.4	LOS B	14.2	100.6	0.92	0.79	0.92	42.4
Approach		1022	23	1076	2.3	0.663	22.7	LOS B	14.2	100.6	0.87	0.78	0.87	43.5
All Vehicles		2460	65	2589	2.6	0.754	23.6	LOS B	23.6	168.5	0.87	0.79	0.88	41.6

Table B9: Weekday Signalised Intersection Performance of Fairfield Road with Dursley Road PM Peak Hour

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
SouthEast: The Horsley Drive														
21a	L1	348	7	366	2.0	0.284	7.6	LOS A	3.8	26.8	0.42	0.68	0.42	49.7
22	T1	1258	33	1324	2.6	* 0.879	32.2	LOS C	26.0	186.4	1.00	1.07	1.26	39.3
23	R2	291	14	306	4.8	* 0.835	41.7	LOS C	11.7	85.1	1.00	0.96	1.30	34.7
Approach		1897	54	1997	2.8	0.879	29.1	LOS C	26.0	186.4	0.89	0.98	1.11	39.7
NorthEast: Polding Street North														
24	L2	241	8	254	3.3	0.356	12.6	LOS A	3.8	27.1	0.67	0.74	0.67	48.9
26a	R1	524	15	552	2.9	0.613	32.4	LOS C	8.9	63.5	0.96	0.81	0.96	35.2
Approach		765	23	805	3.0	0.613	26.2	LOS B	8.9	63.5	0.87	0.79	0.87	39.3
NorthWest: The Horsley Drive														
27	L2	75	2	79	2.7	0.785	30.1	LOS C	19.5	139.5	0.96	0.91	1.05	41.2
28	T1	1016	28	1069	2.8	0.785	24.4	LOS B	19.5	139.5	0.95	0.90	1.04	42.7
29b	R3	76	2	80	2.6	0.245	33.5	LOS C	2.4	17.3	0.89	0.76	0.89	34.4
Approach		1167	32	1228	2.7	0.785	25.4	LOS B	19.5	139.5	0.94	0.89	1.03	42.1
West: Polding Street														
10b	L3	94	6	99	6.4	0.904	48.2	LOS D	16.2	117.3	1.00	1.08	1.46	30.0
10a	L1	378	12	398	3.2	0.904	45.9	LOS D	16.8	121.9	1.00	1.08	1.46	29.7
12a	R1	278	12	293	4.3	* 0.904	45.7	LOS D	16.8	121.9	1.00	1.07	1.45	30.2
Approach		750	30	789	4.0	0.904	46.1	LOS D	16.8	121.9	1.00	1.08	1.45	29.9
All Vehicles		4579	139	4820	3.0	0.904	30.5	LOS C	26.0	186.4	0.92	0.94	1.11	38.5

Table B10: Weekday Signalised Intersection Performance of the Horsley Drive with Polding Street PM Peak Hour

CARPARK CERTIFICATION OF AN EXPANSION OF A LIQUID WASTE PROCESSING FACILITY

14-16 Kiora Crescent, Yennora

Prepared for: Enviro Waste Services Group

N1915887A (Version 1c)

February 2021

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1. INTRODUCTION

ML Traffic Engineers was commissioned by Enviro Waste Services Group to prepare a car parking certification report for the proposed expansion of the existing liquid waste processing facility at 14-16 Kiora Crescent in Yennora.

Vehicle access and egress to the car parking areas is via Kiora Crescent.

Parking is provided on the ground level of 16 Kiora Crescent.

Reference is made to AS2890.1 (2002) and AS2890.2 (2018) and Holroyd Development Control Plan 2013 for compliance.

2. DRIVEWAY

The details of the driveway from 16 Kiora Crescent to the ground level parking areas are as follows from the perspective of the inbound movement for descriptive purposes only:

- The width of the existing two-way driveway is 6.1 metres at the property line. The driveway is proposed to be widened to 1.9 metres in width at the property line.
- Gradients are less than 5 percent.

3. CAR SPACES

The details of the proposed car parking areas are as follows:

- The general 90-degree car spaces are 2.4 metres wide and 5.4 metres long
- Car space adjacent to the wall has one metre clearance.
- Wheel stop with compliant setbacks are provided within the car space.

4. TRUCK PARKING

Truck parking is located on 27-49 Nelson Road, Yennora. Trucks will park in this site when not in use. There is room on site for two trucks to wait in 16 Kiora Cresent and two trucks to load/unload inside the building on 14 Kiora Crescent Truck entry is forward in and forward out. The driveway and site is at the cul-de-sac end of Kiora Crescent and where there is low vehicle traffic volumes as well as low pedestrian volumes. The largest truck is a 10 metre long rigid truck.

Staff will be trained in traffic control and a traffic control plan has been prepared to manage truck reverse movements for the site.

5. SWEPT PATHS

Swept Paths analysis has been done using 10 metre long trucks to confirm that the vehicle movements are adequate. The following Swept Paths have been performed:

- 10 metres long truck forward inbound and forward out

The swept paths show adequate manoeuvrability.

The swept paths are provided in Appendix A.

6. VEHICLE SIGHT DISTANCE

The car driver's sight distance requirement to enter the external road is stated in Figure 3.2 of AS2890.1.

The sight distance varies according to the speed of the external road. Kiora Crescent has a default speed limit of 50km/hr.

The minimum sight distance required is 45 metres. The minimum vehicle sight distance is met.

The pedestrian sight distance triangle is met as set out in Figure 3.3 of AS2890.1 with convex safety mirrors.

7. TRUCK SIGHT DISTANCE

The car driver's sight distance requirement to enter the external road is stated in Figure 3. of AS2890.2.

The sight distance varies according to the speed of the external road. Kiora Crescent has a default speed limit of 50km/hr.

The minimum sight distance required is 69 metres. Site measurements showed that the minimum sight distance looking left or right is met without permanent obstructions (for a forward out movement).

The pedestrian sight triangle (as set out in Figure 3.3) is met as well.

8. CONCLUSIONS AND RECOMMENDATIONS

The car parking area and driveway is overall compliant with Australian Standards *AS2890.1 and AS2890.2* and Council's DCP.

Benbow Environmental

Expansion of the Existing Resource Processing Facility at 14 - 16 Kiora Crescent, Yennora

LGA: Cumberland

Aboriginal Cultural Heritage Assessment Report

13 July 2020

McCARDLE CULTURAL HERITAGE PTY LTD

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McCARDLE
CULTURAL HERITAGE

Report No: J19035 ACHA	
Approved by:	Penny McCardle
Position:	Director
Signed:	
Date:	13 July 2020

This report has been prepared in accordance with the scope of services described in the contract or agreement between McCardle Cultural Heritage Pty Ltd (MCH), ACN: 104 590 141, ABN: 89 104 590 141, and Benbow Environmental. The report relies upon data, surveys, measurements and specific times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by Benbow Environmental. . Furthermore, the report has been prepared solely for use by and Benbow Environmental. and MCH accepts no responsibility for its use by other parties.

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EXECUTIVE SUMMARY

McCardle Cultural Heritage Pty Ltd (MCH) has been commissioned by Baini Design on behalf of the Proponent (Think Planners Pty Ltd) to prepare an Aboriginal Cultural Heritage Assessment report (ACHA) for a proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA). The proposal is for increasing the capacity of the existing liquid waste processing facility of up to 250,000 tonnes per annum of waste.

The assessment has been undertaken to meet the NSW Department of Environment, Climate Change and Water (DECCW), now known as the Office of Environment and Heritage (OEH), Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010), the OEH Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011), the DECCW Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010b), The Secretary's Environmental Assessment requirements (SEARs) and the brief.

The project area is situated on the Liverpool Sub-group of the Waiiamatta Group consisting of shale with some sandstone beds, the project area is located on a disturbed landscape that included industrial and residential developments and as such none of the original landforms are present. In terms of fresh water availability, the project area is situated approximately 670 metres east of Prospect Creek (1st order) with the closest reliable water source (Georges River) located approximately 4 kilometres to the south and the Parramatta River located approximately 7.5 kilometres north east. Thus, the project area was not resourced in terms of fresh water availability nor any associated subsistence or medicinal resources. European settlers extensively cleared the original native vegetation in the 1800's and since then the project area has been subject to excavation and construction works associated with the existing facility on the property.

A search of the OEH AHIMS register has shown that 3 known Aboriginal sites are currently recorded within four kilometres of the project area and include one scar tree, one artefact site and one PAD with artefacts, all located 3.5 to 4 kilometres south of the project area. Regional based studies and local assessments provided spatial and distribution analysis of Aboriginal objects (evidence of past Aboriginal land use) in relation to fresh water sources and landform types. The results indicate similar trends throughout NSW, that there is a relationship between proximity to fresh water and landform in site location and land uses by past Aboriginal people. The broad predictions for the archaeology and past Aboriginal land use are:

- archaeological evidence of past Aboriginal peoples will be limited and will be representative of background scatter within close proximity to first order creek lines;
- archaeological evidence within close proximity of second order streams will again be representative of background scatter and will likely consist of one-off camp locations and / or isolated events;
- archaeological evidence in close proximity to third order creeks will consist of repeated occupation by small groups of people. Archaeological expressions will likely consist of knapping floors and evidence of repeated use over time; and
- archaeological evidence along major fourth order creek lines will consist of continued and repeated use by past Aboriginal peoples and may include stratified deposits.

The presence of past Aboriginal people and their use of the landscape are undeniable and evidence is seen in the cultural materials that have survived both natural and human landuses since colonisation of the area in the 1800's. Whilst the regional environment provided resources, including raw materials for tool manufacture, fauna and flora for subsistence, medicinal purposes and ceremonial practices, and water which is a survival necessity that would have allowed for sustainable occupation of the area, the project area itself comprises a landscape in which higher order water courses are absent which is likely to have been a significant factor in relation to past Aboriginal occupation of the locality. The absence of resources in the project area may have supported transitory movement such as hunting and gathering, travel and possibly camping by small numbers of people over short periods of time. Non-indigenous settlement and land uses have impacted the investigation area, most noticeably from vegetation removal and excavation works associated with the current structures at the location. Whilst it is clear Aboriginal people lived across the landscape, the evidence will have been impacted through such land uses. Based on the environmental, cultural and archaeological contexts, it was predicted that although very low density artefacts scatters and isolated finds representative of transitory movement (hunting and gathering, travel) may have been present within the project area, any such evidence was likely to have been disturbed or destroyed through past construction works for the existing buildings and associated infrastructure.

The survey confirmed that the project area had been subject to previous excavation works associated with the present buildings. As the project area had been previously cleared and excavated with the topsoils and subsurface removed during construction works for the existing facility, the usual archaeological effective coverage obtained through survey was not possible due to the project area being covered in concrete, buildings and car park. There is no remaining original landform or any cultural materials that may have been present.

No Aboriginal objects, sites or places were identified and as such there are no impacts on the archaeological record and the following recommendations are made:

1) The persons responsible for the management of onsite works will ensure that all staff, contractors and others involved in construction and maintenance related activities are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010, under the National Parks and Wildlife Act 1974; and

2) Should any Aboriginal objects be uncovered during works, all work will cease in that location immediately and the Environmental Line contacted.

GLOSSARY

Aboriginal Cultural Heritage Values: traditional values of Aboriginal people, handed down in spiritual beliefs, stories and community practices and may include local plant and animal species, places that are important and ways of showing respect for other people.

Aboriginal Place: are locations that have been recognised by the Minister for Climate Change and the Environment (and gazetted under the *National Parks and Wildlife Act 1974*) as having special cultural significance to the Aboriginal community. An Aboriginal Place may or may not include archaeological materials.

Aboriginal Site: an Aboriginal site is the location of one or more Aboriginal archaeological objects, including flaked stone artefacts, midden shell, grinding grooves, archaeological deposits, scarred trees etc.

Artefact: any object that is physically modified by humans.

Assemblage: a collection of artefacts associated by a particular place or time, assumed generated by a single group of people, and can comprise different artefact types.

Axe: a stone-headed axe usually having two ground surfaces that meet at a bevel.

Backed artefact: a stone tool where the margin of a flake is retouched at a steep angle and that margin is opposite a sharp edge.

Background scatter: a term used to describe low density scatter of isolated finds that are distributed across the landscape without any obvious focal point.

Blade: a flake that is at least twice as long as it is wide.

Bondi point: a small asymmetrical backed artefact with a point at one end and backing retouch.

Core: a chunk of stone from which flakes are removed and will have one or more negative flake scars but no positive flake scars. The core itself can be shaped into a tool or used as a source of flakes to be formed into tools.

Debitage: small pieces of stone debris that break off during the manufacturing of stone tools. These are usually considered waste and are the by-product of production (also referred to as flake piece).

Flake: any piece of stone struck off a core and has a number of characteristics including ring cracks showing where the hammer hit the core and a bulb of percussion. May be used as a tool with no further working, may be retouched or serve as a platform for further reduction.

Flaked piece/waste flake: an unmodified and unused flake, usually the by-product of tool manufacture or core preparation (also referred to as debitage).

Formation processes: human caused (land uses etc) or natural processes (geological, animal, plant growth etc) by which an archaeological site is modified during or after occupation and abandonment. These processes have a large effect on the provenience of artefacts or features.

Grinding stone: an abrasive stone used to abrade another artefact or to process food.

Hammer stone: a stone that has been used to strike a core to remove a flake, often causing pitting or other wear on the stone's surface.

Harm: is defined as an act that may destroy, deface or damage an Aboriginal object or place. In relation to an object, this means the movement or removal of an object from the land in which it has been situated

Holocene: the post-glacial period, beginning about 10,000 B.P.

In situ: archaeological items are said to be "in situ" when they are found in the location where they were last deposited.

Pleistocene: the latest major geological epoch, colloquially known as the "Ice Age" due to the multiple expansion and retreat of glaciers. Ca. 3.000, 000-10,000 years B.P.

Retouched flake: a flake that has been flaked again in a manner that modified the edge for the purpose of resharpening that edge.

Stratified Archaeological Deposits: Aboriginal archaeological objects may be observed in soil deposits and within rock shelters or caves. Where layers can be detected within the soil or sediments, which are attributable to separate depositional events in the past, the deposit is said to be stratified. The integrity of sediments and soils are usually affected by 200 years of European settlement and activities such as land clearing, cultivation and construction of industrial, commercial and residential developments.

Taphonomy: the study of processes which have affected organic materials such as bone after death; it also involves the microscopic analysis of tooth-marks or cut marks to assess the effects of butchery or scavenging activities.

Traditional Aboriginal Owners: Aboriginal people who are listed in the Register of Aboriginal owners pursuant to Division 3 of the *Aboriginal Land Register Act (1983)*. The Registrar must give priority to registering Aboriginal people for lands listed in Schedule 14 of the *National Parks and Wildlife Act 1974* or land subject to a claim under 36A of the *Aboriginal Land Rights Act 1983*.

Traditional Knowledge: Information about the roles, responsibilities and practices set out in the cultural beliefs of the Aboriginal community. Only certain individuals have traditional knowledge and different aspects of traditional knowledge may be known by different people, e.g. information about men's initiation sites and practices, women's sites, special pathways, proper responsibilities of people fishing or gathering food for the community, ways of sharing and looking after others, etc.

Typology: the systematic organization of artefacts into types on the basis of shared attributes.

Use wear: the wear displayed on an artefact as a result of use.

ACRONYMS

ACHMP	Aboriginal Cultural Heritage Management Plan
AHIMS	Aboriginal Heritage Information Management System. Data base of recorded sites across NSW managed by OEH
BCD	Biodiversity and Conservation Division

BCD AHIMS SITE ACRONYMS

ACD	Aboriginal ceremonial and dreaming
AFT	Artefact (stone, bone, shell, glass, ceramic and metal)
ARG	Aboriginal resource and gathering
ART	Art (pigment or engraving)
BOM	Non-human bone and organic material
BUR	Burial
CFT	Conflict site
CMR	Ceremonial ring (stone or earth)
ETM	Earth mound
FSH	Fish trap
GDG	Grinding groove
HAB	Habitation structure
HTH	Hearth
OCQ	Ochre quarry
PAD	Potential archaeological Deposit. Used to define an area of the landscape that is believed to contain subsurface archaeological deposits.
SHL	Shell
STA	Stone arrangement
STQ	Stone quarry
TRE	Modified tree (carved or scarred)
WTR	Water hole

1 INTRODUCTION

1.1 INTRODUCTION

McCardle Cultural Heritage Pty Ltd (MCH) has been commissioned by Baini Design on behalf of the Proponent (Think Planners Pty Ltd) to prepare an Aboriginal Cultural Heritage Assessment report (ACHA) for a proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora and the proposed additional liquid waste processing and storage at 16 Kiora Crescent , Cumberland Local Government Area (LGA).

The assessment has been undertaken to meet the NSW Biodiversity and Conservation Division (BCD) formerly the Office of Environment and Heritage (OEH), Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010), the OEH Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011), the DECCW Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010b), The Secretary's Environmental Assessment requirements (SEARs) and the brief.

1.2 PROPONENT DETAILS

Sydney Land Company

1.3 THE PROJECT AREA

The project area (Figure 1.1 to 1.3), 14 Kiora Crescent and16 Kiora Crescent Yennora (Lot 14 DP18211 and Lot 50 DP18211, respectively), is an existing Resource Processing Facility (liquid waste processing facility) and

Figure 1.1 Regional location of the project area

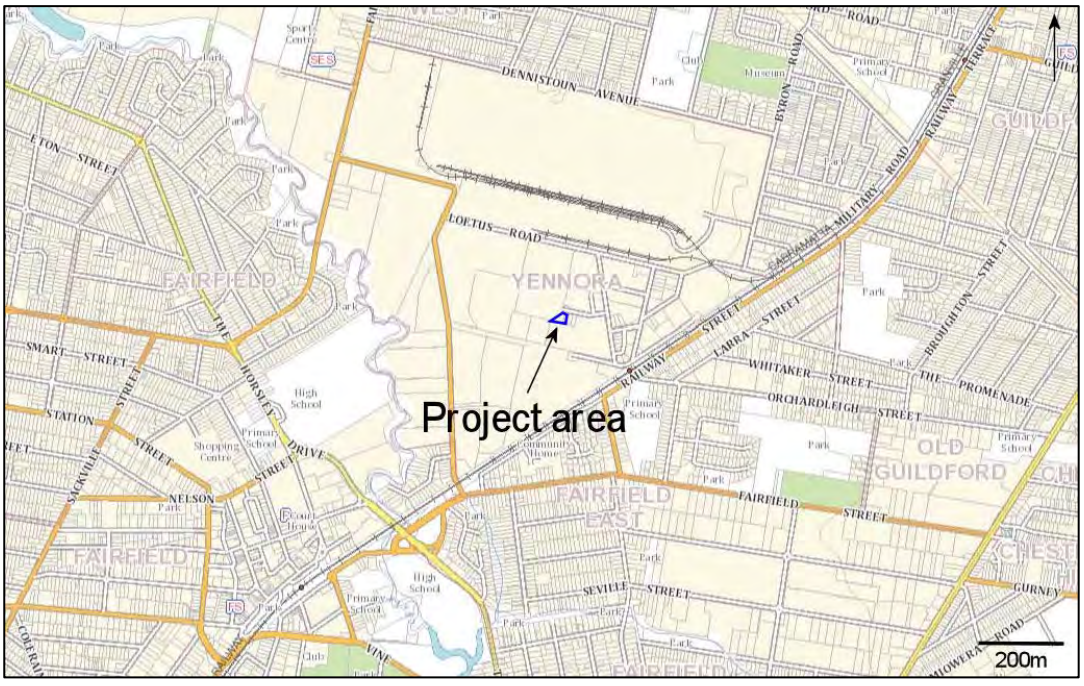


Figure 1.2 Local location of the project area

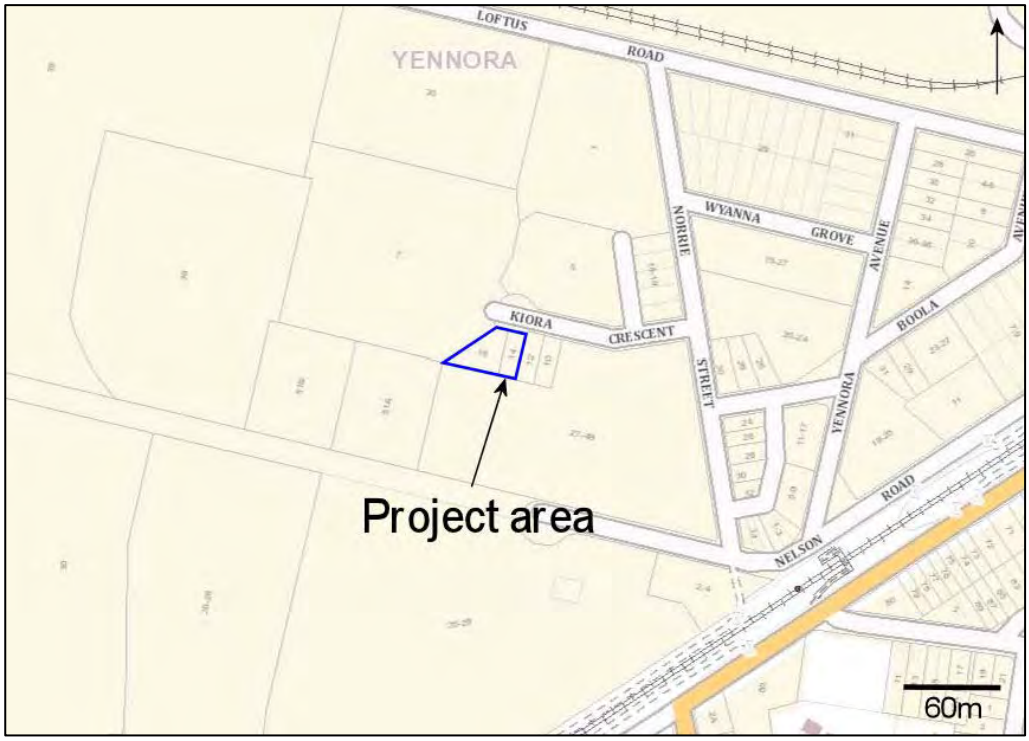


Figure 1.3 Aerial location of the project area (nearmap 7 April 2019)



1.4 DESCRIPTION AND JUSTIFICATION OF THE PROPOSED DEVELOPMENT

The proposal is for increasing the capacity of the existing liquid waste processing facility of up to 250,000 tones per annum of waste and an additional facility for out-of-date liquid/food waste destruction.

The proponent confirms that every effort will be made with this development to avoid impacting on any Aboriginal objects. Any development or impacts occurring within the project area will have regard to and managed in accordance with the requirements and provisions of the National Parks and Wildlife Act 1974.

1.5 PURPOSE OF THE ARCHAEOLOGICAL ASSESSMENT

The purpose of the assessment is to assess any archaeological constraints within the project area and to provide opportunities and options to ensure any cultural materials present are protected appropriately in consultation with the Aboriginal community, the proponent and OEH.

1.6 OBJECTIVES OF THE ASSESSMENT

The objective of the assessment is to identify areas of indigenous cultural heritage value, to determine possible impacts on any indigenous cultural heritage identified (including potential subsurface evidence) and to develop management recommendations where appropriate. The assessment employs a regional approach, taking into consideration both the landscape of the project area (landforms, water resources, soils, geology etc) and the regional archaeological patterning identified by past studies as well as considering past landuses and associated impacts on cultural materials and wider cultural landscape. The detection of surface material will drive the management recommendations and mitigation measures to ensure that any significant cultural resources are identified and protected where possible or is subject to minimal impact by the proposed development.

1.7 PROJECT BRIEF/SCOPE OF WORK

The following tasks were carried out:

- a review of relevant statutory registers and inventories for indigenous cultural heritage including the NSW BCD Aboriginal Heritage Information Management System (AHIMS) for known archaeological sites, the State Heritage Register, the Australian Heritage Database (includes data from the World Heritage List UNESCO, National Heritage List, Commonwealth Heritage List, Register of the National Estate) and The Hills Local Environmental Plan;
- a review of local environmental information (topographic, geological, soil, geomorphological and vegetation descriptions) to determine the likelihood of archaeological sites and specific site types, prior and existing land uses and site disturbance that may affect site integrity;
- a review of previous cultural heritage investigations to determine the extent of archaeological investigations in the area and any archaeological patterns;
- the development of a predictive archaeological statement based on the data searches and literature review;

- identification of human and natural impacts in relation to the known and any new archaeological sites archaeological potential of the project area;
- consultation with the Aboriginal stakeholders as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010);
- undertake a site inspection and test excavation of the previously identified PAD with the participation of the registered Aboriginal stakeholders, and
- the development of mitigation and conservation measures in consultation with the registered Aboriginal stakeholders.

1.8 LEGISLATIVE CONTEXT

The following overview of the legislative framework, is provided solely for information purposes for the client, and should not be interpreted as legal advice. MCH will not be liable for any actions taken by any person, body or group as a result of this general overview and MCH recommends that specific legal advice be obtained from a qualified legal practitioner prior to any action being taken as a result of the general summary below.

Land managers are required to consider the affects of their activities or proposed development on the environment under several pieces of legislation. Although there are a number of Acts and regulations protecting Aboriginal heritage, including places, sites and objects, within NSW, the three main ones include:

- National Parks and Wildlife Act (1974, as amended)
- National Parks and Wildlife Regulation (2009)
- Environmental Planning and Assessment Act (1979)

1.8.1 NATIONAL PARKS AND WILDLIFE ACT (1974, AS AMENDED)

The National Parks and Wildlife Act (1974), Amended 2010, is the primary legislation for the protection of Aboriginal cultural heritage in New South Wales. The NPW Act protects Aboriginal heritage (places, sites and objects) within NSW and the Protection of Aboriginal heritage is outlined in s86 of the Act, as follows:

- "A person must not harm or desecrate an object that the person knows is an Aboriginal object" s86(1)
- "A person must not harm an Aboriginal object" s86(2)
- "A person must not harm or desecrate an Aboriginal place" s86(4)

Penalties apply for harming an Aboriginal object, site or place. The penalty for knowingly harming an Aboriginal object (s86[1]) and/or an Aboriginal place (s86[4]) is up to $550,000 for an individual and/or imprisonment for 2 years; and in the case of a corporation the penalty is up to $1.1 million. The penalty for a strict liability offence (s86[2]) is up to $110,000 for an individual and $220,000 for a corporation.

Harm under the National Parks and Wildlife Act (1974, as amended) is defined as any act that; destroys defaces or damages the object, moves the object from the land on which it has been situated,

causes or permits the object to be harmed. However, it is a defence from prosecution if the proponent can demonstrate that;

1) harm was authorised under an Aboriginal Heritage Impact Permit (AHIP) (and the permit was properly followed), or
2) the proponent exercised due diligence in respect to Aboriginal heritage.

The 'due diligence' defence (s87[2]), states that if a person or company has applied due diligence to determine that no Aboriginal object, site or place was likely to be harmed as a result of the activities proposed for the Project Area, then liability from prosecution under the NPW Act 1974 will be removed or mitigated if it later transpires that an Aboriginal object, site or place was harmed. If any Aboriginal objects are identified during the activity, then works should cease in that area and OEH notified (DECCW 2010:13). The due diligence defence does not authorise continuing harm.

The archaeological due diligence assessment and report has been carried out in compliance with the NSW DECCW 2010 Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW.

1.8.2 NATIONAL PARKS AND WILDLIFE REGULATION (2009)

The National Parks and Wildlife Regulation 2009 provides a framework for undertaking activities and exercising due diligence in respect to Aboriginal heritage. The Regulation (2009) recognises various due diligence codes of practice, including the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW which is pertinent to this report, but it also outlines procedures for Aboriginal Heritage Impact Permit (AHIP) applications and Aboriginal Cultural Heritage Consultation Requirements (ACHCRs); amongst other regulatory processes.

1.8.3 ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 (EP&A ACT)

EP&A Act establishes the statutory framework for planning and environmental assessment in NSW and the implementation of the EP&A Act is the responsibility of the Minister for Planning, statutory authorities and local councils. The EP&A Act contains three parts which impose requirements for planning approval:

- Part 3 of the EP&A Act relates to the preparation and making of Environmental Planning Instruments (EPIs), State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs).
- Part 4 of the EP&A Act establishes the framework for assessing development under an EPI. The consent authority for Part 4 development is generally the local council, however the consent authority may by the Minister, the Planning Assessment Commission or a joint regional planning panel depending upon the nature of the development.
- Part 4, Division 4.1 of the EP&A Act establishes the assessment pathway for State Significant Development (SSD) and Critical State Significant Infrastructure (CSSI) declared by the State Environmental Planning Policy (State and Regional Development) 2011 (NSW). Once a development is declared as SSD, Standard Sectary Environmental Assessment requirements (SEARs) outlining what issues must be considered in the EIS will be issued.
- Part 5 of the EP&A Act provides for the control of 'activities' that do not require development consent and are undertaken or approved by a determining authority. Development under Part 5 that are likely to significantly affect the environment is required to have an EIS prepared for the proposed activity.

- Part 5.1 of the EP&A Act establishes the assessment pathways for State significant infrastructure (SSI). Development applications made for SSI can only be approved by the Minister. Once a development is declared as SSI, Standard Sectary Environmental Assessment requirements (SEARs) outlining what issues must be addressed in the EIS.

The applicable approval process is determined by reference to the relevant environmental planning instruments and other controls, LEPs and State Environmental Planning Policies (SEPPs).

This project falls under Part 4. The SEARs (1283) requirements for Aboriginal cultural heritae are as follows:

1) The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will 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 Proponent 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have 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 BCD.

The SEARs noted that a due diligence report is not acceptable, an ACHAR must be prepared.

1.9 QUALIFICATIONS OF THE INVESTIGATOR

Penny McCardle: Principal Archaeologist & Forensic Anthropologist has 18 years experience in Indigenous archaeological assessments, excavation, research, reporting, analysis and consultation. 15 years in skeletal identification, biological profiling and skeletal trauma identification.

- BA (Archaeology and Palaeoanthropology, University of New England 1999
- Hons (Archaeology and Palaeoanthropology): Physical Anthropology), University of New England 2001
- Forensic Anthropology Course, University of New England 2003
- Armed Forces Institute of Pathology Forensic Anthropology Course, Ashburn, VA 2008
- Analysis of Bone Trauma and Pseudo-Trauma in Suspected Violent Death Course, Erie College, Pennsylvania, 2009
- PhD, University of Newcastle, 2019

1.10 REPORT STRUCTURE

The report includes Section 1 which outlines the project, Section 2 provides the consultation, Section 3 presents the landscape and environmental context, Section 4 discusses the cultural context, Section 5 presents the archaeological background, Section 6 provides the survey results, Section 7 presents the impact assessment, Section 8 the mitigation strategies and Section 9 provides the management recommendations.

2 CONSULTATION

As per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (April 2010), MCH followed the four stages of consultation as set out below. All correspondences for each stage are provided in Appendix A.

In relation to cultural significance, MCH recognises and supports the indigenous system of knowledge. That is, that knowledge is not 'open' in the sense that everyone has access and an equal right to it. Knowledge is not always definitive (in the sense that there is only one right answer) and knowledge is often restricted. As access to this knowledge is power, it must be controlled by people with the appropriate qualifications (usually based on age seniority, but may be based on other factors). Thus, it is important to obtain information from the correct people: those that hold the appropriate knowledge of those sites and/or areas relevant to the project.

It is noted that only the Aboriginal community can identify and determine the accepted knowledge holder(s) may be not archaeologists or proponents. MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

If knowledge is shared, that information must be used correctly and per the wishes of the knowledge holder. Whilst an archaeologist may view this information as data, a custodian may view this information as highly sensitive, secret/sacred information and may place restrictions on its use. Thus, it is important for MCH to engage in affective and long-term consultation to ensure knowledge is shared and managed in a suitable manner that will allow for the appropriate management of that site/area.

MCH also know that archaeologists do not have the capability nor the right to adjudicate on the spirituality of a particular location or site as this is the exclusive right of the traditional owners who have the cultural and hereditary association with the land of their own ancestors. For these reasons, consultation forms an integral component of all projects and this information is sought form the registered stakeholders to be included in the report in the appropriate manner that is stipulated by those with the information.

2.1 STAGE 1: NOTIFICATION & REGISTRATION OF INTEREST

As per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), Stage 1 (s.4.1.1 to s.4.1.2), MCH and the proponent sought community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project. The aim of this stage was to

identify, notify and register Aboriginal people and/or groups who hold cultural knowledge that is relevant to the project area, and who can determine the cultural significance of any Aboriginal objects and/or places within the proposed project area. In order to do this, the sources identified by OEH (2010:10; s.4.1.2) and listed in Table 2.1, to provide the names of people who may hold cultural knowledge that is relevant to determining the significance of Aboriginal objects and/or places were contacted by letter on 18th April 2019.

A reply was requested by the 10 May 2019 and it was stipulated that if no response was received, the project and consultation will proceed. Information included in the correspondence to the sources listed in Table 2.1 included the name and contact details of the proponent, an overview of the proposed project including the location and a map showing the location.

Table 2.1 Sources contacted

Organisations contacted	Response
Office of Environment and Heritage	65 groups
Gandangara LALC	no response
Cumberland Council	LALC
Registrar Aboriginal Land Rights Act 1983	GLALC
National Native Title Tribunal	freehold: no claims
Native Title Services Corporation Limited	no response
Greater Sydney Local Land Services	no response

As per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), Stage 1 (S. 4.1.3), MCH compiled a list of people/groups to contact (Refer to Appendix A) and as per Stage 1(s.40.3 to s.4.18). MCH wrote to all groups identified through Stage 1 (s.4.1.2) asking if they would like to register their interest in the project. Unfortunately some Government departments written to requesting a list of groups to consult with do not differentiate groups from different traditional boundaries and provide an exhaustive list of groups from across the region including those outside their traditional boundaries.

MCH wrote to all identified parties on 13th May 2019 and an advertisement was placed in the Fairfield Champion on 5th June 2019. The correspondence and advertisement included the required information as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (Stage 1, s.4.1.3 to s.4.1.8) and requested to nominate the preferred option for the presentation of information about the proposed project: an information packet or a meeting and information packet (Refer to Stage 2). The closing date for registration was 19 June 2019 and Darug Land Observations, Darang Tribal Council Aboriginal Corporation and Gandangara LALC registered for the project.

2.2 STAGE 2: PRESENTATION OF INFORMATION

The aim of this stage is to provide the RAPs with information regarding the scope of the proposed project and the cultural heritage assessment process. As the RAPs did not elect their preferred method of receiving information, an information packet was sent to all RAPs and included the required information as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (April 2010), Stage 2 (s.4.2.1, s.4.2.2, s.4.2.3) and Stage 3 (s.4.3.1, s.4.3.2, s.4.3.3, s.4.3.4,

s.4.3.5, s.4.3.6, s.4.3.7). The information packet included project outline, project area, critical timelines, impacts, brief cultural, environmental and archaeological context, proposed methods of investigation, proposed methods of gathering cultural knowledge, and maps. A written response to the proposed methods and the preferred method of sharing cultural knowledge was requested no later than due no later than 17th July 2019 (Stage 3, s4.3.2).

The information pack also stipulated that consultation was not employment, and requested that in order to assist the proponent in the engagement of field workers, that the groups provide information that will assit in the selection of field staff who may be paid on a contractual basis). This included, but was not limited to, experience in field work and in providing cultural heritage advice (asked to nominate at least two individuals who will be available and fit for work) and their relevant experience; and to provide a CV and insurance details.

The information pack also noted that failure to provide the required information by the date provided will result in a missed opportunity for the RAPs to contribute to their cultural heritage and the project will proceed.

2.3 STAGE 3: GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

The aim of this stage is to facilitate a process whereby the RAPs can contribute to culturally appropriate information gathering and the research methodology, provide information that will enable the cultural significance of any Aboriginal objects and or/places within the proposed project area to be determined and have input into the development of any cultural heritage management options and mitigation measures. In order to do his, included in the information pack sent for Stage 2, was information pertaining to the gathering of cultural knowledge. This included the following information;

- MCH noted that information provided by RAPs may be sensitive and MCH and the proponent will not share that information with all RAPs or others without the express permission of the individual. MCH and the proponent extended an invitation to develop and implement appropriate protocols for sourcing and holding cultural information including any restrictions to place on information, as well as the preferred method of providing information;
- request for traditional/cultural knowledge or information associated with ceremonial, spiritual, mythological beliefs, traditions and known sites from the pre-contact period;
- request for traditional/cultural knowledge or information regarding sites or places with historical associations and/or cultural significance which date from the post-contact period and that are remembered by people today (e.g. plant and animal resource use areas, known camp sites); and
- request for traditional/cultural knowledge or information in relation to any sites or places of contemporary cultural significance (apart from the above) which has acquired significance recently.

During this process, the RAPs did not disclose any specific traditional/cultural knowledge or information of sites or places associated with spiritual, mythological, ceremonies or beliefs from the pre-contact period within the project area or surrounding area.

2.4 FIELD WORK

All RAPs were invited to participate in the field work on 1st August 2019. Unfortunately, no RAPs attended and the survey proceeded as planned. The project area was investigated by the archaeologist in accordance with the proposed methodology provided to the stakeholders for review and approved.

2.5 STAGE 4: REVIEW OF DRAFT ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Copies of the DRAFT report were forwarded to all RAPs for their review and were asked to provide a written or verbal response no later than 27th September 2019. NO response to the draft report was received. The RAPs were provided a copy of the final report. All documentation regarding the consultation process is provided in Appendix A.

2.6 EXPANSION AREA

Due to the Covid-19 pandemic and staff having to relocate work to their home, there was a delay in the proponent notifying MCH of an expansion to the project. As this delay meant that the consultation cut off deadline was overdue by 3 weeks, MCH contacted BCD and explained the unusual situation who agreed that consultation may continue and did not have to re-start

MCH contacted all RAPs to notify them of the project expansion, the delay and to invite them to an additional survey on 7th May 2020.

2.7 FIELD WORK (2ND)

All RAPs were invited to participate in the field work on 7th May 2020 and Darren Duncan (GLALC) attended the survey.

2.8 REVIEW OF 2ND DRAFT ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Copies of the DRAFT report were forwarded to all RAPs for their review and were asked to provide a written or verbal response no later than 13th July 2020. MCH received no response and all documentation regarding the consultation process is provided in Appendix A.

3 LANDSCAPE AND ENVIROMNEMATL CONTEXT

3.1 INTRODUCTION

The nature and distribution of Aboriginal cultural materials in a landscape are strongly influenced by environmental factors such as topography, geology, landforms, climate, geomorphology, hydrology and the associated soils and vegetation (Hughes and Sullivan 1984). These factors influence the availability of plants, animals, water, raw materials, the location of suitable camping places, ceremonial grounds, burials, and suitable surfaces for the application of rock art. As site locations may differ between landforms due to differing environmental constraints that result in the physical manifestation of different spatial distributions and forms of archaeological evidence, these environmental factors are used in constructing predictive models of Aboriginal site locations.

Environmental factors also effect the degree to which cultural materials have survived in the face of both natural and human influences and affect the likelihood of sites being detected during ground surface survey. Site detection is dependent on a number of environmental factors including surface visibility (which is determined by the nature and extent of ground cover including grass and leaf litter etc) and the survival of the original land surface and associated cultural materials (by flood alluvium and slope wash materials). It is also dependant on the exposure of the original landscape and associated cultural materials (by water, sheet and gully erosion, ploughing, vehicle tracks etc), (Hughes and Sullivan 1984). Combined, these processes and activities are used in determining the likelihood of both surface and subsurface cultural materials surviving and being detected.

It is therefore necessary to have an understanding of the environmental factors, processes and activities, all of which affect site location, preservation, detection during surface survey and the likelihood of in situ subsurface cultural materials being present. The environmental factors, processes and disturbances of the surrounding environment and specific project area are discussed below.

3.2 TOPOGRAPHY

The topographical context is important to identify potential factors relating to past Aboriginal land use patterns as not all landforms are suitable camping locations, suitable for the application of rock art etc. The project area is located on a disturbed landscape that included industrial and residential developments and as such none of the original landforms are present.

3.3 GEOLOGY

The geology of a region is not only reflected in the environment (landforms, topography, geomorphology, vegetation, climate etc), it also influences past occupation and its manifestation in the archaeological record. The nature of the surrounding and local geology along with the availability and distribution of stone materials has a number of implications for Aboriginal land use and archaeological implications. The implications for past Aboriginal land use mainly relate to location of stone resources or raw materials and their procurement for manufacturing and modification for stone tools. Evidence of stone extraction, and manufacture, can be predicted to be concentrated in the areas of stone availability. However, stone can be transported for manufacture and/or trading across the region.

The project area is situated on the Liverpool Sub-group of the Waiiamatta Group consisting of shale with some sandstone beds (Sydney 1:250,000 Geological Series Map 1966). Stone tools identified in

the local area were usually manufactured from mudstone/tuff and silcrete, both of which are absent from the local area and as such any stone tools within the proejct area would have been transported (possibly traded) into the area.

3.4 GEOMORPHOLOGY

Geomorphology is the study of landscapes, their evolution and the processes operating within earth systems. Cultural remains are part of these systems, having being deposited on, and in part, resulting from interactions within landscapes of the past. An understanding of geomorphological patterning and alterations is therefore essential in assess and interpreting the archaeological record.

The soils throughout the region reflect the influence of a range of factors including the parent geological material, topography, climate, organisms and length of formation time. The major group of texture contrast soils include red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes. These soils consist of an upper soil Horizon A and underlying B (referred to as duplex soils). Unit A and Unit B are interpreted as being Holocene and Pleistocene in age respectively. Within the region, sites tend to occur on or within soil Horizon A or are often present at the interface of the A and B horizons. Within the A horizon the lowermost (in terms of vertical positioning) artefact assemblages tend to contain artefacts that are typically attributed to the mid-Holocene, as characterised by an increase in the number of backed artefacts. Based on geomorphological grounds, A horizon soils in this context are generally considered as dating to the mid-late Holocene.

The natural soil profiles consist of an active biomantle over weathered rock or subsoil material derived from weathered rock. Mitchell (2007) has stressed the importance of recognizing the biomantle (the organic-rich bioturbated upper part of the soil, including the topsoil) an important profile characteristic as it has implications for the distribution of artefacts on open sites as follows (Dean-Jones and Mitchell 1993):

- Artefacts will be confined to the biomantle.
- Artefacts will have been subject to surface dispersion, limited down slope movement, and differential burial or exposure by bioturbation agents (ants, worms, termites, tree fall etc.) and they will contribute to the formation of a stone layer between the A and B-horizon where artefacts of all ages accumulate.
- In mechanically disturbed and/or sheet eroded area a lateral pattern of artefact dispersal can be expected as erosion processes strip the biomantle and incise the B-horizon. In depositional areas artefact burial is likely to be common.
- Despite the taphonomic processes affecting artefact distribution in the soil some site use patterns, such as knapping floors, may survive in attenuated plan form with an extended vertical and down-slope distribution of their components and possible mixing with artefacts from other events. For examples of the complexities of this process see Cahen and Moeyersons (1977), and Balek (2002).
- Because artefact burial is an ongoing process their surface visibility will be poor except where occasional flakes have been returned to the surface by landuses, tree fall, or where erosion rates are higher than average.
- Archaeological sites on texture contrast and fabric contrast soil profiles are unlikely to be stratified in a chronologically useful sense.

- The only means of dating any sites in this landscape will be by recognition of cultural sequences of artefacts, or from the recovery of intact 'hearths' or burials. All other dates, especially those based on detrital charcoal, and including those based on thermo-luminescence, will be spurious because artefacts can move through soil material of any age.

If any cultural materials were present within the soils of the project area, they would have occurred in the biomantle of the soil profiles. However, due to the existing development of the site, the soils would have been removed during construction works for the existing facility.

3.5 SOILS

The nature of the surrounding soil landscape also has implications for Aboriginal land use and site preservation, mainly relating to supporting vegetation and the preservation of organic materials and burials. The deposit of alluvial and aeolian sediments and colluvium movement of fine sediments (including artefacts) results in the movement and burying of archaeological materials. The increased movement in soils by this erosion is likely to impact upon cultural materials through the post-depositional movement of materials, specifically small portable materials such as stone tools, contained within the soil profiles.

The project area is situated on the Blacktown residual soil landscape that is characterised by gentl undulating rises, broad rounded crests and ridges with gently inclined slopes (Chapman and Murphy 1989:30-33). The Blacktown soil landscape typically consists gently undulating rises on Wianamatta Group shales and Hawkesbury shale. Local relief is up to 30 metres, slopes are usually <5% and include broad rounded crests and ridges with gently inclined slopes. This soil landscape consists of an A_1 horizon (up to 30 cm in depth) of friable brownish-black loam to clay loam, but can range from dark reddish-brown to dark yellowish-brown. The pH ranges from slightly acid (pH 5.5) to neutral (pH 7.0). Rounded iron indurated fine gravel-sized shale fragments and charcoal fragments are sometimes present and roots are common. This overlies the A_2 horizon (10-20 cm in depth) of hard-setting dark brown clay loam to silty clay loam that can range from dark reddish-brown to dark brown. The pH ranges from moderately acid (pH 5.0) to slightly acid (pH 6.5). Platy ironstone gravel-sized shale fragments are common and charcoal fragments and roots are rarely present. This the overlies the B horizon of mottled brown light to medium clay that ranges from reddish-brown to brown. Red, yellow or grey mottles are commonly present and often become more numerous with depth. The pH ranges from strongly acid (pH 4.5) to slightly acid (pH 6.5), (Chapman and Murphy. 1989: 22-26).

3.6 CLIMATE

Climatic conditions would also have played a part in past occupation of an area as well as impacted upon the soils and vegetation and associated cultural materials. Rainfall throughout the area is summer-autumn dominated with minimum rainfall occurring during late winter and early spring. Average annual rainfall is (1,432mm) and decreases westwards (935mm). The maximum monthly rainfall occurs along the coast during March and the average minimum occurs in July and August. Average monthly maximum temperatures are highest in the west (28^0C in December and the average minimum 16^0C in July (Chapman and Murphy 1989:2). During summer, the increased rainfall rate and reduced ground cover is reflected in a proportionately higher risk of erosion.

3.7 WATERWAYS

One of the major environmental factors influencing human behaviour is water as it is essential for survival and as such people will not travel far from reliable water sources. In those situations where people did travel far from reliable water, this indicates a different behaviour such as travelling to obtain rare or prized resources and/or trade. Proximity to water not only influences the number of sites likely to be found but also artefact densities. The highest number of sites and the highest density are usually found in close proximity to water and usually on an elevated landform. This assertion is undisputedly supported by the regional archaeological investigations carried out in the region where by such patterns are typically within 50 metres of a reliable water source.

The main types of water sources include permanent (rivers and soaks), semi-permanent (large streams, swamps and billabongs), ephemeral (small stream and creeks) and underground (artesian). Stream order assessment is one way of determining the reliability of streams as a water source. Stream order is determined by applying the Strahler method to 1:25 000 topographic maps. Based on the climatic analysis the project area will typically experience comparatively reliable rainfalls under normal conditions and thus it is assumed that any streams above a third order classification will constitute a relatively permanent water source.

The Strahler method dictates that upper tributaries do not exhibit flow permanence and are defined as first order streams. When two first order streams meet, they form a second order stream. Where two-second order streams converge, a third order stream is formed and so on. When a stream of lower order joins a stream of higher order, the downstream section of the stream will retain the order of the higher order upstream section (Anon 2003; Wheeling Jesuit University 2002).

The project area is situated approximately 670 metres east of Prospect Creek (1st order) with the closest reliable water source (Georges River) located approximately 4 kilometres to the south and the Parramatta River located approximately 7.5 kilometres north east. Thus, the project area was not resourced in terms of fresh water availability nor any associated subsistence or medicinal resources.

3.8 FLORA AND FAUNA

The availability of flora and associated water sources affect fauna resources, all of which are primary factors influencing patterns of past Aboriginal land use and occupation. The assessment of flora has two factors that assist in an assessment including a guide to the range of plant resources used for food and medicine and to manufacture objects including nets, string bags, shields and canoes which would have been available to Indigenous people in the past. The second is what it may imply about current and past land uses and to affect survey conditions such as visibility, access and disturbances.

European settlers extensively cleared the original native vegetation in the 1800's that would have included tall open bushland that would have been dominated by forest red gum, narrow-leaved ironbark and grey box (Chapman and Murphy 1989:31). The present vegetation within the investigation area is non-existent as the project area has an existing facility located on the whole property.

3.9 LAND USES AND DISTURBANCES

Based upon archaeological evidence, the occupation of Australia extends back some 40,000 years (Mulvaney and Kamminga 1999) whilst Aboriginal people have been present within the Sydney region for at least 30,000 years (McDonald 2005). Although the impact of past Aboriginal occupation on the natural landscape is thought to have been relatively minimal, it cannot be assumed that 30,000

years of land use have passed without affecting various environmental variables. The practice of 'firestick farming' whereby the cautious setting of fires served to drive game from cover, provide protection and alter vegetation communities significantly influenced seed germination, thus increasing diversity within the floral community.

European settlers extensively cleared the original native vegetation in the 1800's and since then the project area has been subject to excavation and construction works associated with the existing facility on the property. All of which would have displaced and remove any cultural materials that may have been present.

3.10 DISCUSSION

The presence of past Aboriginal people and their use of the landscape are undeniable and evidence is seen in the cultural materials that have survived both natural and human landuses since colonisation of the area in the 1800's. Whilst the regional environment provided resources, including raw materials for tool manufacture, fauna and flora for subsistence, medicinal purposes and ceremonial practices, and water which is a survival necessity that would have allowed for sustainable occupation of the area, the project area itself comprises a landscape in which higher order water courses are absent which is likely to have been a significant factor in relation to past Aboriginal occupation of the locality. The absence of resources in the project area may have supported transitory movement such as hunting and gathering, travel and possibly camping by small numbers of people over short periods of time.

Non-indigenous settlement and land uses have impacted the investigation area, most noticeably from vegetation removal and excavation works associated with the current structures at the location. Whilst it is clear Aboriginal people lived across the landscape, the evidence will have been impacted through such land uses

4 CULTURAL CONTEXT

Unfortunately, due to European settlement and associated destruction of past Aboriginal communities, their culture, social structure, activities and beliefs, little information with regards to the early traditional way of life of past Aboriginal societies remains.

4.1 USING ETHNO-HISTORIC DATA

Anthropologists and ethnographers have attempted to piece together a picture of past Aboriginal societies throughout the Hunter Valley. Although providing a glimpse into the past, one must be aware that information obtained on cultural and social practices were commonly biased and generally obtained from informants including white settlers, bureaucrats, officials and explorers. Problems encountered with such sources are well documented (e.g. Barwick 1984; L'Oste-Brown et al 1998). There is little information about who collected information or their skills. There were language barrier and interpretation issues, and the degree of interest and attitudes towards Aboriginal people varied in light of the violent settlement history. Access to view certain ceremonies was limited. Cultural practices (such as initiation ceremonies and burial practices) were commonly only viewed once by an informant who would then interpret what he saw based on his own understanding and then generalise about those practices.

4.2 DHARUG PEOPLE

The Dharug language group area included the Cumberland Plain region of NSW, their traditional country defined by Horton as spreading from the Southern Highlands to Illawarra, from Broken Bay to the Blue Mountains. The Dharug country was surrounded by other Aboriginal language groups, including the Wiradjuri to the west, Darkinung to the north, Gundungurra and Turuwal to the south, and Kuring-Gai and Eora to the east (Horton, 1996). Archaeological sites with some of the oldest dates in the Sydney region have been identified within the Dharug traditional country area (Attenbrow, 2010:18-19).

Alternate spellings are often used for this group, including Darug, Daruk, Dharruk, Dharrook, Dharung and Darrook, deriving predominantly from the variety of ethnographic accounts detailing early encounters with the various Dharug subgroups (Kohen, 1988 and 1993). Some of the subgroups that may have lived within the larger Dharug area included the Bediagal, Bidjigal, Birrabirragal, Bool-bain-ora, Boorooberongal, Borogegal-yuruey, Burramattagal, Cabrogal, Cadigal, Cammeraigal, Cannalgal, Cannemegal, Carigal, Cattai, Dural, Gommerigal-tongarra, Goorungurragal, Gorualgal, Gweagal, Kameygal, Kayimai, Kurrajong, Mulgoa, Muringong, Muru-ora-dial, Norongerragal, Ory-ang-ora, Terramerragal, Toogagal, Wandeandegal, Wangal and Wallumattagal (Kohen, 1988).

The terms tribes, clans and bands have been used in various sources to refer to Dharug social groupings. Clans or tribes have been described as the primary social group, generally consisting of 50 to 60 people. These groups were determined by totem, something inherited along the male lineage. Marriages and initiations were arranged based on affiliations to different totems (Kohen, 1993:15-35). The word band has since been used to describe a group that came together for a particular type of activity, such as hunting, and which varied in quantity as a result. Much larger groups would gather for important social activities, such as corroborees, marriages and initiations (Attenbrow, 2010:29).

The traditional language area as defined by Horton put the Dharug group inland with no direct access to the coast; the coastal area immediately adjacent to them was defined as belonging to the

Eora language group. Despite this, the name Eora has since been argued to have been given to the Aboriginal group in ethnographic accounts, rather than being a legitimate pre-contact language group area. The name Eora was introduced in sources such as Tench (1793), Hunter (1793) and Collins (1804), which has been argued as a misunderstanding for the local Aboriginal words meaning yes "e-e" and land "ora" (Kohen, 1988). This suggests that the Eora area may have been either part of the Kuring-Gai area or the Dharug area, based on the available linguistic evidence (Dawes, 1790). Some studies have argued that the Dharug territory extended to the coastline between Port Jackson and Botany Bay, with evidence for this conclusion drawn from the ethnographic observations of explorers and settlers (Attenbrow, 2010). Other texts suggest the Kuring-Gai area may have extended further south along the coast (Gunson, 1974). If the Eora area was in fact a part of the larger Dharug country, the coastal inhabitants spoke a distinctly different dialect and did not generally have a high level of contact with those from the hinterland areas (Attenbrow, 2010:34).

Early descriptions of Aboriginal people note that their cooking fires were seen from a distance, or that groups were spotted drawing their canoes up onto beaches (Griffin, 1980). Aboriginal groups across the Dharug area specialised in their use of resources depending on the specific territory in which they made their home. Although groups did not have direct access to resources outside their area, they were able to trade with the surrounding communities, thus sharing their economic resources. Generally, however, they had their own territory and relied on local resources, moving to different regions on an annual basis (Kohen, 1988). Certain groups travelled as far as 150 kilometres to take part in corroborees, which were a time of both ceremony and trade (Griffin, 1980).

If the Eora coastal group was part of the larger Dharug country, they specialised in marine resources that were not accessible for Dhurug people from the inland areas. This included a diet with fish, shellfish, crabs, crayfish, seals and whales. Tools were made using coastal resources such as shell, fish bone and shark teeth. The utilisation of shellfish and oysters is apparent in the shell middens that have been recorded. By contrast the resources inland were of possums, eels, insects and plants, kangaroos, wallabies, fruit bats, echidnas, freshwater fish, shellfish, crustaceans, tortoises, platypus and water rats. Riverine communities along the Hawkesbury and Nepean Rivers utilised plant foods as their staple diet, with an important resource being yams (Kohen, 1988). Animals observed as being used for food in lake and river areas included water birds (pelicans, ducks, teals and others). In addition to possums there is evidence that koalas, sugar gliders, snakes, goannas and wallabies were also caught and eaten (Griffin, 1980).

Stone tools were produced by the Dharug people and hafted onto wood to serve a variety of functions, such as the barbs and points of spears. Stone on the Cumberland Plain was predominantly sourced from the grave beds of the Nepean River (for chert and basalt) and along ridges associated with Eastern Creek and South Creek (for silcrete) (Kohen, 1988). Quartz was also sourced from sandstone outcrop areas, with archaeological evidence suggesting that local resources were predominantly used, rather than trading for material outside the area, with some exceptions (such as basalt for hand axes) (Kohen, 1988). Spears, nets and canoes were used for fishing, with spears also used for hunting animals and birds. Ground stone hatchets, stone pounders and wedges, wooden shields, digging sticks, bark baskets, net bags and wooden dishes were all used. Clubs, boomerangs and spear throwers were also utilised, as were (in some areas) shelters made from bark. What shelter was utilised depended on the area within Dharug country, with the coastal areas using bark huts, while sandstone areas used natural overhangs (Attenbrow, 2010:55-85).

There were a variety of traditional stories told across the country of the Dharug people, but due to loss of cultural information it is now largely fragmentary. Cultural knowledge was provided depending on the level of initiation the individual had undergone within their community. Baiame was a very important mythical character, half crystal and half human, known as the Great Shaper or

Thunder-God. He was a creation figure in stories, described as the being that shaped the world from the void that existed before (Attenbrow, 2010:128). Although there is little evidence of Dharug beliefs, some other stories told in the wider region indicate the kind of mythological figures that were likely to have been a part of the Dharug mythology. Some examples of tales include references to figures such as a wild hairy man with backward turned feet called the Gulea, a winged creature called the Dthuwangong that produced a terrible stench from its body to overpower his prey, and the Ghindaring, who dwelt in rocky areas with a body glowing like burning coals. The Gurungaty dwelt in waterholes and ate unsuspecting victims who went there and Wallanthagang stunned his prey then laid them out on an ant's nest to be stung. Dharamulan was another important Dreamtime figure, related to Baiame, drawn from the time when the animals of today were human in shape and dwelt in high places such as clouds, mountains and trees. Ethnographic recordings from 1904 relate that another creation figure was Mirrirul, who stood atop the tallest tree to receive the spirits of the dead at the end of their lives. In this story the souls of the departed took the form of children and would hover in the tops of trees, resting in the branches before ascending to the clouds (Mathews, 1904). Some of the Dharug stories are still physically present in the iconography of extant rock art.

Between 1789 and 1790 a massive smallpox epidemic killed thousands of people across the Dharug area. Exact numbers were not recorded, but descriptions of the impact that smallpox had on Aboriginal people, who had no immunity to it, are of massive changes to the social groupings in this area as a result (Kohen, 1988). The Cadigal settlement at Port Jackson was estimated to consist of between 30 and 50 people at the time of first contact. Following the smallpox epidemic there were only three who survived (Collins, 1804). When the early explorers and first settlers arrived in the Hawkesbury region, they noted the Aboriginal people there showed visible pock marks from smallpox (Hunter, 1793; Tench, 1793). The death toll was so great that survivors were forced to band together in new groups in order to survive.

5 ARCHAEOLOGICAL CONTEXT

A review of the archaeological literature of the region, and more specifically the Branxton area and the results of an BCD AHIMS search provide essential contextual information for the current assessment. Thus, it is possible to obtain a broader picture of the wider cultural landscape highlighting the range of site types throughout the region, frequency and distribution patterns and the presence of any sites within the project area. It is then possible to use the archaeological context in combination with the review of environmental conditions to establish an archaeological predictive model for the project area.

5.1 BCD ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM

MCH note that there are many limitations with an AHIMS search. Firstly, site coordinates are not always correct due to errors and changing of computer systems at BCD over the years that failed to correctly translate old coordinate systems to new systems. Secondly, BCD will only provide up to 110 sites per search, thus limiting the search area surrounding the project area and enabling a more comprehensive analysis and finally, few sites have been updated on the BCD AHIMS register to notify if they have been subject to a s87 or s90 and as such what sites remain in the local area and what sites have been destroyed, to assist in determining the cumulative impacts, is unknown.

In addition to this, other limitations include the number of studies in the local area. Fewer studies suggest that sites have not been recorded, ground surface visibility also hinders site identification and the geomorphology of the majority of NSW soils and high levels of erosion have proven to disturb sites and site contents, and the extent of those disturbances is unknown (i.e. we do not know if a site identified at the base of an eroded slope derived from the upper crest, was washed along the bottom etc: thus altering our predictive modelling in an unknown way). Thus, the BCD AHIMS search is limited and provides a basis only that aids in predictive modelling.

The new terminology for site names including (amongst many) an 'artefact' site encompasses stone, bone, shell, glass, ceramic and/or metal and combines both open camps and isolated finds into the one site name. Unfortunately, this greatly hinders in the predictive modelling as different sites types grouped under one name provided inaccurate data.

A search of the BCD AHIMS register has shown that 3 known Aboriginal sites are currently recorded within four kilometres of the project area and include one scar tree, one artefact site and one PAD with artefacts, all located 3.5 to 4 kilometres south of the project area. The AHIMS results are provided in Appendix A.

5.2 REGIONAL ARCHAEOLOGICAL CONTEXT

White and McDonald (2010) undertook extensive research into past Aboriginal land uses across the Cumberland Plain. The study provided spatial and distribution analysis of Aboriginal objects (evidence of past Aboriginal land use) in relation to fresh water sources and landform types. The results indicate similar trends throughout NSW, that there is a relationship between proximity to fresh water and landform in site location and land uses by past Aboriginal people. The following broad predictions for the regional archaeology and past Aboriginal land use are provided:

- archaeological evidence of past Aboriginal peoples will be limited and will be representative of background scatter within close proximity to first order creek lines;

- archaeological evidence within close proximity of second order streams will again be representative of background scatter and will likely consist of one-off camp locations and / or isolated events;
- archaeological evidence in close proximity to third order creeks will consist of repeated occupation by small groups of people. Archaeological expressions will likely consist of knapping floors and evidence of repeated use over time; and
- archaeological evidence along major fourth order creek lines will consist of continued and repeated use by past Aboriginal peoples and may include stratified deposits.

White and McDonald found that artefacts are most likely within 50-100 metres of higher (fourth) order streams, within 50 metres of second order streams, and that artefact distribution around first order streams was not significantly affected by distance from the watercourse. White and McDonald also found that artefact densities were most likely to be greatest on terraces and lower slopes within 100 metres of freshwater resources. Ridgelines and crests located between drainage lines were identified to contain archaeological evidence though usually representative of background scatter similar to that identified for first and/or second order creek lines. White & McDonald's (2010) predictive model can be seen as indicative of the archaeology of the Cumberland Plain. However, it is important to note that conclusions based on geographical land form models only models are not concrete justifications or criteria for site distribution and characteristics (AMBS 1997). The existing distribution and characteristics of sites manifest through past Aboriginal land uses over the past 30,000 years throughout a landscape is the result of the complex interplay of numerous factors such as periods of occupation, site type, environmental impacts, erosional events and the impacts of modern activities.

5.3 LOCAL ARCHAEOLOGICAL CONTEXT

One archaeological assessment was identified by the AHIMS search AMBS 2008. Australian Museum Business Services (AMBS 2008) completed a cultural heritage assessment of potential impacts to the proposed Rosehill Recycled Water Scheme pipeline. The proposed route went between Fairfield and Camellia across a variety of western Sydney suburbs to a length of 20 kilometres. It was to cross through Rosehill, Granville, Guildford, Prospect Creek and Fairfield Park. The study area had previously been impacted by residential, road and industrial developments. The study area, being a linear pipeline route, crossed through multiple landforms across its 20 kilometres long extent. The study area had been modified by past impacts with extensive vegetation clearance. Prospect Creek was close to the study area, with the pipeline running adjacent to it in one section. A search of the AHIMS register identified one site within the bounds of the study area, being an isolated artefact with an associated PAD (#45-5-3272). In a search area of five kilometres by five kilometres centred on the study area there were a total of 116 previously recorded sites and consisted of 54 artefact scatters, 19 sites without specified type, 16 isolated artefacts, 10 PADs, eight modified trees, three rockshelters, two grinding groove sites, two middens and two art sites. It was predicted that artefact scatters and isolated artefacts could be present in the study area, especially in proximity to water sources. The banks of creeks and rivers were predicted to be sensitive landforms with the potential for subsurface deposits, based on the results of previous test excavations across the region. This desktop assessment identified a total of six locations within the study area that had low to medium levels of archaeological potential. It was noted that the Aboriginal cultural significance for the study area was unknown, with Aboriginal cultural significance only able to be determined through consultation. AMBS recommended that prior to the initiation of construction works, work crews should be briefed on heritage, that following the proposed works rehabilitation should be

undertaken and that a survey of the pipeline route should be undertaken in consultation with the relevant local Aboriginal community groups. Additionally, that AHIMS #45-5-3272 should be assessed, with a permit required prior to works should impacts be unavoidable and that stop work procedures should be followed if unexpected finds were located during the proposed works.

5.4 LOCAL & REGIONAL CHARACTER OF ABORIGINAL LAND USE & ITS MATERIAL TRACES

The following is a summary and discussion of previous investigations detailed in Section 5.2. It must be remembered, however, that there are various factors which will have skewed the results. These include but are not limited to:

- the landform on which a site area is observed is not necessarily its origin, for example, artefacts which would have originated on a crest may be located eroding down the slope;
- biases due to differential sampling of landforms based on decisions made by archaeologists and as a result of restrictions due to the locations of proposed development areas, levels of exposure on different landforms, and the variable level of reporting by archaeologists will affect the count of sites on each landform type. For example, the large percentage of sites found along creek lines may be, at least partially, representative of how many cultural heritage surveys focused on these landforms, and
- artefact counts can be skewed due to factors such as differing levels of fragmentation of material and levels of ground surface visibility. A very large number of sites/ artefacts were located on exposures with either no or very few artefacts visible away from the exposures.

Therefore, the following summary provides an indication of what may be expected in terms of site location and distribution. The local archaeology of the area can be summarised as follows:

- the highest concentration of sites is generally within 50 metres of reliable water;
- site numbers and density decrease with distance from water;
- artefact scatters and isolated finds are the most common sites identified followed by grinding grooves and rockshelters (with and without art);
- although modified trees have been identified they are noted to not likely to be cultural;
- stone artefacts are typically flakes, flake pieces, broken flakes, cores and tools, and
- raw materials used in the manufacture of tools is predominantly silcrete followed by indurated mudstone/tiff and in lesser quantities basalt and quartz.

Variations between archaeologists' classifications of raw material types (for example tuff and indurated mudstone) will have an effect on the results of this count. Raw material type was not indicated in most reports and as such general comments are made. Again, this information is presented merely as an indication of what may be expected.

Due to differences in recording techniques it is difficult to determine how many of each artefact type is represented across the region though types include flakes, broken flakes, retouched flakes, multi-platform cores, single platform cores, bipolar cores, flaked pieces, 'waste' pieces, 'chips', debitage, 'geometric microliths', 'backed blades', 'bondi points', 'scrapers', 'eloueras', 'burrins', 'blades', 'hatchets', 'unifacial choppers', 'bifacial choppers', 'pebble tools', a 'slice', edge-ground axes, anvils, hammer stones and heat. Due to variations in both the amount of data that is included in reports, and the terms different archaeologists used to describe artefact types, it is not practicable to provide

a count of the different artefact types. However, it is evident that flakes, broken flakes and flaked pieces are the most common artefact types recorded. These findings are consistent with models developed for the local area.

5.5 PREDICTIVE MODEL FOR THE PROJECT AREA

Due to issues surrounding ground surface visibility and the fact that the distribution of surface archaeological material does not necessarily reflect that of sub-surface deposits, it is essential to establish a predictive model.

Previous archaeological studies undertaken throughout the area provide an indication of site types and past Aboriginal land uses and site patterning in the local area. The research has shown that very limited sites are located within 4 kilometres of the project rea. Given its location form reliable fresh water supply and associated resources, archaeological evidence of the area is expected to include evidence of transitory activities such as hunting and gathering and travel to such resources. Such past Aboriginal Land uses manifest in the archaeological record as very low-density artefacts scatters and isolated finds.

However, given the works associated with the construction of the existing facility in the project area, including excavation, soil removal, fill and structure construction, if evidences of past Aboriginal land uses were present in the project area, it would have been destroyed through these activities.

5.6 ARCHAEOLOGICAL POTENTIAL IN THE PROJECT AREA

Based on archaeological sites registered in the region and the results of past archaeological studies, two sites types may have occurred withihn the project area:

- **Artefact scatters**

Also described as open campsites, artefact scatters and open sites, these deposits have been defined at two or more stone artefacts within 50 metres of each other and will include archaeological remains such as stone artefacts and may be found in association with camping where other evidence may be present such as shell, hearths, stone lined fire places and/or heat treatment pits. These sites are usually identified as surface scatters of artefacts in areas where ground surface visibility is increased due to lack of vegetation. Erosion, agricultural activities (such as ploughing, grazing) and access ways can also expose surface campsites. Artefact scatters may represent evidence of;

- Large camp sites, where everyday activities such as habitation, maintenance of stone or wooden tools, manufacturing of such tools, management of raw materials, preparation and consumption of food and storage of tools has occurred;
- Medium/small camp sites, where activities such as minimal tool manufacturing occurred;
- Hunting and/or gathering events;
- Other events spatially separated from a camp site, or
- Transitory movement through the landscape.

Artefact scatters are a common site type in the locality and the broader region. There is very low to no potential for low density artefact scatters to occur within the project area given its distance form reliable water and land uses and associated impacts within the project area.

- **Isolated finds**

Isolated artefacts are usually identified in areas where ground surface visibility is increased due to lack of vegetation. Erosion, agricultural activities (such as ploughing) and access ways can also expose surface artefacts. Isolated finds may represent evidence of;

- Hunting and/or gathering events; or
- Transitory movement through the landscape.

Isolated finds are a common site type in the locality and the broader region. There is very low to no potential for isolated finds to occur within the project area given its distance form reliable water and land uses and associated impacts within the project area.

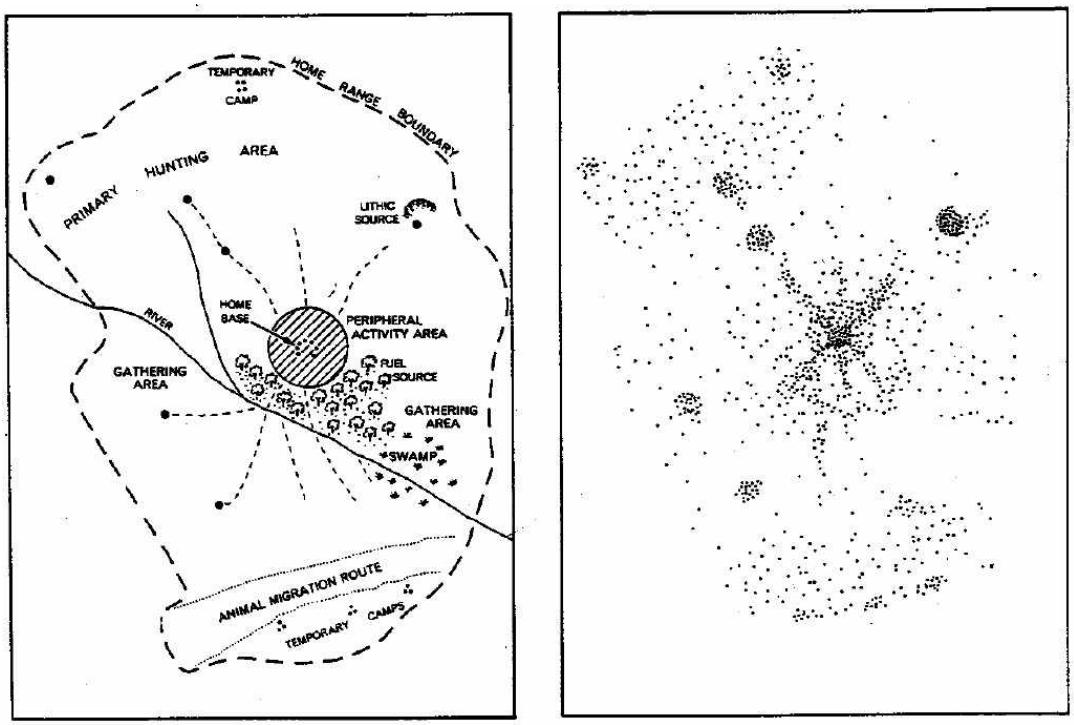
5.7 HERITAGE REGISTER LISTINGS

The State Heritage Register, the Australian Heritage Database (includes data from the World Heritage List UNESCO, National Heritage List, Commonwealth Heritage List, Register of the National Estate) and The Cumberland Council Local Environmental Plan have no sites listed. However, not all indigenous places are listed, and the Heritage Commission is consulting with Traditional Owners to gradually include indigenous information.

5.8 MODELS OF PAST ABORIGINAL LAND USE

The main aim of this project is to attempt to define both the nature and extent of occupation across the area. As a result, the nature of the analysis will focus on both the landform units and sites. The purpose of this strategy is to highlight any variations between sites and associated assemblages, landforms and resources across the area treating assemblages as a continuous scatter of cultural material across the landscape. In doing this, it is possible to identify variation across the landscape, landforms and assemblages that correspond with variation in the general patterns of landscape use and occupation. Thus, the nature of activities and occupation can be identified through the analysis of stone artefact distributions across a landscape. A general model of forager settlement patterning in the archaeological record has been established by Foley (1981). This model distinguishes the residential 'home base' site with peripheral 'activity locations'. Basically, the home base is the focus of attention and many activities and the activity locations are situated away from the home base and are the focus of specific activities (such as tool manufacturing). This pattern is illustrated in Figure 5.1. Home base sites generally occur in areas with good access to a wide range of resources (reliable water, raw materials etc). The degree of environmental reliability, such as reliable water and subsistence resources, may influence the rate of return to sites and hence the complexity of evidence. Home base sites generally show a greater diversity of artefacts and raw material types (which represent a greater array of activities performed at the site and immediate area). Activity locations occur within the foraging radius of a home base camp (approximately 10 km); (Renfrew and Bahn 1991). Based on the premise that these sites served as a focus of a specific activity, they will show a low diversity in artefacts and are not likely to contain features reflecting a base camp (such as hearths). However, it is also possible that the location of certain activities cannot be predicted or identified, adding to the increased dispersal of cultural material across the landscape. If people were opting to carry stone tools during hunting and gathering journeys throughout the area rather than manufacturing tools at task locations, an increased number of used tools should be recovered from low density and dispersed assemblages.

Figure 5.1 Foley's model (L) and its manifestation in the archaeological record (R), (Foley 1981).



5.8.1 MODEL OF OCCUPATION FOR THE LOCAL AREA

Occupation models often aim to identify and explain archaeological patterning in site type, content and distribution. General theories have been developed outlining the relationship between land use patterns and the resulting archaeological evidence. A number of models developed and reviewed and the most commonly accepted model is summarised and adapted to for the present project area. Kuskie and Kamminga (2000) established a general model of occupation strategies based primarily upon ethnographic research. Used as a starting point, it makes a general set of factors that are consistent with other studies (e.g. White and McDonald 2010, Nelson 1991). The model distinguishes between short-term or extended long-term occupation and makes some predictions about the likely location of different foraging and settlement activities. Combining this information with a general review of assemblage contents from a sample of excavated sites within the Hunter Valley, a baseline of settlement activities may be determined (Barton 2001).

The model provides a number of archaeological expectations that may be tested. For example, the presence of features requiring a considerable labour investment such as stone-lined ovens or heat-treatment pits are likely to occur at places where occupation occurred for extended periods of time. The presence of grindstones is also a reliable indicator of low mobility and extended occupation. Seed grinding requires a large investment of time and effort (Cane 1989). In most ethnographic examples, seed grinding is an activity that takes place over an entire day to provide adequate energetic returns (Cane 1989; Edwards and O'Connell 1995).

Where group mobility was high and campsites frequently shifted throughout the landscape, artefact assemblages are not expected to contain elements such as grindstones, heat-treatment pits, ovens and the diversity of implements frequently discarded at places of extended residential occupation. It may also have been the case that the location of particular activities could not be predicted by tool users, adding to the increased low-density scattering of artefacts over the landscape. Also, if

individuals were opting to carry a number of stone tools during hunting and gathering activities and maintaining these tools rather than manufacturing new tools at each task location, the ratio of used tools to unworn flakes in these assemblages should be high. Table 5.1 has been adapted from Kuskie and Kamminga (2000).

To identify the specific activity areas through analysis of the composition of patterning of lithic assemblages, is utilised. However, this is applied to excavated materials as they provide more realistic data due to the lesser degree of disturbances, removal and breakages.

Table 5.1 Site descriptions (Kuskie & Kamminga 2000).

Occupation Pattern	**Activity Location**	**Proximity to water**	**Proximity to food**	**Archaeological expectations**
Transitory movement	all landscape zones	not important	not important	• assemblages of low density & diversity • evidence of tool maintenance & repair • evidence for stone knapping
Hunting &/or gathering without camping	all landscape zones	not important	near food resources	• assemblages of low density & diversity • evidence of tool maintenance & repair • evidence for stone knapping • high frequency of used tools
Camping by small groups	associated with permanent & temporary water	near (within 100m)	near food resources	• assemblages of moderate density & diversity • evidence of tool maintenance & repair • evidence for stone knapping & hearths
Nuclear family base camp	level or gently undulating ground	near reliable source (within 50m)	near food resources	• assemblages of high density &diversity • evidence of tool maintenance & repair & casual knapping • evidence for stone knapping • heat treatment pits, stone lined ovens • grindstones
Community base camp	level or gently undulating ground	near reliable source (within 50m)	near food resources	• assemblages of high density & diversity • evidence of tool maintenance & repair & casual knapping • evidence for stone knapping • heat treatment pits, stone lined ovens • grindstones & ochre • large area >100sqm with isolated camp sites

6 SURVEY RESULTS

6.1 METHODOLOGY

The survey areas were surveyed on foot by the archaeologist and registered Aboriginal stakeholder representatives in accordance with the proposed methodology provided to the stakeholders for review and approved. The survey included transects at approximately one metre apart walked in a north/south direction across the entire project area and focused on areas of high ground surface visibility and exposures (erosional features).

6.2 LANDFORMS

McDonald et al (1998) describes the categories of landform divisions. This is a two layered division involving treating the landscape as a series of 'mosaics'. The mosaics are described as two distinct sizes: the larger categories are referred to as landform patterns and the smaller being landform elements within these patterns. Landform patterns are large-scale landscape units, and landform elements are the individual features contained within these broader landscape patterns. There are forty landform pattern units and over seventy landform elements. However, of all the landform element units, ten are morphological types. For archaeological investigations they divide the landscape into standardised elements that can be used for comparative purposes and predictive modelling. As outlined in Section 3, the project area includes a disturbed landscape with none of the original landform remaining.

6.3 SURVEY UNITS

For ease of management, the project area was surveyed as one unit based on the disturbed landform. Consisting of a highly disturbed landscape with none of the original landform present, the project area contains an existing processing facility and is surrounded by industrial and residential development. Figures 6.1 to 6.3 provide examples of the project area.

Figure 6.1 Front of project area (14 Kiora Crescent)



Figure 6.2 Inside the project (14 Kiora Crescent)



Figure 6.3 Front of project area (16 Kiora Crescent)



Figure 6.4 Inside the project (16 Kiora Crescent)



6.4 EFFECTIVE COVERAGE

Effective coverage is an estimate of the amount of ground observed taking into account local constraints on site discovery such as vegetation and soil cover. There are two components to determining the effective coverage: visibility and exposure. Visibility is the amount of bare ground on the exposures which may reveal artefacts or other cultural materials, or visibility refers to 'what conceals'. Visibility is hampered by vegetation, plant or leaf litter, loose sand, stony ground or introduced materials (such as rubbish) On its own, visibility is not a reliable factor in determining the detectability of subsurface cultural materials (DECCW 2010/783:39). The second component in establishing effective coverage is exposure. Exposure refers to 'what reveals'. It estimates the area with a likelihood of revealing subsurface cultural materials rather than just an observation of the amount of bare ground. Exposure is the percentage of land for which erosion and exposure is sufficient to reveal cultural materials on the surface (DECCW 2010/783:37).

As the project area has been previously cleared and excavated with the topsoils and subsurface removed during construction works for the existing facility, the usual archaeological effective coverage obtained through survey is not possible due to the project area being covered in concrete, buildings and car park. There is no remaining original landform or any cultural materials that may have been present.

The level and nature of the effective survey coverage is considered satisfactory to provide an effective assessment of the Aboriginal sites identified and those potentially present within the investigation area. The coverage was comprehensive for obtrusive site types (e.g. grinding grooves and scarred trees) but somewhat limited for the less obtrusive surface stone artefact sites by surface visibility constraints that included vegetation cover and minimal exposures.

6.5 ARCHAEOLOGICAL SITES

Due to the location of the project area at a great distance form reliable fresh water and associated resources and the significant impacts form past land uses which has resulted in the removal of the original landform and any cultural materials that may have been present, no sites were identified.

6.6 POTENTIAL ARCHAEOLOGICAL DEPOSIT (PAD)

The terms 'Potential Archaeological Deposit (PAD)' and 'area(s) of archaeological sensitivity' are used to describe areas that are likely to contain sub-surface cultural deposits. These sensitive landforms or areas are identified based upon the results of fieldwork, the knowledge gained from previous studies in or around the subject area and the resultant predictive models. Any or all of these attributes may be used in combination to define a PAD. The likelihood of a landscape having been used by past Aboriginal societies and hence containing archaeologically sensitive areas is primarily based on the availability of local natural resources for subsistence, artefact manufacture and ceremonial purposes. The likelihood of surface and subsurface cultural materials surviving in the landscape is primarily based on past land uses and preservation factors.

Due to the location of the project area at a great distance form reliable fresh water and associated resources and the significant impacts form past land uses which has resulted in the removal of the original landform and any cultural materials that may have been present, no PADs are identified.

7 ASSESSMENT OF IMPACTS

The archaeological record is a non-renewable resource that is affected by many processes and activities. As outlined in Section 3 and 6, the various natural processes and human activities would have impacted on archaeological deposits through both site formation and taphonomic processes. Chapter 4 describes the impacts within the project area, showing how these processes and activities have disturbed the landscape and associated cultural materials in varying degrees.

7.1 IMPACTS

Detailed descriptions of the impacts are provided in Section 1.5 and the results of the survey in Section 6. The OEH Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (2010:21) describes impacts to be rated as follows:

1) Type of harm: is either direct, indirect or none

2) Degree of harm is defined as either total, partial or none

3) Consequence of harm is defined as either total loss, partial loss, or no loss of value

As no sites or PADs were identified in the project area, there are no impacts to the archaeological record.

8 MITIGATION AND MANAGEMENT STRATEGIES

Specific strategies, as outlined through the DECCW (2010b) Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010b), the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011), and the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW 2010c), are considered below for the management of the identified site within the project area.

One of the most important considerations in selecting the most suitable and appropriate strategy is the recognition that Aboriginal cultural heritage is very important to the local Aboriginal community. Decisions about the management of the identified site has been made in consultation with the RAPs.

8.1 CONSERVATION/PROTECTION

The BCD is responsible for the conservation/protection of Indigenous sites and they therefore require good reason for any impact on an indigenous site. Conservation is the first avenue and is suitable for all sites, especially those considered high archaeological significance and/or cultural significance. Conservation includes the processes of looking after an indigenous site or place so as to retain its cultural significance and are managed in a way that is consistent with the nature of peoples' attachment to them.

As no sites were identified conservation/protection is not required.

8.2 FURTHER INVESTIGATION

An Aboriginal Heritage Impact Permit (AHIP) is no longer required to undertake test excavations (providing the excavations are in accordance with the Code of Practice for Archaeological Investigations in NSW). Subsurface testing is appropriate when a Potential Archaeological Deposit (PAD) has been identified, and it can be demonstrated that sub-surface Aboriginal objects with potential conservation value have a high probability of being present, and that the area cannot be substantially avoided by the proposed activity. However, testing may only be undertaken as per the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2011) and discussions/consultation with the local Aboriginal community.

As no sites or PADs were identified and the project area has been significantly disturbed through excavation and construction works associated with the existing facility, further investigations are not justified.

8.3 AHIP

If harm will occur to an Aboriginal object or Place, then an AHIP is required form the OEH. If a systematic excavation of the known site could provide benefits and information for the Aboriginal community and/or archaeological study of past Aboriginal occupation, a salvage program may be an appropriate strategy to enable the salvage of cultural objects. The AHIP may also include surface collection of artefacts.

As no sites were identified an AHIP is not required.

9 RECOMMENDATIONS

9.1 GENERAL

1) The persons responsible for the management of onsite works will ensure that all staff, contractors and others involved in construction and maintenance related activities are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010, under the National Parks and Wildlife Act 1974; and

2) Should any Aboriginal objects be uncovered during works, all work will cease in that location immediately and the Environmental Line contacted.

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APPENDIX A

Aboriginal Stakeholder Consultation

Date	Consultation type	OEH requirement	Consult stage	RAP/Agency	Contact person	Description
18/4/19	Letter	4.1.2	1	MCH contacted Office of Environment & Heritage (OEH)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 10/5/2019
18/4/19	Letter	4.1.2	1	MCH contacted Gandangara Local Aboriginal Land Council (GLALC)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 10/5/2019
18/4/19	Letter	4.1.2	1	MCH contacted Registrar of Aboriginal Owners (RAO)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 10/5/2019
18/4/19	Letter	4.1.2	1	MCH contacted Cumberland Council (CC)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 10/5/2019
18/4/19	Letter	4.1.2	1	MCH contacted Native Title Tribunal (NNTT)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 10/5/2019
18/4/19	Letter	4.1.2	1	MCH contacted NTSCORP Ltd		Letter to identify Aboriginal parties. Requested response no later C.O.B. 10/5/2019
18/4/19	Letter	4.1.2	1	MCH contacted Greater Sydney Land Services (GSLS)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 10/5/2019
1/5/19	Letter	4.1.2	1	OEH contacted MCH		Identified Aboriginal parties: 65
	e-mail	4.1.2	1	GLALC		No response
3/5/19	Letter	4.1.2	1	RAO contacted MCH		Identified Aboriginal parties: Gandangara Local Aboriginal Land Council
18/4/109	Letter/e-mail	4.1.2	1	NNTT contacted MCH		freehold, and freehold tenure extinguishes native title
7/5/19	Letter	4.1.2	1	CC contacted MCH		Identified Aboriginal parties: Local Aboriginal Land Council
	e-mail & letter	4.1.2	1	CC contacted MCH		
NA		4.1.2	1	NTSCORP	Do not provide lists of possible stakeholders	
NA		4.1.2	1	GSLS	Do not provide lists of possible stakeholders	
10 May 2019 C.O.B. Request for groups to consult with closed						
10/5/19		4.1.7, 4.1.8	1	Darug Land Observations Pty Ltd		Registered for the project
13/5/19	Letter & email	4.1.3, 4.1.4, 4.1.5, 4.2.1	1	All RAPs	those provided from sources above	Formal letter to identified RAPs. Letter requested registration of interest in the project, project outline, maps and asking for the preferred method to receive information (meeting/mail/email).
5/6/19	Public notice	4.1.3	1	All registered Aboriginal parties (RAPs)		Public notice in the Fairfield Champion and requested registration no later than 19/6/2019

Date	Consultation type	OEH requirement	Consult stage	RAP/Agency	Contact person	Description
7/5/19		4.1.7, 4.1.8	1	Gandangara Local Aboriginal Land Council	Darren Duncan	Registered for the project
22/5/19		4.1.7, 4.1.8	1	Darug Tribal Aboriginal Corporation		Registered for the project
19 June 2019 C.O.B. Registration for project closed						
20/6/19	letter	4.2.1, 4.2.2, 4.2.3, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7	2 & 3	All RAPs		Formal letter and information packet sent to the identified RAPs. Information packet included project outline, project area, critical timelines, impacts, brief cultural, environmental and archaeological context, proposed methods of investigation, proposed methods of gathering cultural knowledge, and maps. A response the proposed methodology was required registration by C.O.B. 17 July 2019
24/6/19				Darug Custodial Aboriginal Corp.		Letter to register
24/6/19				MCH		Notified Darug Custodial Aboriginal Corp, that registration closed on 19/6/2019 but would send a copy of the final report if requested.
17 July 2019 C.O.B. Response to information packet closed						
16/7/19	email		3	All RAPs		All RAPs sent a letter of invitation to attend and participate in the survey and test excavation if required on 1/8/19
16/7/19	email	4.2.1, 4.2.2, 4.2.3, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7	2 & 3	Gandangara Local Aboriginal Land Council	Darren Duncan	Confirmed their attendance for the survey
1 August 2019 Field work						
26/8/19		4.3.5; 4.3.6; 4.3.7 4.4.1; 4.4.2; 4.4.3	3 & 4	All RAPs		Draft report sent to all RAPs for review
27 September 2019 C.O.B. Response to Draft Report Closed						
28/9/19		4..4.4; 4.4.5	4	All RAPs		Final report, sent to all RAPs
28 September 2019 C.O.B. Assessment Complete						
22/4/20				MCH / client		MCH contacted by client advising of a project expansion.

Date	Consultation type	OEH requirement	Consult stage	RAP/Agency	Contact person	Description
23/4/20				MCH / BCD		MCH emailed BCD stating that due to Covid-19 and staff having to relocate work to home etc, there was a delay of a few weeks in notifying MCH and hence the consultation had passed the 6 months cutoff date (by 3 weeks). MCH asked if full consultation had to re-start or if due to the unusual circumstance's consultation may continue.
27/4/20				MCH / BCD		MCH sent a second email as above to BCD.
29/4/20				MCH / BCD		MCH rang BCD Sydney to discuss above. There was no answer and contacted BCD Newcastle for a contact in BCD who would be in the office in Sydney.
29/4/20				MCH / BCD		MCH emailed BCD as above (23/4/20)
29/4/20				BCD / MCH		BCD confirmed that due to the unusual circumstances, in this case, consultation may continue form the previous assessment and not re-start.
30/4/20	email & letter		3	All RAPs		All RAPs sent a letter of invitation to attend and participate in the survey and test excavation if required on 7/5/2020
30/4/20	phone			Gandangara LALC	Darren Duncan	Will attend survey
7th May 2020 Field work						
15/6/20		4.3.5; 4.3.6; 4.3.7 4.4.1; 4.4.2; 4.4.3	3 & 4	All RAPs		Draft report sent to all RAPs for review and response due by 13/7/20
13th July 2020 response to draft closed						
13th July 2020 Assessment Complete						

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

18 April 2019

Sir/Madam
NTSCORP Limited
information@ntscorp.com.au

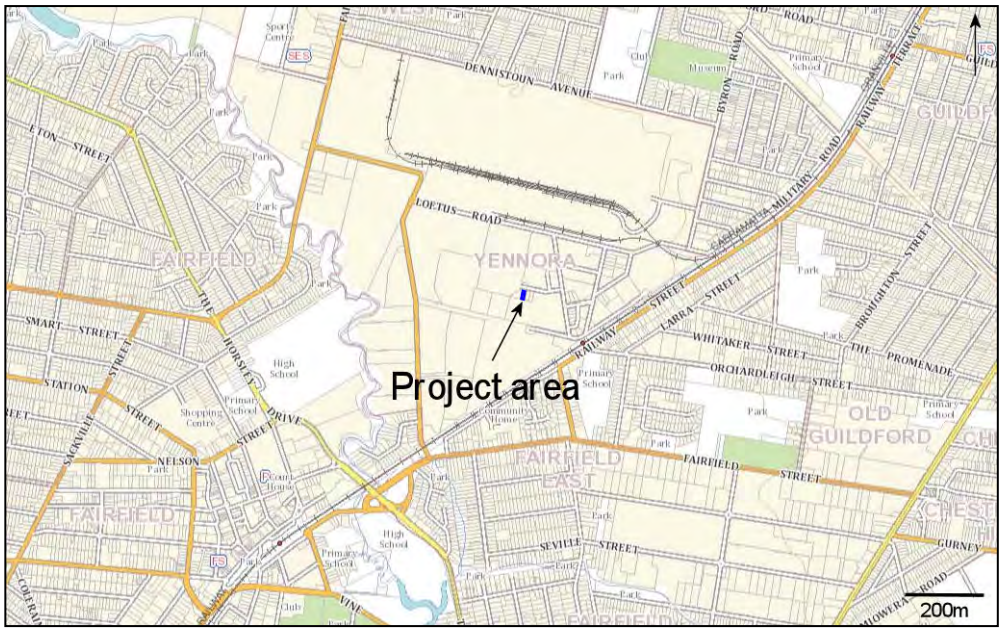
Dear Sir/Madam,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, (Stage 1, s4.1.1 to 4.1.2), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the project area



In order to comply with the OEH policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, in particular Stage 1 (s4.1.2) - we are writing to advise you of the proposal and ask whether you could provide details of any Aboriginal groups or individuals that your organisation is aware of who may have an interest in the investigation area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Should you have this information, we request that you provide the names and contact details of these Aboriginal people/organisations, in writing, to the undersigned either via written correspondence or email (mcheritage@iprimus.com.au) within 17 working days (additional time due to Public Holidays) of receipt of this letter.

Please note that in order to adhere to time constraints, and the minimal time requirements as stead in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation is not aware of any such interested parties.

Should you wish to discuss this matter, please do not hesitate to contact me on 0412 702 396.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

McCARDLE
CULTURAL HERITAGE

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mcheritage@ipcmus.com.au
0412 702 396

18 April 2019

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Office of Environment & Heriatge (Archaeology)
gs.ach@environment.nsw.gov.au

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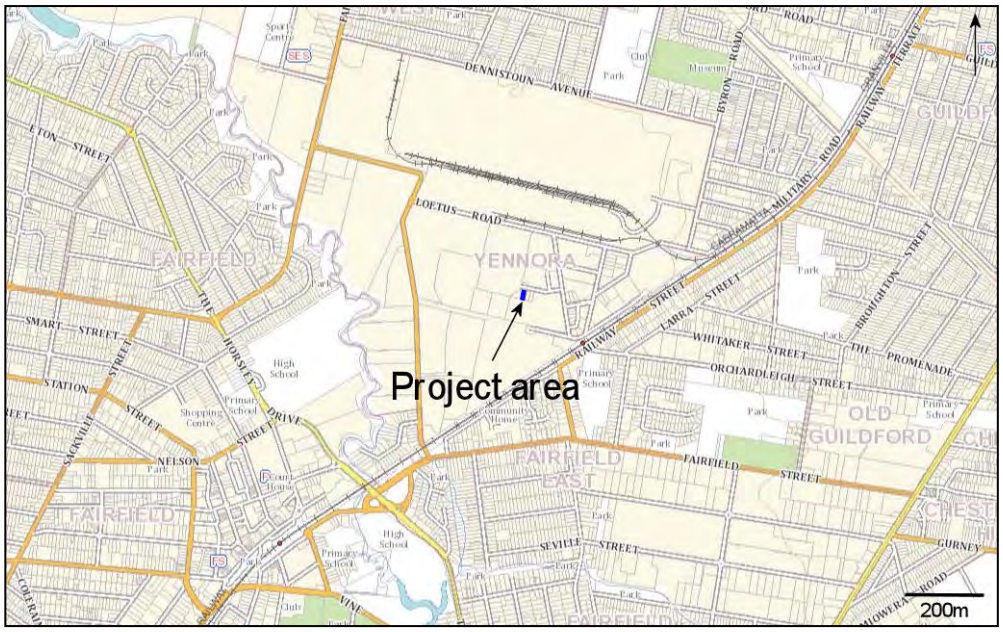

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@optusnet.com.au
0412 702 396

18 April 2019

Sir/Madam
Greater Sydney Local Land Services
admin.greatersydney@lls.nsw.gov.au

Dear Sir/Madam,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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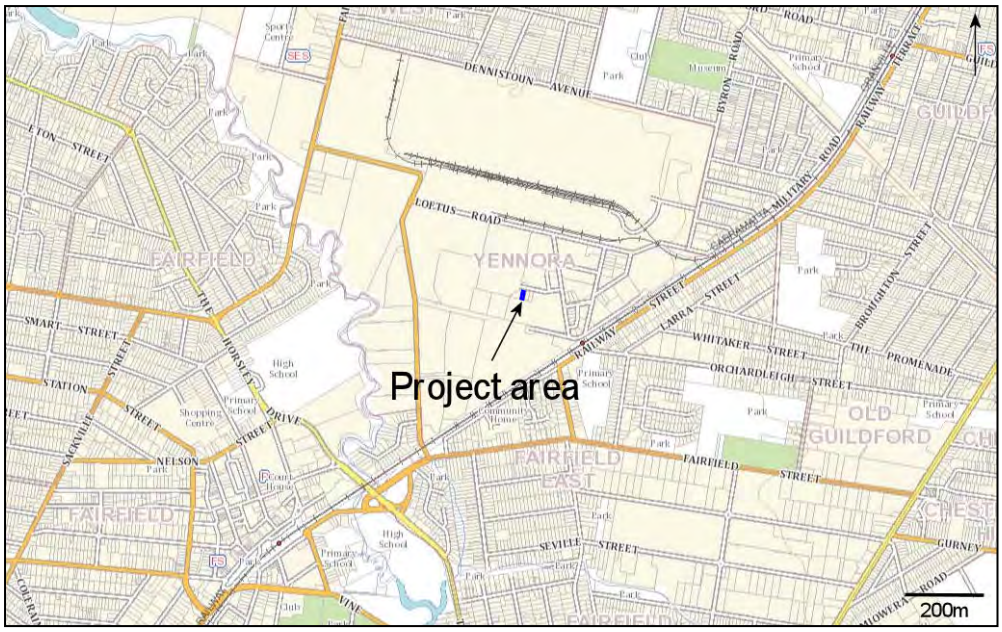
Location of the project area



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Should you have this information, we request that you provide the names and contact details of these Aboriginal people/organisations, in writing, to the undersigned either via written correspondence or email (mcheritage@iprimus.com.au) within 17 working days (additional time due to Public Holidays) of receipt of this letter.

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Penny McCardle
Principal Archaeologist
Forensic Anthropologist

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

18 April 2019

Sir/Madam
National Native Title Tribunal
GeospatialSearch@NNTT.gov.au

Dear Sir/Madam,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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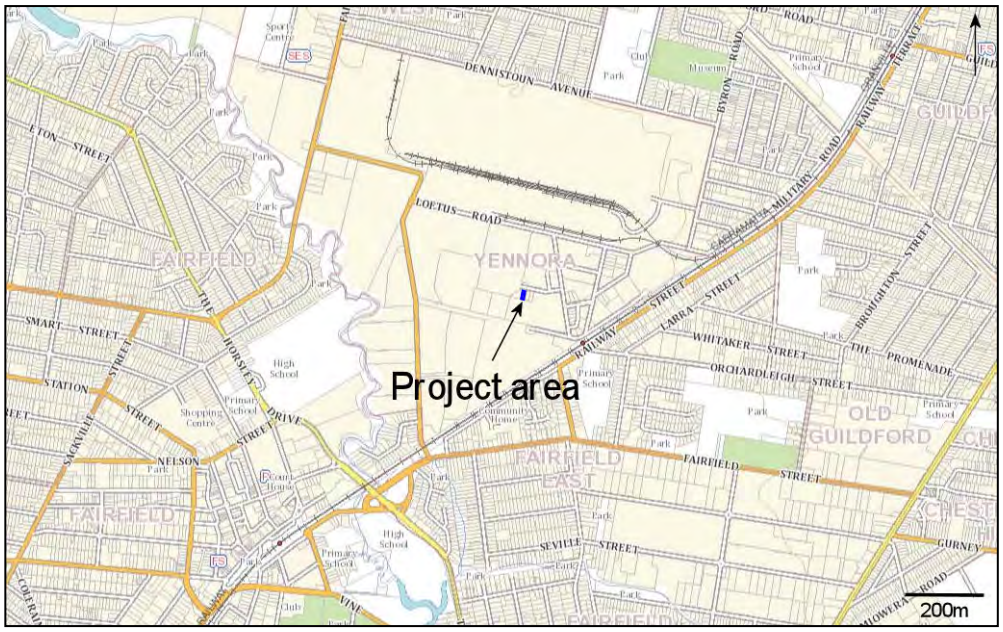

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

National Native Title Tribunal

Request for Search of Tribunal Registers

Search for overlapping interests i.e.: Is there a native title claim, determination or land use agreement over this land?
Please note: the NNTT cannot search over freehold land.
For further information on freehold land: Click Here (NNTT website)

1. Your details

NAME:	Penny McCardle
POSITION:	Archaeologist
COMPANY/ORGANISATION:	McCardle Cultural Heritage Pty Ltd
POSTAL ADDRESS:	PO Box 166, Adamstown NSW 2289
TELEPHONE:	0412 702 396
EMAIL:	mcheritage@iprimus.com.au
YOUR REFERENCE:	Yenora
DATE OF REQUEST:	18/4/2019

2. Reason for your request

Are you a party to a native title proceeding? ☐ Yes ☐ No

Please provide Federal Court/Tribunal file number/or application name: _____

OR

Do you need to identify existing native title interests to comply with the *Native Title Act 1993* (Cth) or other State/Territory legislation? ☐ Yes ☐ No

Please provide brief details of these obligations here: OEH requirements

3. Identify the area to be searched

If there is insufficient room below, please send more information on a Word or Excel document.

Mining tenure

State/Territory: NSW

Tenement ref/s: _____

OR

Crown land / non-freehold tenure

Tenure type: ☐ Lease ☐ Reserve or other Crown land

State/Territory: _____

Lot and plan details: _____

Pastoral Lease number or name: _____

Other details: (Town/County/Parish/ Section/Hundred/Portion): _____

Email completed form to: GeospatialSearch@nntt.gov.au

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

18 April 2019

Sir/Madam
Gandangara Local Aboriginal Land Council
Mjohnson@glalc.org.au

Dear Sir/Madam,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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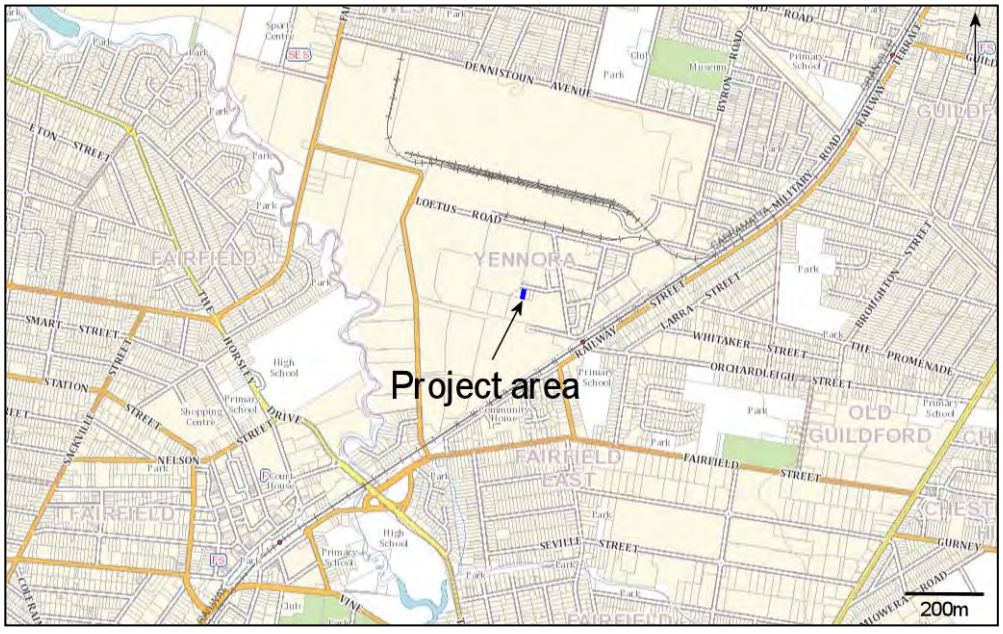

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Yours sincerely,

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Penny McCardle
Principal Archaeologist
Forensic Anthropologist

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

18 April 2019

Sir/Madam
Cumberland Council
council@cumberland.nsw.gov.au

Dear Sir/Madam,

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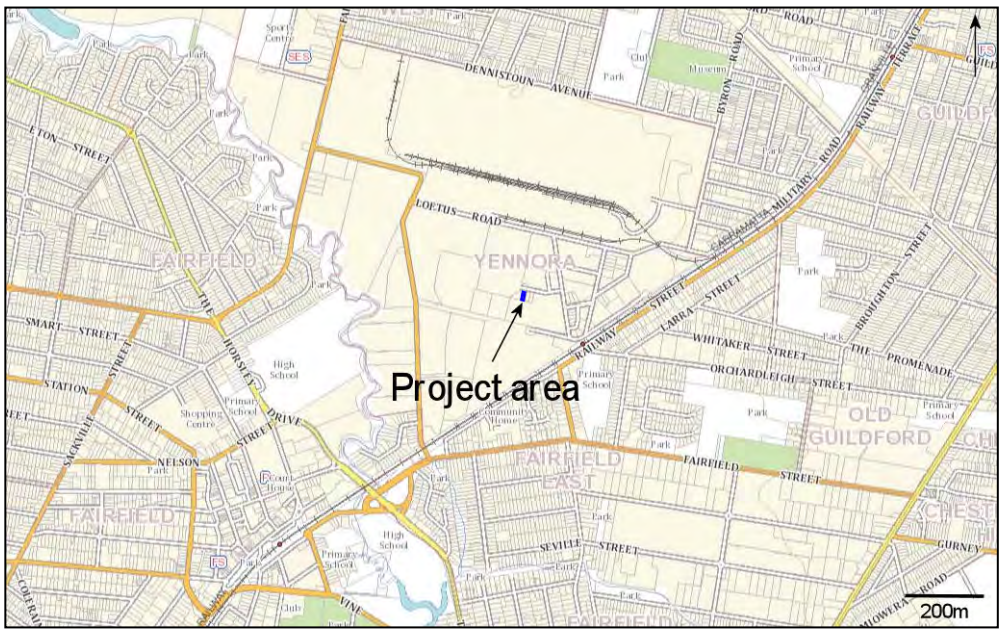

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Forensic Anthropologist

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PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

18 April 2019

Sir/Madam
Office of the Registrar, Aborigianl Land Rights Act 1983
jodie.rikiti2@oralra.nsw.gov.au

Dear Sir/Madam,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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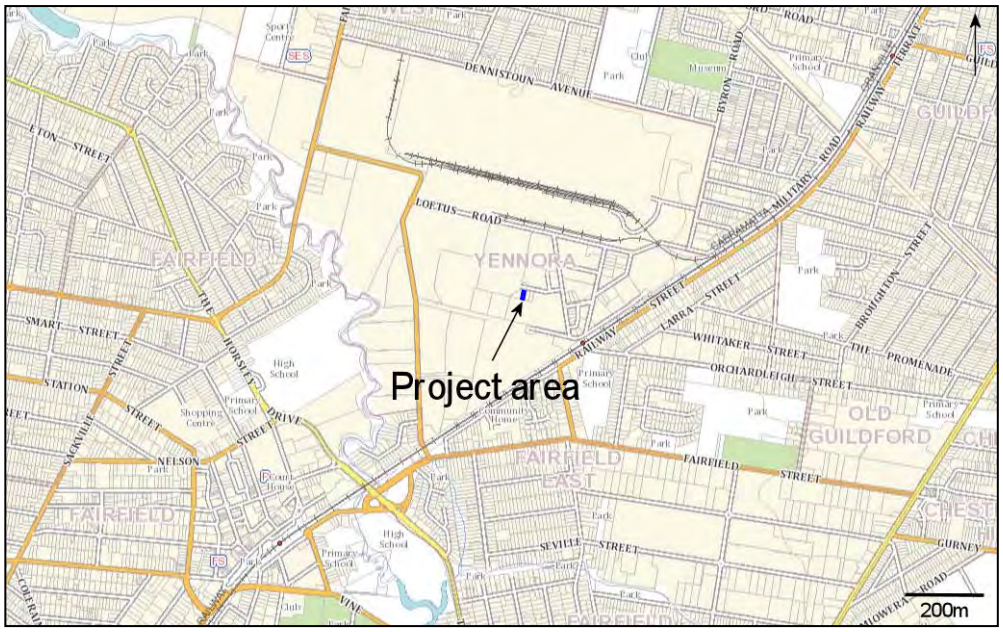

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Penny McCardle

From: Geospatial Search Requests <GeospatialSearch@NNTT.gov.au>
Sent: Thursday, 18 April 2019 2:46 PM
To: Penny McCardle
Subject: RE: SR5742 - search - SR5742

UNCLASSIFIED

Native title search – *NSW Parcel – 15 Kiora Crescent, Yennora*
Your ref: *Yenora* - **Our ref:** *SR5742*

Dear Penny McCardle,

Thank you for your search request received on 18 April 2019 in relation to the above area.

Please note: Records held by the National Native Title Tribunal as at 18 April 2019 indicate that the identified parcels appear to be freehold, and freehold tenure extinguishes native title.
The National Native Title Tribunal does not hold data sets for freehold tenure; consequently, we **cannot** conduct searches over freehold. For confirmation of freehold data, please contact the NSW Land and Property Information office or seek independent legal advice.

For further information, please visit our website.

Cultural Heritage Searches in NSW
The National Native Title Tribunal (the Tribunal) has undertaken steps to remove itself from the formal list of sources for information about indigenous groups in development areas. The existence or otherwise of native title is quite separate to any matters relating to Aboriginal cultural heritage. Information on native title claims, native title determinations and Indigenous Land Use Agreements is available on the Tribunal's website.

Interested parties are invited to use Native Title Vision (NTV) the Tribunal's online mapping system to discover native title matters in their area of interest. Access to NTV is available at
http://www.nntt.gov.au/assistance/Geospatial/Pages/NTV.aspx
Training and self-help documents are available on the NTV web page under "Training and help documents". For additional assistance or general advice on NTV please contact GeospatialSearch@NNTT.gov.au

Additional information can be extracted from the Registers available at
http://www.nntt.gov.au/searchRegApps/Pages/default.aspx

If you have any further queries, please do not hesitate to contact us on the free call number 1800 640 501.

Regards,

Geospatial Searches
National Native Title Tribunal | Perth
Email: GeospatialSearch@nntt.gov.au | **www.nntt.gov.au**

Office of Environment & Heritage

Our reference: Doc19/358334

Penny McCardle
Cultural Heritage Pty Ltd
Principle Archaeologist
PO Box 166
Adamstown NSW 2289

Dear Penny,

Thank you for your letter dated 18th April 2019 to the Office of Environment and Heritage (OEH) regarding obtaining a list of the Aboriginal stakeholders that may have an interest in an Aboriginal Cultural Heritage Assessment for a proposed development to the existing Resource Processing Facility at 14 Kiora Cresent, Yennora NSW.

Before making an application for the issue of an Aboriginal Heritage Impact Permit, the applicant must carry out an Aboriginal community consultation process in accordance with the National Parks and Wildlife Regulation 2009 and completed to the stage described in subclause 80C.

Please find attached the list of Aboriginal stakeholders known to OEH that may have an interest in the project. OEH's list of regional stakeholders is a list of groups, organisations or individuals who may hold cultural knowledge relevant to a proposal in a region. You should contact the stakeholders who have indicated an interest in the Local Government Area (LGA) relevant to your project. Contact details are correct as at the time of registration. Consultation with Aboriginal people should not be confused with employment. Inclusion on the OEH's list is not an automatic right to employment. It is the decision of a proponent on who they choose to engage to deliver services based on a range of considerations including skills, relevant experience, and WHS considerations. To be clear, the proponent is under no obligation to employ Aboriginal people registered for consultation.

Further, receipt of this information does not remove the requirement of a proponent/consultant to advertise in local print media and contact other bodies seeking interested Aboriginal parties. Consultation with Aboriginal stakeholders must be in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* which can be found on the Office of Environment and Heritage (OEH) public website by accessing the following link:

http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf

If you wish to discuss any of the above matters further please email gs.ach@environment.nsw.gov.au.

Level 2, 10 Valentine Avenue, Parramatta NSW 2150
PO Box 644, Parramatta NSW 2124
Tel: (02) 9995 5477
ABN 30 841 387 271
www.environment.nsw.gov.au

Please note that subclause 80C(4) of the NPW Reg 2009 requires that the notification of potential stakeholders by letter and newspaper **must include the name and contact details of the proponent.** Any consultation undertaken that does not comply with the consultation requirements may not be considered sufficient to support an application for an AHIP. In this case OEH may require a new consultation process be undertaken in accordance with the consultation requirements before issuing an AHIP.

Yours sincerely

S. Harrison 29/04/19

Susan Harrison
Senior Team Leader Planning
Greater Sydney Branch
Communities and Greater Sydney Division

Doc19/358334

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@iprimus.com.au
P: 0412 702 396

mcheritage.com.au

18 April 2019

Sir/Madam
Office of Environment & Heriatge (Archaeology)
gs.ach@environment.nsw.gov.au

Dear Sir/Madam,

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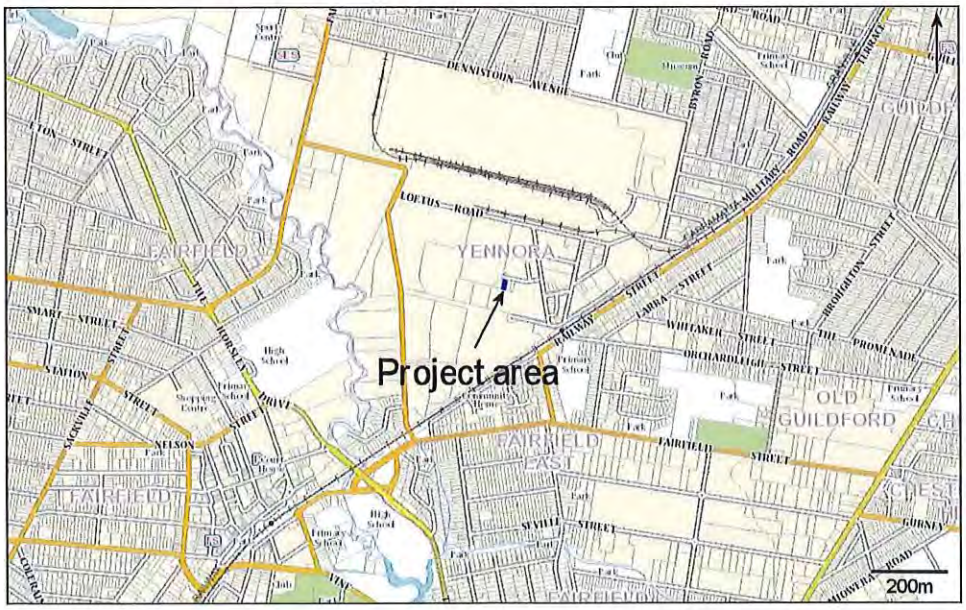

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd

Penny McCardle
Principal Archaeologist
Forensic Anthropologist

LIST OF ABORIGINAL STAKEHOLDERS FOR THE GREATER SYDNEY BRANCH HELD BY OEH FOR THE PURPOSES OF THE *ABORIGINAL CULTURAL HERITAGE CONSULTATION REQUIREMENTS FOR PROPONENTS 2010*

These lists are provided to proponents in accordance with section 4.1.2 of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (the "Consultation Requirements") which commenced on 12 April 2010.

The consultation process involves getting the views of, and information from, Aboriginal people and reporting on these. It is not to be confused with other field assessment processes involved in preparing a proposal and an application. Consultation does not include the employment of Aboriginal people to assist in field assessment and/or site monitoring. Aboriginal people may provide services to proponents through a contractual arrangement however, this is separate from consultation. The proponent is not obliged to employ those Aboriginal people registered for consultation. Consultation as per these requirements will continue irrespective of potential or actual employment opportunities for Aboriginal people.

A copy of the Consultation Requirements can be found on the OEH website at: http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf.

Under the Consultation Requirements; a proponent is required to provide Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places as relevant to the proposed project area, with an opportunity to be involved in consultation. Section 3.3.1 of the Consultation Requirements states that Aboriginal people who can provide this information are, based on Aboriginal lore and custom, the traditional owners or custodians of the land that is the subject of the proposed project.

The Consultation Requirements also state that:

Traditional owners or custodians with appropriate cultural heritage knowledge to inform decision making who seek to register their interest as an Aboriginal party are those people who:

- *continue to maintain a deep respect for their ancestral belief system, traditional lore and custom*
- *recognise their responsibilities and obligations to protect and conserve their culture and heritage and care for their traditional lands or Country*
- *have the trust of their community, knowledge and understanding of their culture, and permission to speak about it.*

Please note: the placement of an organisation's name on any OEH Aboriginal stakeholder list for the Consultation Requirements does not override a proponent's requirement to also advertise in the local newspaper and to seek from other sources the names of any other Aboriginal people who may hold cultural knowledge as required under clause 80C of the National Parks and Wildlife Regulation 2009.

How to use this list

1. **Determine which Local Government Area/s (LGA/s) your project area falls into**
2. **Identify which organisations and individuals on the list have an interest in the LGA/s relevant to your project – identified in column 6 of the list**
3. **Contact the organisations/individuals who have indicated an interest in the relevant LGA/s and invite them to register an interest in your project**

Do not reproduce the attached list in publicly available reports and other documents. Your report should only contain the names of the organisations and individuals who you have invited to register an interest in your project and those who have registered as stakeholders for your project.

PLEASE NOTE: THE STAKEHOLDER LIST HAS NOT BEEN UPDATED TO INCLUDE THE RECENT COUNCIL MERGERS AND NAME CHANGES. PLEASE CONSIDER THE PRE-MERGER COUNCIL BOUNDARIES WHEN DETERMINING WHO SHOULD BE INVITED TO REGISTER FOR YOUR PROJECT. Last update is 25th March 2019

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
Deerubbin Local Aboriginal Land Council	Kevin Cavanagh	(02) 4724 5600	Not provided	2/9 Tindale St, Penrith NSW 2750	Hawkesbury Blacktown Penrith Fairfield	Holroyd Blue Mountains The Hills Shire Parramatta	
Tharawal Local Aboriginal Land Council	Rebecca Ede (CEO)	(02) 46810059	ceo@tharawal.com.au reception@tharawal.com.au	PO Box 245 Thirlmere NSW 2572	Camden Campbelltown Wollondilly	Sutherland Liverpool	
Metropolitan Local Aboriginal Land Council	Nathan Moran	(02) 83949666	Not provided	PO Box 1103 Strawberry Hills NSW 2016	The Hills Shire Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Burwood Ashfield Auburn Canada Bay	Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	
Gandangara Local Aboriginal Land Council	Not provided	(02) 96025280	Not provided	PO Box 1038 Liverpool NSW 2170	Liverpool Fairfield Holroyd Parramatta	Auburn Bankstown Sutherland	
La Perouse Local Aboriginal Land Council	Chris Ingrey	(02) 9311 4282	Not provided	PO Box 365 Matraville NSW 2036	Sutherland Randwick Botany Bay Waverly	Woollahra Sydney Rockdale	
Parramatta City Council Aboriginal Advisory Committee	Parramatta City Council	(02)9806 5050	Not provided	PO Box 32, Parramatta, NSW, 2124	Parramatta		
Holroyd City Council Advisory Committee	Holroyd City Council	(02) 9840 9840	Not provided	P.O. Box 42, Merrylands, NSW 2160	Holroyd		
Darug Custodian Aboriginal Corporation	Justine Coplin	0414 962 766	justinecoplin@optusnet.com.au	PO Box 81, Windsor NSW 2756	Hawkesbury Blacktown Penrith Fairfield Holroyd Blue Mountains	Camden Campbelltown The Hills Shire Liverpool Parramatta	
Darug Tribal Aboriginal Corporation	Not provided	02 9622 4081	Not provided	PO Box 441, Blacktown NSW 2148	Hawkesbury Blacktown Penrith Fairfield Holroyd Blue Mountains	Camden Campbelltown The Hills Shire Liverpool Parramatta	
Darug Aboriginal Cultural Heritage Assessments	Gordon Morton	02 9410 3665 or 0422 865 831	Not provided	Unit 9, 6 Chapman Avenue, Chatswood, NSW 2067	Hawkesbury Blacktown Penrith Fairfield Holroyd Blue Mountains Camden Campbelltown The Hills Shire	Strathfield Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney	

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
					Liverpool Parramatta Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown	Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	
Darug Land Observations	Jamie Workman and Anna Workman	0418 494 951 0413 687 279	daruglandobservations@gmail.com	PO Box 173, Ulladulla, NSW 2539	Ashfield Auburn Bankstown Blacktown Blue Mountains Botany Bay Burwood Camden Campbelltown Canada Bay Canterbury Fairfield Hawkesbury The Hills Holroyd Hornsby Hunter's Hill Hurstville Kogarah Ku-ring-gai Lane Cove	Leichhardt Liverpool Manly Marrickville Mosman North Sydney Parramatta Penrith Pittwater Randwick Rockdale Ryde Strathfield Sutherland Sydney Warringah Waverley Willoughby Woollahra Wollondilly	
Des Dyer		0408 360 814	Not provided	18a Perigee Close, Doonside 2767	Hawkesbury Blacktown Penrith Fairfield Holroyd	Camden Campbelltown The Hills Shire Liverpool Parramatta	
Ken Foster		0411 818 091	Not provided	68 Australia St Matraville	Sutherland		
La Perouse Botany Bay Corporation	Yvonne Simms	04660 94491	Fax (02) 9311 3440	10 Murrong Place, La Perouse NSW 2036	Sutherland		
Norma Simms		04660 94491	Not provided	10 Murrong Place, La Perouse NSW 2036	Sutherland		
Matthew and Andrew Coe		(08)83442196	Not provided	37 Derlanger Avenue, Collingswood, South Australia 5081	Sutherland		
Gundungurra Aboriginal Heritage Association Inc	Merl Williams	02 4757 3223	Not provided	PO Box 31, Lawson NSW 2783	Blue Mountains		
Gundungurra Tribal Council Aboriginal Corporation	Sharon Brown	02 4729 3713	Not provided	PO Box 7244, Leura NSW 2780	Blue Mountains		
Trevor Robinson		Not provided	Not provided	PO Box 73, Peak Hill, NSW 2869	Blue Mountains		

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's	Additional information
Tania Matthews		0409 193 612/ (02) 67924038	aboriginalhistoryhunter@gmail.com	U2 11 Walowa Street, Narrabri, NSW 2390	Blue Mountains	
A1 Indigenous Services	Carolyn Hickey	0411 650 057	cazadirect@live.com	10 Marie Pitt Place Glenmore Park 2745 NSW.	Blue Mountains Ashfield Auburn Bankstown Blacktown Blue Mountains Botany Bay Burwood Camden Campbelltown Canada Bay Canterbury Fairfield Hawkesbury The Hills Holroyd Hornsby Hunter's Hill Hurstville Kogarah Ku-ring-gai Lane Cove Leichhardt Liverpool Manly Marrickville Mosman North Sydney Parramatta Penrith Pittwater Randwick Rockdale Ryde Strathfield Sutherland Sydney Warringah Waverley Willoughby Woollahra Wollondilly	Carolyn is Wonnarua
Cubbitch Barta	Glenda Chalker	0427 218 425	Not provided	55 Nightingale Rd, Pheasants Nest NSW 2574	Camden Liverpool Campbelltown Wollondilly	
	Rebecca Chalker	Not Provided	Not provided	99 Menangle street, Picton 2571		

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
Eric Keidge		04311 66423	Not provided	11 Olsson Close Hornsby Heights NSW 2077	The Hills Shire Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Burwood Ashfield Auburn Canada Bay	Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	
Gunjeewong Cultural Heritage Aboriginal Corporation	Cherie Carroll Turrise	(02) 6355 4110 0456 116 408	cheriecarroll68@yahoo.com	1 Bellvue Place, Portland NSW, 2847	Hawkesbury Blacktown Penrith Fairfield	Holroyd Camden Campbelltown Parramatta	Cherie is a Ngunnawal Elder however lived in the Western Sydney area during her childhood. She recognises she is not from the area but has associations
	Contact details have changed as the above contact details have been hacked as of January 2018	0438 428 805 or 0409 558 846	Gunjeewong53@hotmail.com				
Merrigarn Indigenous Corporation	Shaun Carroll	0435 040 842	Not provided	GPO Box 158, Canberra City, ACT, 2601	Hawkesbury Blacktown Penrith Fairfield	Holroyd Camden Campbelltown Parramatta	Shaun is Ngunnawal and is Cherie's brother. **NOTE:** It has been reported to OEH that the contact details for this group are incorrect; however, OEH has not been provided with revised contact details.
Corroboree Aboriginal Corporation	Marilyn Carroll-Johnson	0415911159	corroboreecorp@bigpond.com	PO Box 3340, Rouse Hill, NSW 2155	Western Sydney Camden	Campbelltown Parramatta	Ngunnawal and lives in Western Sydney
Murra Bidgee Mullangari Aboriginal Corporation	Darleen Johnson	0490 051 102	Not provided	PO Box 246, Seven Hills, NSW, 2147	Hawkesbury Blacktown Penrith Fairfield	Holroyd Camden Campbelltown Parramatta	Ngunnawal and lives in Western Sydney
Muragadi Heritage Indigenous Corporation	Jesse Johnson	0447 970 049	Not provided	5 Hession Road, Nelson, NSW 2765	Western Sydney Camden	Campbelltown Parramatta	Ngunnawal and lives in Western Sydney
Bidjawong Aboriginal Corporation	James Carroll	0433 224 324	Not provided	PO Box 124, Round Corner, NSW 2158	Hawkesbury Blacktown Penrith Fairfield	Holroyd Camden Campbelltown Parramatta	
Phil Kahn		0434 545 982	Not provided	78 Forbes Street, Emu Plains, NSW 2750	Hawkesbury Blacktown Penrith Fairfield Holroyd	Camden Campbelltown Liverpool Parramatta	
Wurrumay Consultancy	Kerrie Slater	0423 935 556	wurrumay@hotmail.com; Vicki.slater@hotmail.com	89 Pyramid street, Emu Plains NSW	Hawkesbury Blacktown	Camden Campbelltown	

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
					Penrith Fairfield Holroyd	Liverpool Parramatta Wollondilly	
Warragil Cultural Services	Aaron Slater (Manager)	0481 280 067	Warragil_c.s@hotmail.com		Hawkesbury Blacktown Penrith Fairfield	Holroyd Camden Campbelltown Liverpool Parramatta	
Kawul Cultural Services	Vicky Slater (Manager)	0431 720 887	Vicki.slater@hotmail.com	PO Box 414 Emu Plains NSW 2750	Hawkesbury Blacktown Penrith Fairfield Holroyd Blue Mountains Sutherland Liverpool	Camden Campbelltown Parramatta Wollondilly The Hills Shire Auburn Bankstown	
Tocomwall	Scott Franks	0404 171 544	Not provided	PO Box 76, Caringbah NSW 1495	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown The Hills Shire Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown	Strathfield Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	
D'harawal Mens Aboriginal Corporation	Elwyn Brown	0401920982	Not provided	187 Riverside Drive, Airds NSW 2560	Camden Campbelltown	Wollondilly	
Amanda Hickey Cultural Services	Amanda Hickey	0434 480 588	amandahickey@live.com.au	57 Gough st emu plains 2750	Blue Mountains Ashfield Auburn Bankstown Blacktown Blue Mountains Botany Bay Burwood Camden Campbelltown Canada Bay Canterbury Fairfield Hawkesbury The Hills Holroyd	Strathfield Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Liverpool Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay	Amanda is Wonnarua

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
					Hornsby Hunter's Hill Hurstville Kogarah Ku-ring-gai Lane Cove	Ryde Warringah Willoughby Penrith Parramatta Marrickville Wollondilly	
Widescope Indigenous Group	Steven Hickey and Donna Hickey	0425 230 693 (Steven) 0425 232 056 (Donna)	Not provided	73 Russell Street, Emu Plains, NSW 2750	Hawkesbury Blacktown Penrith	Fairfield Holroyd Parramatta Blue Mountains	
HSB Consultants	Patricia Hampton	0424 142 216	Not provided	62 Ropes Crossing Boulevard, Ropes Crossing 2760	Hawkesbury Blacktown Penrith	Fairfield Holroyd Parramatta	
Rane Consulting	Tony Williams	02 88246991	ajw1901@bigpond.com	1 Pyrenees Way Beaumont Hills NSW 2155	Hawkesbury Blacktown Penrith	Fairfield Holroyd Parramatta	
Anthony Williams		0456 399 687	Not provided	Unit 2 / 24 Goodwin Street Narrabeen NSW 2101	Hawkesbury Blacktown Penrith	Fairfield Holroyd Parramatta	
Dhinawan-Dhigaraa Culture & Heritage Pty Ltd	Ricky Fields	0402 942 572	dhinawan.fields@gmail.com	Not provided	Hawkesbury Blacktown Penrith	Fairfield Holroyd Parramatta	
	Athol Smith	0449 665 715	Not provided	16 Yantara Place, Woodcroft, NSW, 2767			
Gunyuu	Kylie Ann Bell	Not provided	gunyuuchts@gmail.com	Not provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River.
Walbunja	Hika Te Kowhai	0402 730 612	walbunja@gmail.com	Not provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
					Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	
Badu	Karia Lea Bond	0476 381 207	Not provided	11 Jeffery Place, Moruya, NSW 2537	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Goobah Developments	Basil Smith	0405 995 725	Not provided	66 Grantham Road, Batehaven NSW, 2536	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Wullung	Lee-Roy James Boota	0403 703 942	Not provided	54 Blackwood Street, Gerringong, NSW, 2534	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River

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					Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	
Yerramurra	Robert Parson	Not provided	yerramurra@gmail.com	Not provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Nundagurri	Newton Carriage	Not Provided	nundagurri@gmail.com	Not Provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Murrumbul	Mark Henry	Not provided	murrumbul@gmail.com	Not provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River.

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
					Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	
Jerringong	Joanne Anne Stewart	0422 800 184	jerringong@gmail.com	Not provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Pemulwuy CHTS	Pemulwuy Johnson	0425 066 100	pemulwuyd@gmail.com	14 Top Place, Mt Annan	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown The Hills Shire Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown	Strathfield Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Bilinga	Simalene Carriage	Not provided	bilingachts@gmail.com	Not provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River.

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					Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	
Munyunga	Kaya Dawn Bell	Not provided	munyungachts@gmail.com	Not provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River.
Wingikara	Hayley Bell	Not provided	wingikarachts@gmail.com	Not provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River.
Minnamunnung	Aaron Broad	0402 526 888	Not provided	1 Waratah Avenue, Albion Park Rail NSW 2527	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool	Burwood Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney	

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					Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby	
Walgalu	Ronald Stewart	Not provided	walgaluchts@gmail.com	Not provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Thauaira	Shane Carriage	Not provided	thauairachts@gmail.com	Not provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Dharug	Andrew Bond	Not provided	dharugchts@gmail.com	Not provided	Hawkesbury Blacktown Ashfield Auburn	This group states that their boundaries (Murrin

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
					Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	Peoples) extend from the Hawkesbury River to the Snowy River
Bilinga Cultural Heritage Technical Services	Robert Brown	Not Provided	bilinga@mirramajah.com	Not Provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	This group is a member of the Mirramajah Group of RAPs
Gunyuu Cultural Heritage Technical Services	Darlene Hoskins-McKenzie	Not Provided	gunyuu@mirramajah.com management@mirramajah.com (management & administrative email address for the Mirramajah Group of RAPs).	Not Provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde	This group is a member of the Mirramajah Group of RAPs

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					Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	
Munyunga Cultural Heritage Technical Services	Suzannah McKenzie	Not Provided	munyunga@mirrmajah.com	Not Provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	This group is a member of the Mirramajah Group of RAPs
Murrumbul Cultural Heritage Technical Services	Levi McKenzie-Kirkbright	Not Provided	murrumbul@mirramajah.com	Not Provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	This group is a member of the Mirramajah Group of RAPs
Wingikara Cultural Heritage Technical Services	Wandai Kirkbright	Not Provided	wingikara@mirramajah.com	Not Provided	Hawkesbury Blacktown Penrith Fairfield Holroyd	Ashfield Auburn Canada Bay Leichhardt Manly	This group is a member of the Mirramajah Group of RAPs

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
					Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	
Gulaga	Wendy Smith	Not Provided	gulagachts@gmail.com	Not Provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Biamanga	Seli Storer	Not Provided	biamangachts@gmail.com	Not Provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River

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					Strathfield Randwick Woollahra	Burwood The Hills Waverly Wollondilly	
Callendulla	Corey Smith	Not Provided	cullendullachts@gmail.com	Not Provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Murramarang	Roxanne Smith	Not Provided	murramarangchts@gmail.com	Not Provided	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
DJMD Consultancy	Darren Duncan	0410 510 397	darrenjohnduncan@gmail.com	Not Provided	Hawkesbury Blacktown Penrith Parramatta Sydney Marrickville Strathfield Warringah	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove	Darren is associated with Metro and Deerubbin LALCs

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
					Willoughby Blue Mountains Burwood The Hills Ryde	Hunters Hill Hornsby Ku-Ring-Gai Pittwater	
Butucarbin Aboriginal Corporation	Jennifer Beale	(02)9832 7167	koori@ozemail.com.au	PO Box E18, Emerton, NSW 2770	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	Preferred contact via email
Didge Ngunawal Clan	Lillie Carroll Paul Boyd	0426 823 944	didgengunawalclan@yahoo.com.au	33 Carlyle Crescent Cambridge Gardens NSW 2747	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	
Ginninderra Aboriginal Corporation	Steven Johnson and Krystle Carroll	0406991221	Ginninderra.corp@gmail.com	PO BOX 3143 Grose Vale NSW 2754	Hawkesbury Blacktown Penrith Fairfield Holroyd	Ashfield Auburn Canada Bay Leichhardt Manly	

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's	Additional information
					Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	
Garrara Aboriginal Corporation	Raymond Ingrey		raymond@bariyu.org.au		Sutherland Liverpool Camden Campbelltown Wollondilly	
Nerrigundah	Newton Carriage	0421 253 677	nerrigundachts@gmail.com		Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly	
Duncan Falk Consultancy	Duncan Falk	0406 610 644	duncanfalk@hotmail.com	34 Robinia Drive, Bowral NSW 2576	Camden Campbelltown	
Sharon Hodgetts		0405288814	sharonhodgetts@hotmail.com	21/29 Central Coast Hwy West Gosford 2250	Hawkesbury	
Wailwan Aboriginal Group	Philip Boney	0436 483 210	waarlan12@outlook.com		Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove	

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
					Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly	
Guntawang Aboriginal Resources Incorporated	Wendy Morgan	0414 964 657 9601 7183	Wenlissa01@hotmail.com	113 Reservoir Road Mt Pritchard NSW 2170	Camden Campbelltown Liverpool Fairfield Holroyd Wollondilly Blue Mountains		
Barking Owl Aboriginal Corporation	Mrs Jody Kulakowski (Director)	0426 242 015	barkingowlcorp@gmail.com	2-65/69 Wehlow St. Mt Druitt	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	
Yulay Cultural Services	Arika Jalomaki (Manager)	0411 048 794	yulayculturalservices@gmail.com	15 Rowley Place, Airds NSW 2560	Deerubbin LALC Tharawal LALC Gandangarra LALC		LGAs of interest not specified, rather, LALC boundaries within which the organisation wish to be consulted
Thoorga Nura	John Carriage (Chief Executive Officer)	0401 641 299	thoorganura@gmail.com	50B Hilltop Crescent, Surf Beach, 2536, NSW	Ashfield Auburn Bankstown Blacktown Blue Mountains Botany Bay Burwood Camden	Leichhardt Liverpool Manly Marrickville Mosman North Sydney Parramatta Penrith	

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's	Additional information
					Campbelltown Canada Bay Canterbury Fairfield Hawkesbury The Hills Holroyd Hornsby Hunter's Hill Hurstville Kogarah Ku-ring-gai Lane Cove Pittwater Randwick Rockdale Ryde Strathfield Sutherland Sydney Warringah Waverley Willoughby Woollahra Wollondilly	
Barraby Cultural Services	Lee Field (Manager)	0423 906 606	barrabyculturalservices@gmail.com	6 Macgibbon Parade, Old Erowal Bay, NSW 2540	Tharawal LALC Gandagarra LALC	LGAs of interest not specified, rather, LALC boundaries within which the organisation wish to be consulted
Yurrandaali Cultural Services	Bo Field (Manager)	0457 546 643	yurrandaali_cs@hotmail.com	3 Sheeran Street, Old Erowal Bay NSW 2540	Tharawal LALC Gandagarra LALC	LGAs of interest not specified, rather, LALC boundaries within which the organisation wish to be consulted
Darug Boorooberongal Elders Aboriginal Corporation	Gordon Workman	0415 663 763	fax 02 9831 8868 boorooberongal@outlook.com	73 Judith Anderson Drive, Doonside NSW 2767	Ashfield Auburn Bankstown Blacktown Blue Mountains Botany Bay Burwood Camden Campbelltown Canada Bay Canterbury Fairfield Hawkesbury The Hills Holroyd Hornsby Hunter's Hill Hurstville Kogarah Ku-ring-gai Lane Cove Leichhardt Liverpool Manly Marrickville Mosman North Sydney Parramatta Penrith Pittwater Randwick Rockdale Ryde Strathfield Sutherland Sydney Warringah Waverley Willoughby Woollahra Wollondilly	

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's		Additional information
B.H. Heritage Consultants	Ralph Hampton Nola Hampton	0435 785 138 0401 663 531	hamptonralph46@gmail.com nhampton77@gmail.com	184 Captain Cook Drive Willmot 2770 NSW 95 Mount Ettalong Road Umina Beach 2257 NSW	Hawkesbury Blacktown Penrith Fairfield Holroyd Camden Campbelltown Liverpool Parramatta Sutherland Sydney Kogarah Hurstville Rockdale Canterbury Marrickville Bankstown Strathfield Randwick Woollahra	Ashfield Auburn Canada Bay Leichhardt Manly Mosman North Sydney Lane Cove Hunters Hill Hornsby Ku-Ring-Gai Pittwater Botany Bay Ryde Warringah Willoughby Blue Mountains Burwood The Hills Waverly Wollondilly	Nola and Ralph would BOTH like to be notified of all projects
Ngambaa Cultural Connections	Kaarina Slater	0417861882	ngambaaculturalconnections@hotmail.com	6 Natchez Cresent, Greenfield Park NSW 2167	Ashfield Auburn Bankstown Blacktown Blue Mountains Botany Bay Burwood Camden Campbelltown Canada Bay Canterbury Fairfield Hawkesbury The Hills Holroyd Hornsby Hunter's Hill Hurstville Kogarah Ku-ring-gai Lane Cove	Leichhardt Liverpool Manly Marrickville Mosman North Sydney Parramatta Penrith Pittwater Randwick Rockdale Ryde Strathfield Sutherland Sydney Warringah Waverley Willoughby Woollahra Wollondilly	LALC boundaries within which the organisation wish to be consulted: Deerubbin LALC Gandangarra LALC Tharawal LALC
Goodradigbee Cultural & Heritage Aboriginal Corporation,	Caine Carroll	0410974236	goodradigbee1@outlook.com	1 Morilla Road, East Kurrajong NSW 2758	Ashfield Auburn Bankstown Blacktown Blue Mountains Botany Bay Burwood Camden Campbelltown Canada Bay	Leichhardt Liverpool Manly Marrickville Mosman North Sydney Parramatta Penrith Pittwater Randwick Rockdale	

Organisation/ Individual	Contact Name	Phone Number	Email Address/ Fax	Postal Address	LGA's	Additional information
					Canterbury Fairfield Hawkesbury The Hills Holroyd Hornsby Hunter's Hill Hurstville Kogarah Ku-ring-gai Lane Cove Ryde Strathfield Sutherland Sydney Warringah Waverley Willoughby Woollahra Wollondilly	
Mura Indigenous Corporation,	Phillip Carroll	0448824188	mura.indigenous.com.bigpond.com	11 Nargal Street Flinders NSW 2529	Ashfield Auburn Bankstown Blacktown Blue Mountains Botany Bay Burwood Camden Campbelltown Canada Bay Canterbury Fairfield Hawkesbury The Hills Holroyd Hornsby Hunter's Hill Hurstville Kogarah Ku-ring-gai Lane Cove Leichhardt Liverpool Manly Marrickville Mosman North Sydney Parramatta Penrith Pittwater Randwick Rockdale Ryde Strathfield Sutherland Sydney Warringah Waverley Willoughby Woollahra Wollondilly	

Appendix B

Summary of the consultation process

Stage 1

Notification of project proposal and registration of interest

Proponents must compile a list of Aboriginal people who may have an interest in the proposed project area and hold knowledge relevant to determining the cultural significance of Aboriginal *objects* and/or *places* from reasonable sources of information, which include writing to:

a. the relevant DECCW EPRG regional office
b. the relevant Local Aboriginal Land Council(s) (LALC)
c. the Registrar, *Aboriginal Land Rights Act*
d. the National Native Title Tribunal
e. Native Title Services Corporation (NTSCorp)
f. relevant local council(s)
g. relevant catchment management authorities.

Proponent writes to the Aboriginal people whose names were provided by organisations **a** to **g** and LALC(s) to notify them of the proposed project and opportunity to be involved in consultation and places notification in the local newspaper.

The notification by letter and in the newspaper must include:

a. the name and contact details of the proponent
b. a brief overview of the proposed project that may be the subject of an application for an AHIP, including the location of the proposed project
c. a statement that the purpose of community consultation with Aboriginal people is to assist the proposed applicant in preparing an application for an AHIP and to assist the Director General of DECCW in his or her consideration and determination of the application
d. an invitation for Aboriginal people who hold knowledge relevant to determining the cultural significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation with the proposed applicant regarding the proposed activity
e. a closing date for the registration of interests.

Aboriginal people have a minimum of 14 days after the letter was sent or the notice was published in the newspaper to register an interest.

Proponent records names of Aboriginal people who have registered an interest in being involved in consultation – the 'registered Aboriginal parties'.

Stage 2

Presentation of information about the proposed project

Proponent presents and/or provides proposed project information to registered Aboriginal parties.

Proponent may create an opportunity for registered Aboriginal parties to visit the proposed project site.

Proponent provides a copy of the notification and record of the registered Aboriginal parties to DECCW and relevant LALC within 28 days of the closing date for registering an interest.

Proponent records or documents that information on the proposed project has been presented. This record or documentation should include any agreed outcomes and/or contentious issues that may require further discussion (where applicable).

Proponent should provide a copy of this record or documentation to registered Aboriginal parties.

Stage 3

Gathering information about cultural significance

Proponent presents and/or provides the proposed methodology(s) for the cultural heritage assessment to the registered Aboriginal parties for comment.

Registered Aboriginal parties have a minimum of 28 days after the proponent provides the methodology(s) to provide written or oral comment.

Proponent considers input provided by registered Aboriginal parties and finalises methodology for implementation. Proponent documents how the input has been considered.

Proponent seeks information from registered Aboriginal parties to identify:

a. whether there are any Aboriginal objects of cultural value
b. whether there are places of cultural value (whether or not they are Aboriginal places declared under Section 84 of the NPW Act).

Proponent seeks input from registered Aboriginal parties on potential management options.

Stage 4

Review of draft cultural heritage assessment report

Proponent prepares draft cultural heritage assessment report and provides it to the registered Aboriginal parties for review and comment.

Registered Aboriginal parties have a minimum of 28 days after the proponent provides the draft report to review and provide written or oral comment.

Proponent finalises cultural heritage assessment report. The final report is submitted to DECCW for consideration with the proponent's AHIP application.

Proponent provides/makes available the final cultural heritage assessment report and AHIP application to the registered Aboriginal parties and relevant LALCs within 14 days of an AHIP application being made to DECCW.

OFFICE OF THE REGISTRAR
ABORIGINAL LAND RIGHTS ACT 1983 (NSW)

3 May 2019

By email: mcheritage@iprimus.com.au

Penny McCardle
Principal Archaeologist
Forensic Anthropologist
PO Box 166
ADAMSTOWN NSW 2289

Dear Ms McCardle,

Request - Search for Registered Aboriginal Owners

We refer to your letter dated 18 April 2019 ("Letter") regarding an Aboriginal Cultural Heritage Assessment for the proposed development at 14 Kiora Crescent, Yennora, NSW as indicated on the map attached to the Letter.

Under Section 170 of the *Aboriginal Land Rights Act 1983* the Office of the Registrar is required to maintain the Register of Aboriginal Owners (RAO). A search of the RAO has shown that there are not currently any Registered Aboriginal Owners in the project area.

We suggest you contact Gandangara Local Aboriginal Land Council on 02 9602 5280 as they may be able to assist you in identifying Aboriginal stakeholders who wish to participate.

Yours sincerely

Eloane

Elizabeth Loane
Project Officer, Aboriginal Owners
Office of the Registrar, ALRA

Address: Level 3, 2 – 10 Wentworth Street, PARRAMATTA NSW 2150
Post: P.O Box 5068, PARRAMATTA NSW 2124
Phone: 02 8633 1266

Penny McCardle

From: Joanne Buckskin <Joanne.Buckskin@cumberland.nsw.gov.au>
Sent: Tuesday, 7 May 2019 3:23 PM
To: Penny McCardle; Records Department
Subject: RE: Consultation

Dear Penny

Thank you for your Inquiry regarding the Aboriginal Cultural Heritage Assessment on the proposed Yennora site.

I would advise you to work with your Local Aboriginal Lands Councils that the site boundary is within.

Please consult with the NSW Aboriginal Lands Councils and you can form their identify the appropriate Cultural Knowledge holders.
http://alc.org.au/land-councils/lalc-boundaries--contact-details.aspx

Level 5, 33 Argyle St,
Parramatta NSW 2150

PO Box 1125
Parramatta NSW 2124

Ph: 02 9689 4444

From Joanne

CUMBERLAND COUNCIL

JOANNE BUCKSKIN
ABORIGINAL EDUCATION AND PROGRAMS OFFICER

16 Memorial Avenue, PO Box 42 Merrylands NSW 2160
T +61 2 8757 9833
E Joanne.Buckskin@cumberland.nsw.gov.au
W www.cumberland.nsw.gov.au

Penny McCardle

From: Darren Duncan <DDuncan@glalc.org.au>
Sent: Tuesday, 7 May 2019 2:57 PM
To: mcheritage@iprimus.com.au
Cc: Ruth Sheridan; Melissa Williams
Subject: liquid waste processing facility

Hi Penny

My name is Darren and I work for Gandangara local Aboriginal land council I am the culture and heritage officer here.
We would like to be involved in the up and coming project so we will hear from you soon

Regards,

Darren Duncan

Culture and Heritage Officer

Gandangara Local Aboriginal Land Council

64 Macquarie Street, Liverpool

Ph: (02) 9602 5280 Mob: 04105 10397 Fax: (02) 9602 2741: www.glalc.org.au

Gandangara LALC acknowledges the Cabrogal Clan and the Darug Nation as the traditional custodians of the land and as such pays deep respect to the Elders past and present. We also acknowledge that the Dhurawal and Darug Nations continue to have a long standing relationship with this country and its people.

DARUG LAND
OBSERVATIONS PTY LTD
ABN 27 602 765 453

EMAIL: DARUGLANDOBSERVATIONS@GMAIL.COM
PO BOX 173 ULLADULLA NSW 2539
MOBILE: 0413 687 279

9th May 2019

Penny McCardle
McCardle Cultural Heritage Pty Ltd
PO BOX 166
ADAMSTOWN NSW 2289

Notification and Registration of ALL Aboriginal Interests

RE: PROPOSED INCREASE TO THE EXISTING RESOURCE PROCESSING FACILITY (LIQUID WASTE PROCESSING FACILITY), 14 KIORA CRESCENT, YENORA
Aboriginal Archaeological & Cultural Heritage Assessment

Dear Penny,

Please be advised that Darug Land Observations Pty Ltd is seeking to be involved in any and all consultation meetings and fieldwork.

This office specialises in Aboriginal and community consultations, and has a membership that comprises of Traditional owners from the area in question. Those retain strong story, song lines, oral history and continued contact.

We would also like to state that we do not accept or support any person or organisation that are NOT from the DARUG Nation that comments regarding the said area.

Please also be advised that this Aboriginal organisation does not do volunteer work or attend unpaid meetings. I hope that you advise your client of this so that, 'This Group', will not be discriminated against and refused paid fieldwork. DLO's rate is $440 half day (less than 4 hours) and $880 per day (flat rate), including GST.

All correspondence should be emailed to: daruglandobservations@gmail.com and any further consultation during this project can be directed to Anna O'Hara on mobile 0413 687 279.

Yours sincerely,

Jamie Workman
Darug Land Observations Pty Ltd

Uncle Gordon Workman
Darug Elder

McCARDLE
CULTURAL HERITAGE
PO Box 166
Adamstown 2289 NSW
mcheritage@optusnet.com.au
0412 702 396

13 May 2019

Deerubbin LALC
Kevin Cavanagh
2/9 Tindale Street
Penrith NSW 2750

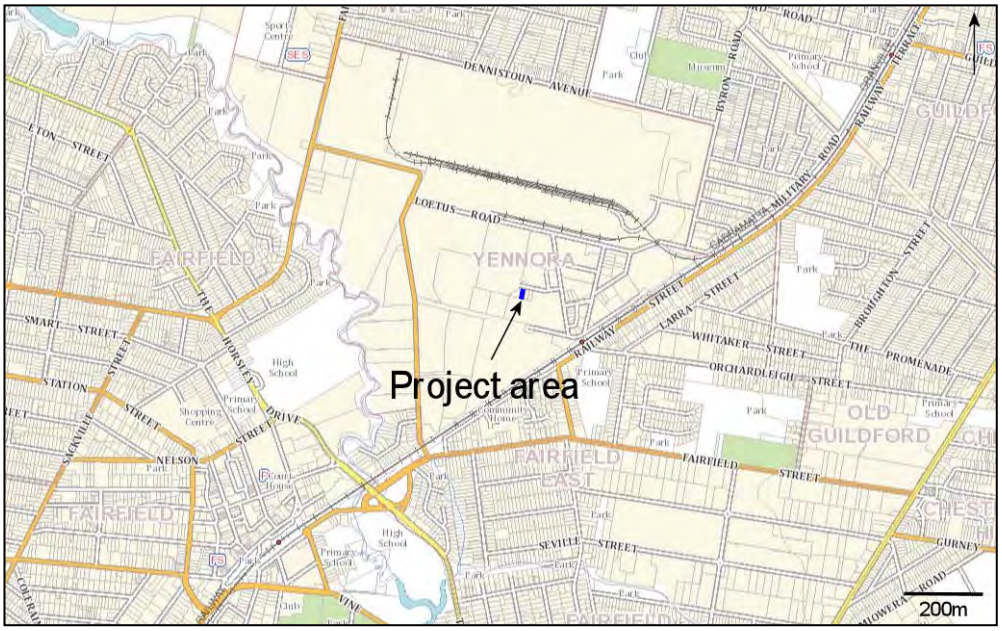
Dear Kevin,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

5) Do **you represent** a traditional knowledge holder of general knowledge? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Holroyd City Council Advisory Committee
PO BOX 42
Merrylands NSW 2160

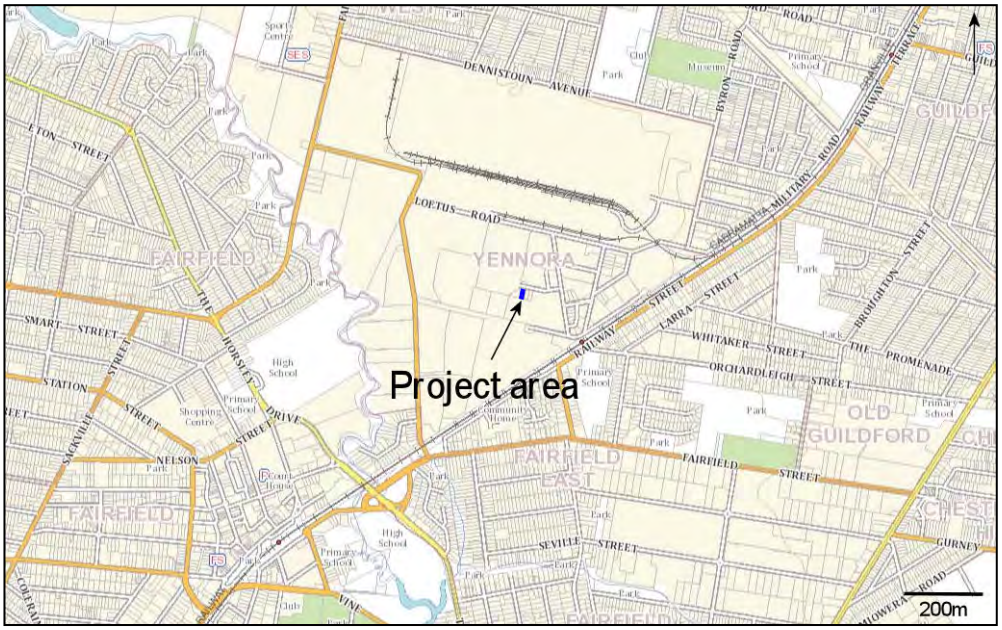
Dear Sir/Madam,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

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If yes please clarify further:

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Name: _____ Phone:_____

Name: _____ Phone:_____

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If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Amanda Hickey Cultural Services
Amanda Hickey
57 Gough Street
Emu Plains NSW 2750

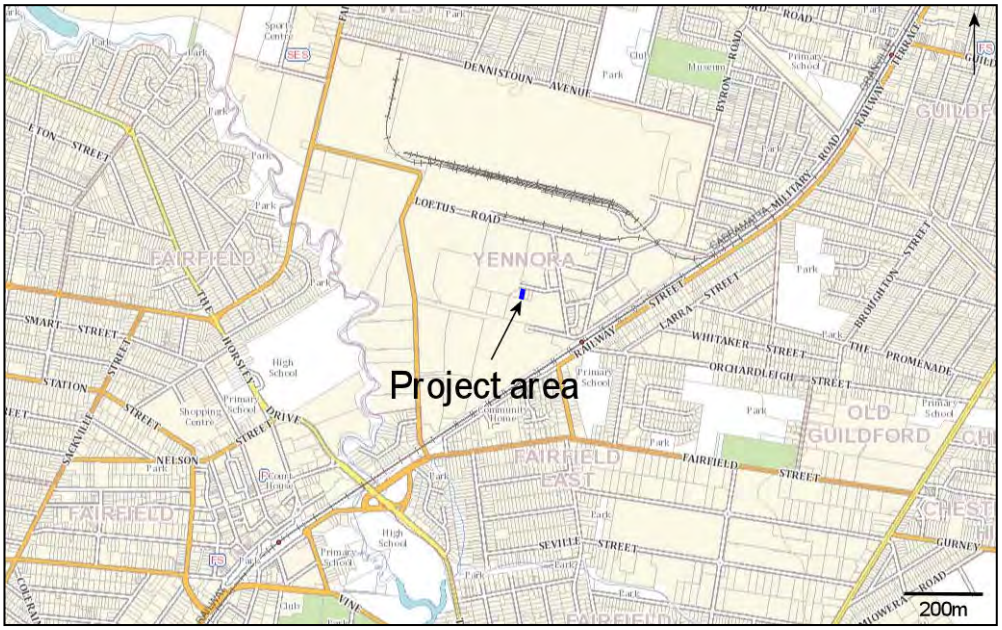
Dear Amanda,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Darug Custodian Aboriginal Cororation
Justine Coplin
PO Box 81
Windsor NSW 2756
justinecoplin@optusnet.com.au

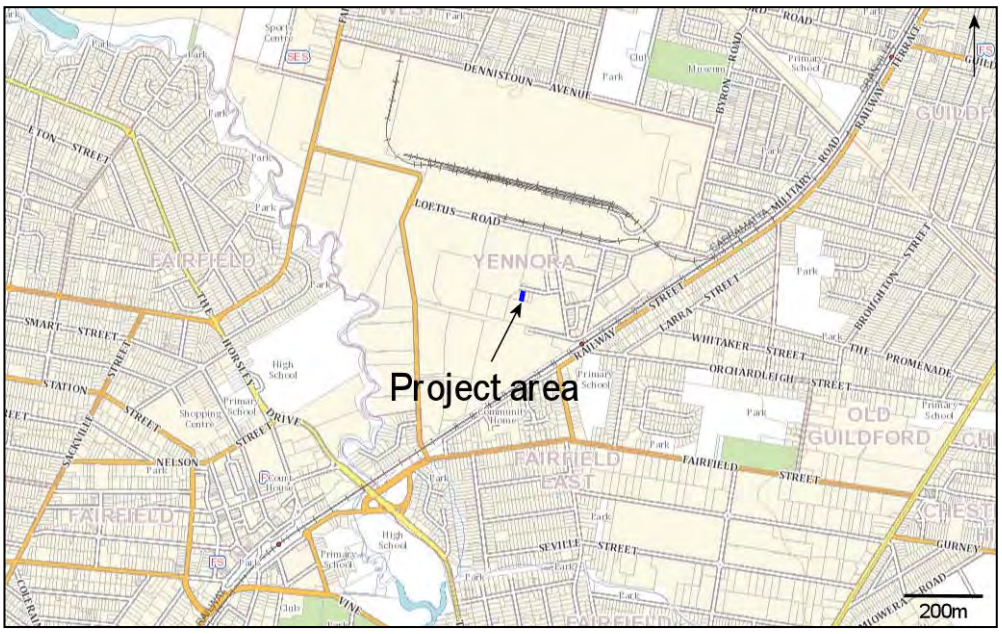
Dear Justine,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

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4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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1) Before the survey YES/NO

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If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE
PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Darug Tribal Abboriginal Corporation
PO Box 441
Blacktown NSW 2148

Dear ,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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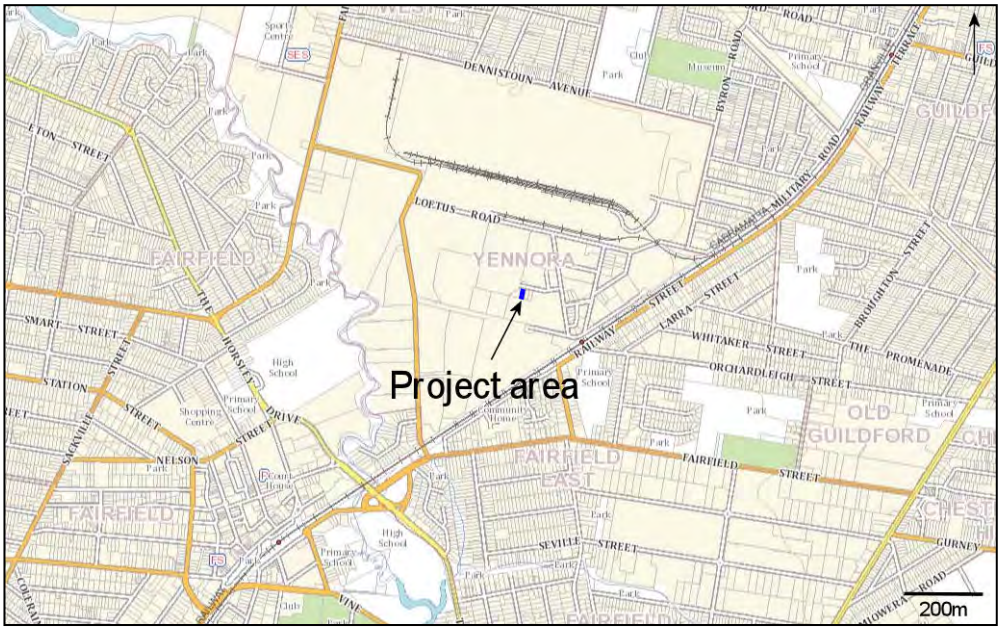
Location of the study area



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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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Name: _____ Phone:_____

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Name: _____ Phone:_____

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Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Darug Aboriginal Cultural Heritage Assessments
Gordon Morton
Unit 9, 6 Chapman Avenue
Chatswood NSW 2067

Dear Gordon,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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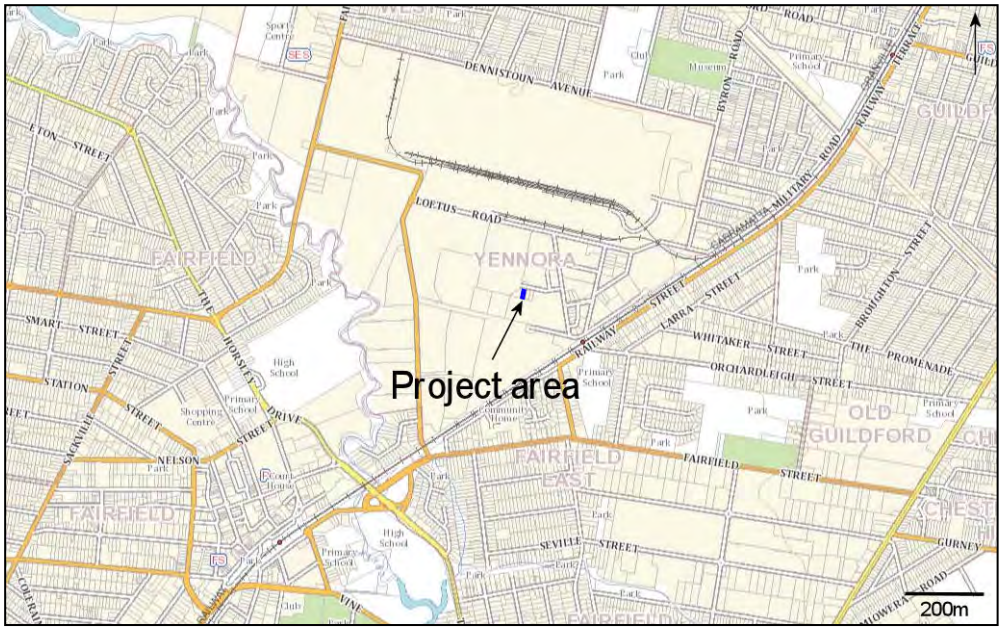
Location of the study area



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Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Darug Land Observations
Gordon Workman
PO Box 571
Plumbton NSW 2761
daruglandobservations@gmail.com

Dear Gordon,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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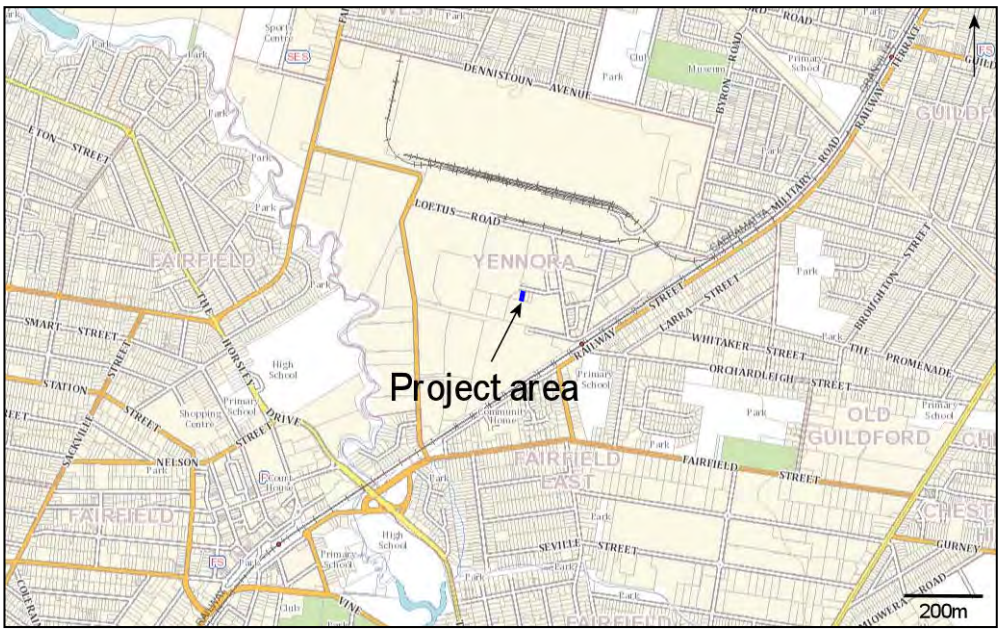
Location of the study area



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- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

5) Do **you represent** a traditional knowledge holder of general knowledge? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Des Dyer
18a Perigee Close
Doonside NSW 2767

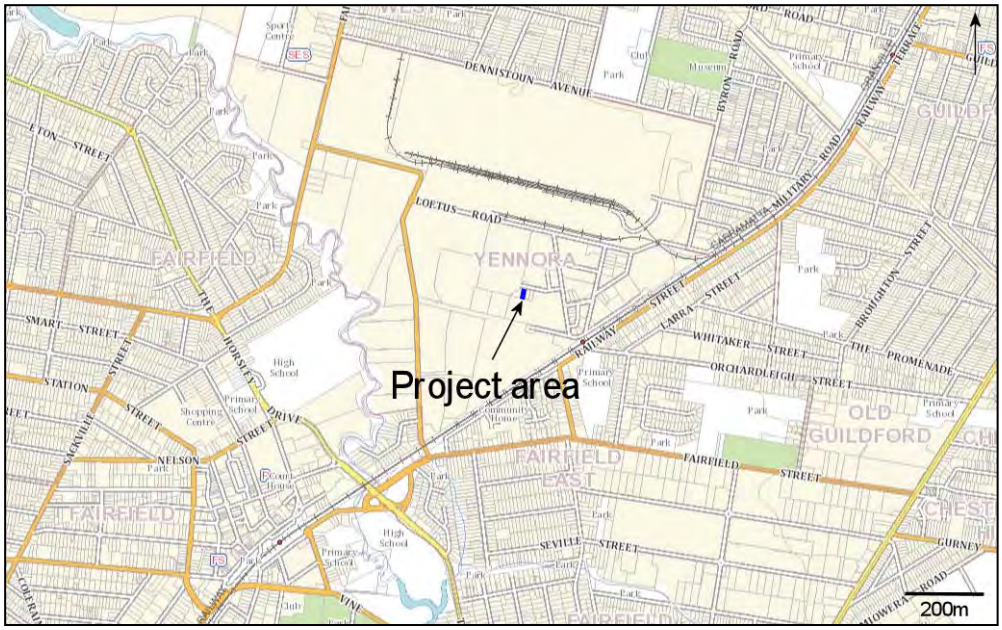
Dear Des,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
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Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

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4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

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Name: _____ Phone:_____

Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

A1 Indigenous Services
Carolyn Hickey
10 Marie Pitt Place
Glenmore Park NSW 2745

Dear Carolyn,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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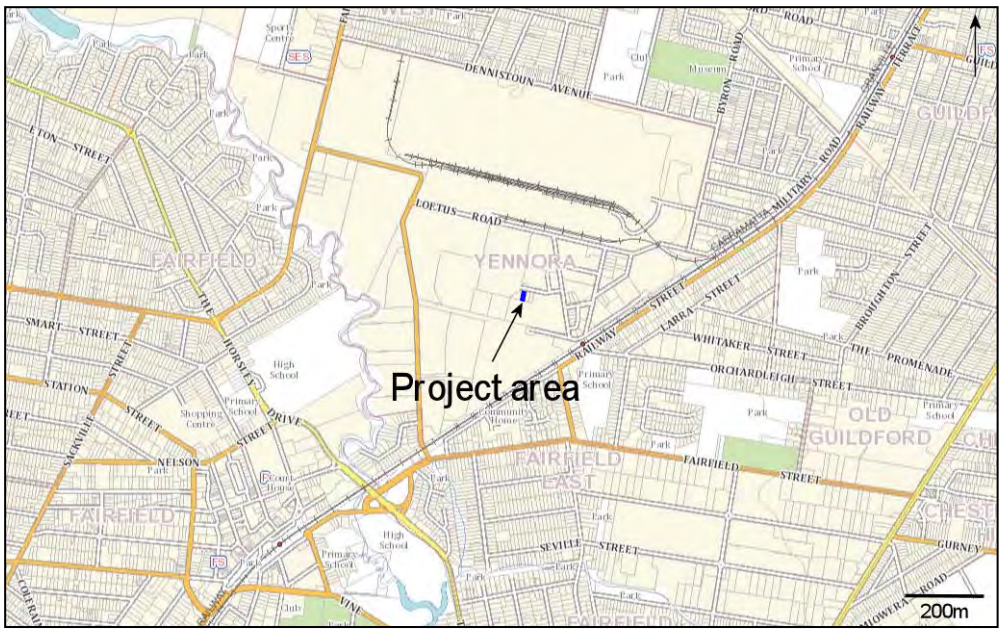
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

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4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Gunjeewong Cultural Heritage Aboriginal Corporation
Cherie Carroll Turrise
1 Bellvue Place
Portland NSW 2874

Dear Cherie,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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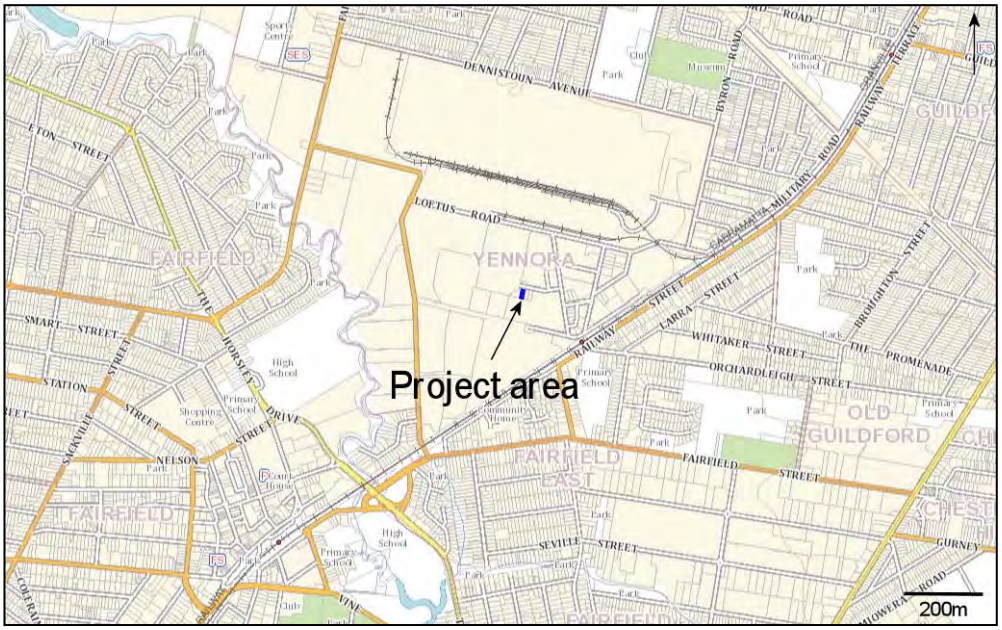
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Merrigam Indigenous Corporation
Shaun Carroll
PO Box 158
Canberra City ACT 2601

Dear Shaun,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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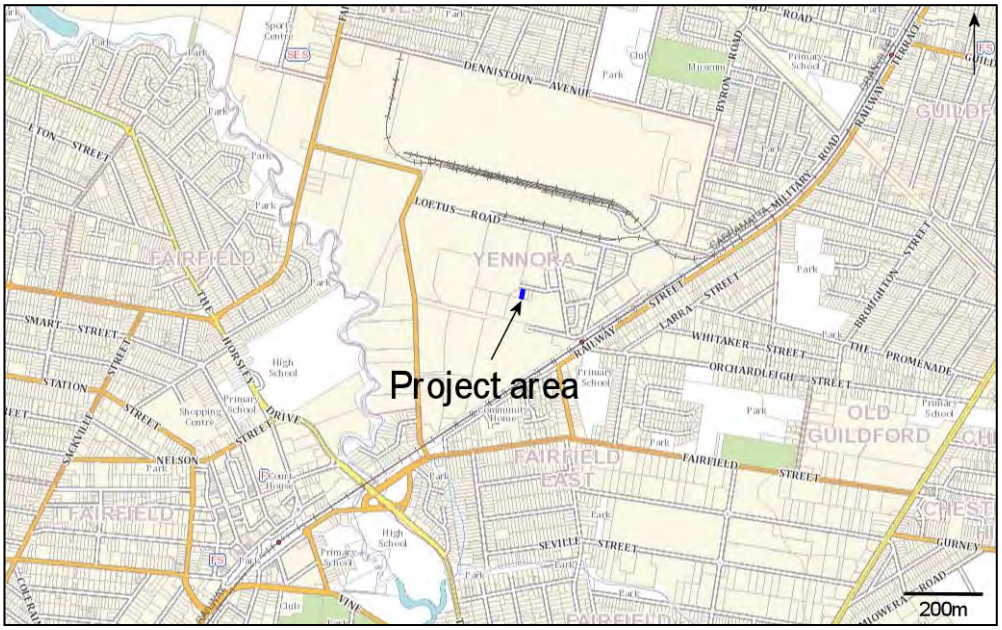
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

5) Do **you represent** a traditional knowledge holder of general knowledge? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Murra Bidgee Mullangari Aboriginal Corporation
Darleen Johnson
PO Box 246
Seven Hills NSW 2147

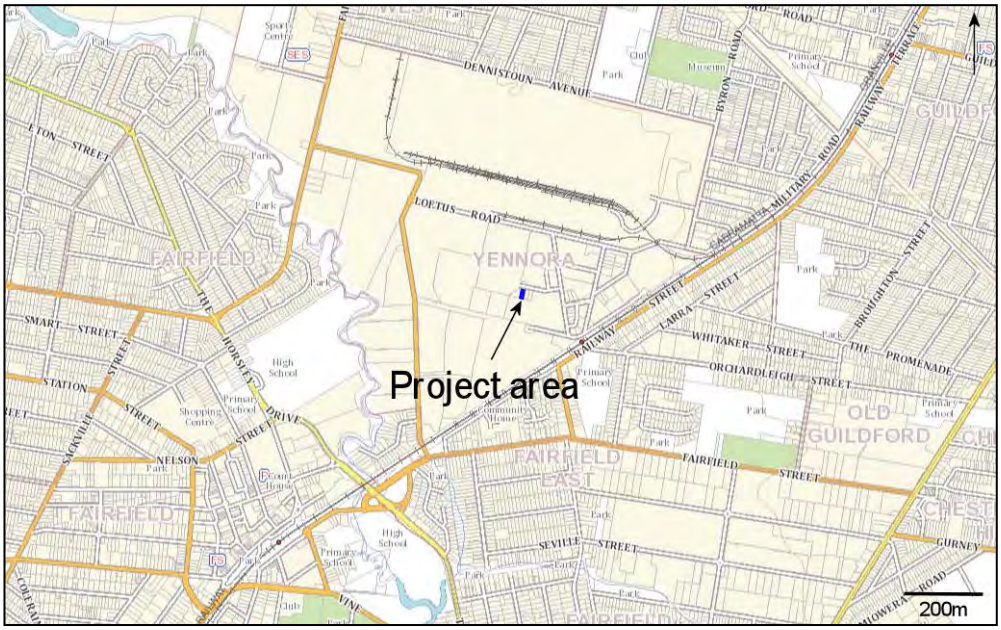
Dear Darleen,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

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4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Murragadi Heritage Indigenous Corporation
Jessee Johnson
5 Hession Road
Nelson NSW 2765

Dear Jessee,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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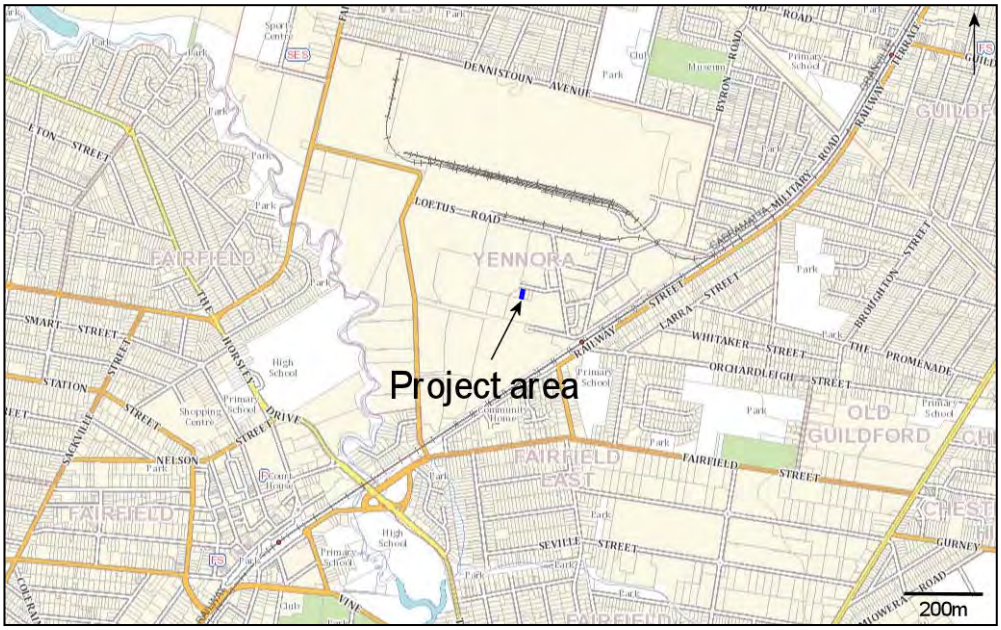
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

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c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Bidawong Aboriginal Corporation
James Carroll
PO Box 124
Round Corner NSW 2158

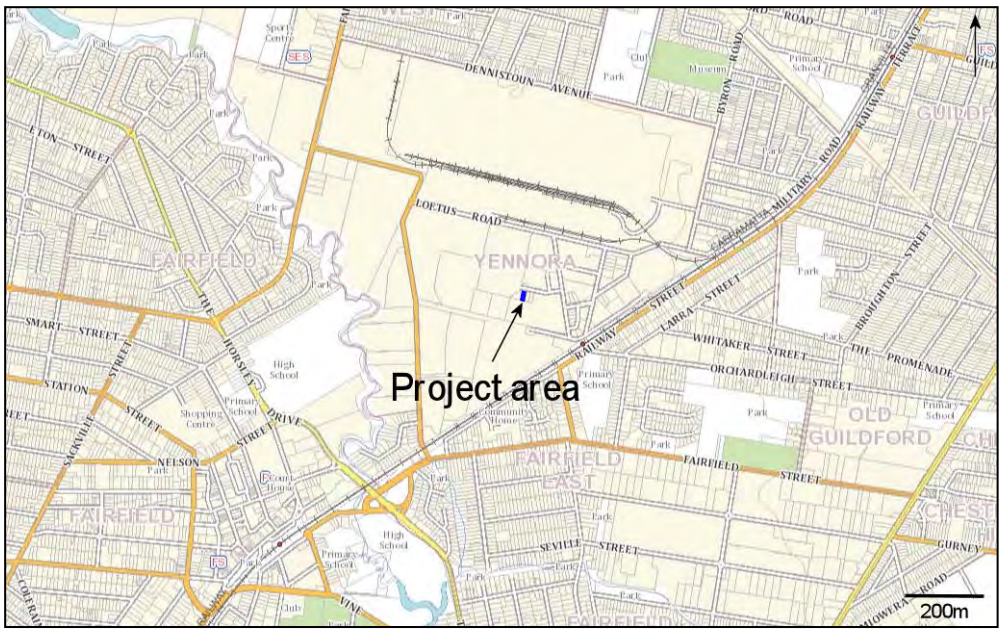
Dear James,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

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If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

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3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Kawul Cultural Services
Vicky Slater
PO Box 414
Emu Plains NSW 2750
Viki.slater@hotmail.com

Dear Vicky,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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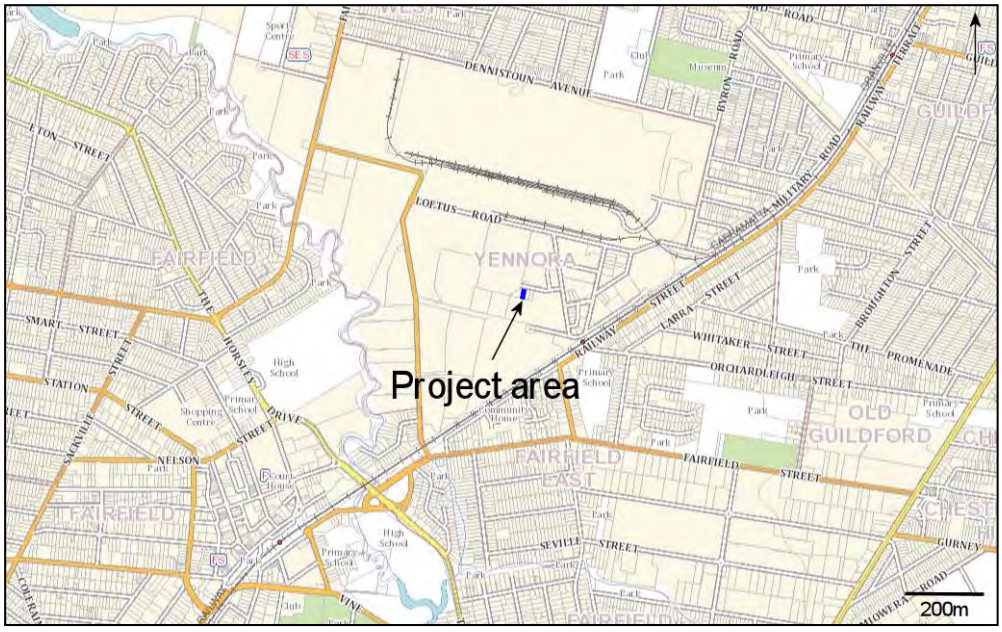
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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Name: _____ Phone:_____

Name: _____ Phone:_____

5) Do **you represent** a traditional knowledge holder of general knowledge? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
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Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Tocomwall
Scott Franks
PO Box 76
Carringbah NSW 1495

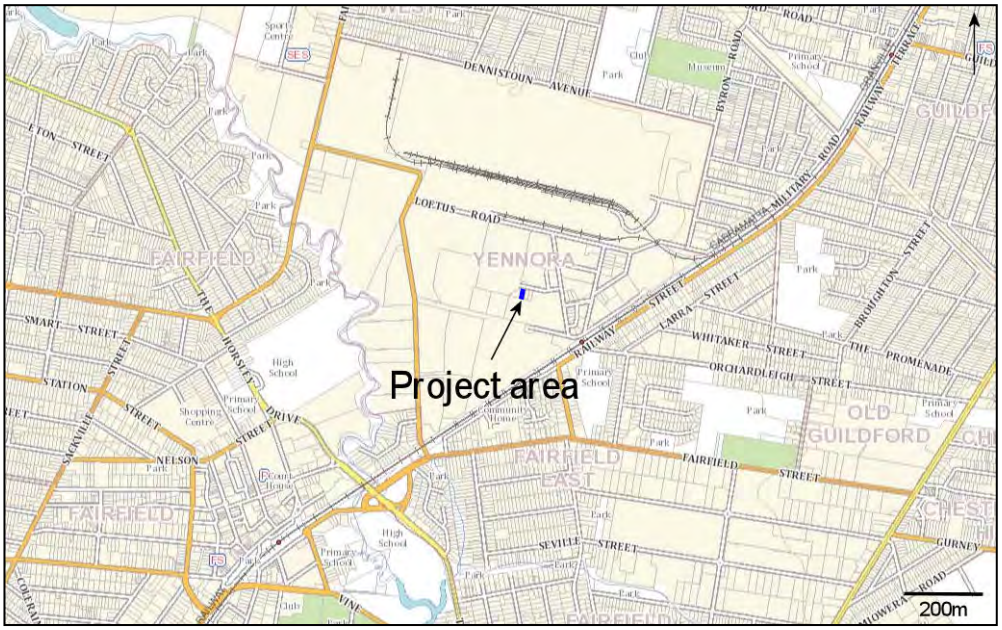
Dear Scott,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Widescope Indigenous Group
Steven Hickey & Donna Hickey
75 Russell Street
Emu Plains NSW 2750

Dear Steven Hickey &,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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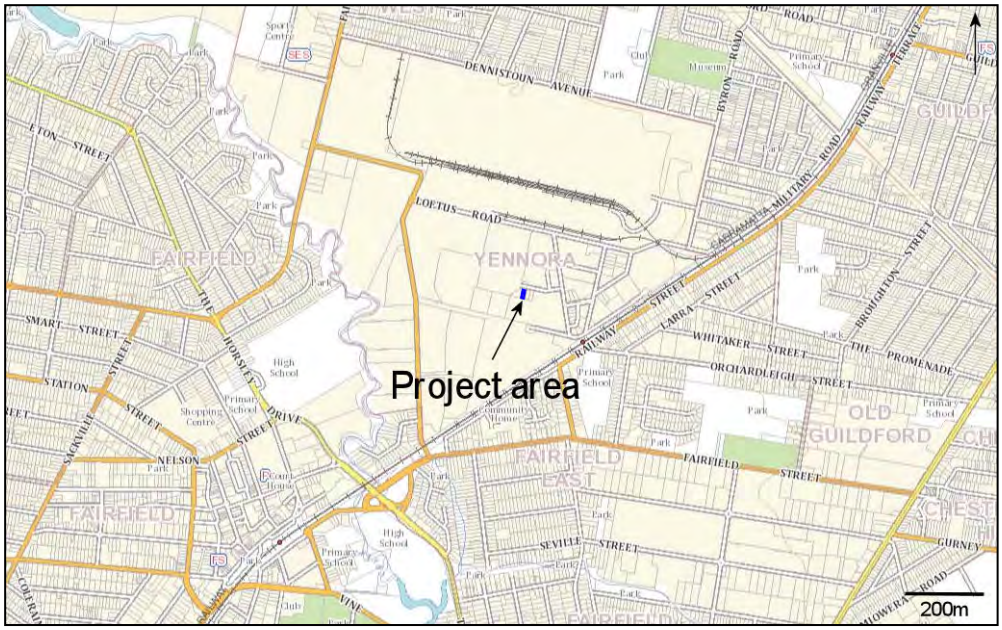
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

HSB Consultants
Patricia Hampton
62 Ropes Crossing Boulevard
Ropes Crsooing NSW 2760

Dear Patricia,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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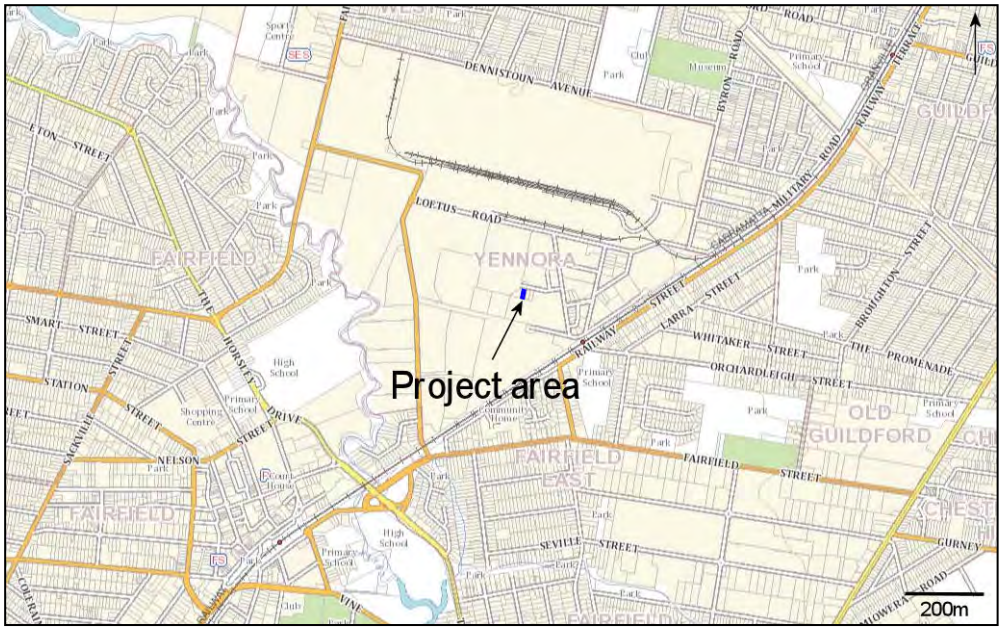
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Rane Consulting
Tony Willians
1 Pyrenees Way
Beaumont Hills NSW 2155

Dear Tony,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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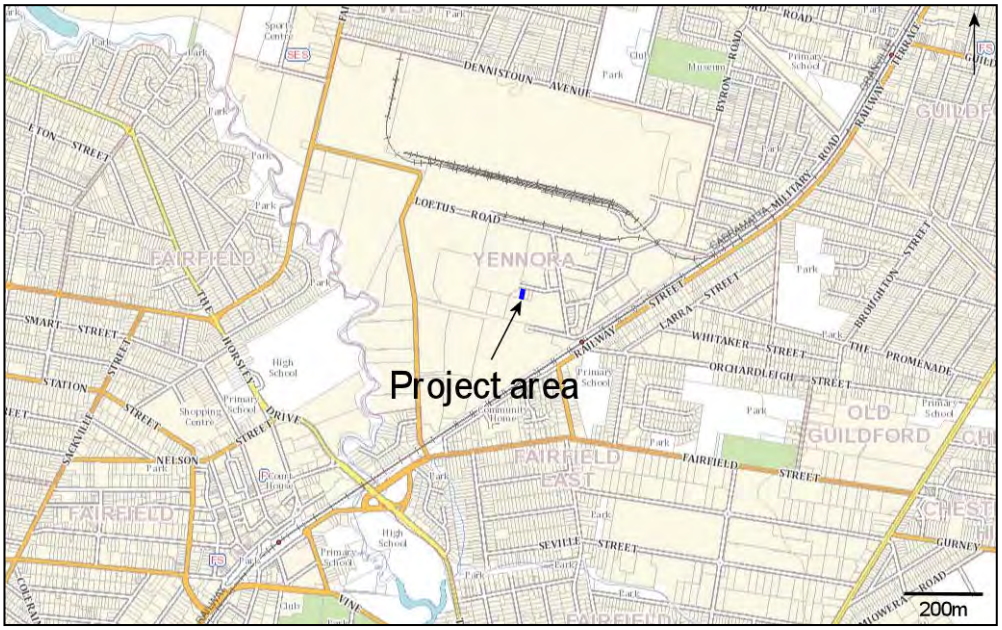

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for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

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Postal address:_____

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Dhinawan-Dhigarra Culture & Heritage Pty Ltd
Ricky Fields & Athol Smith
16 Yantara Place
Woodcroft NSW 2767

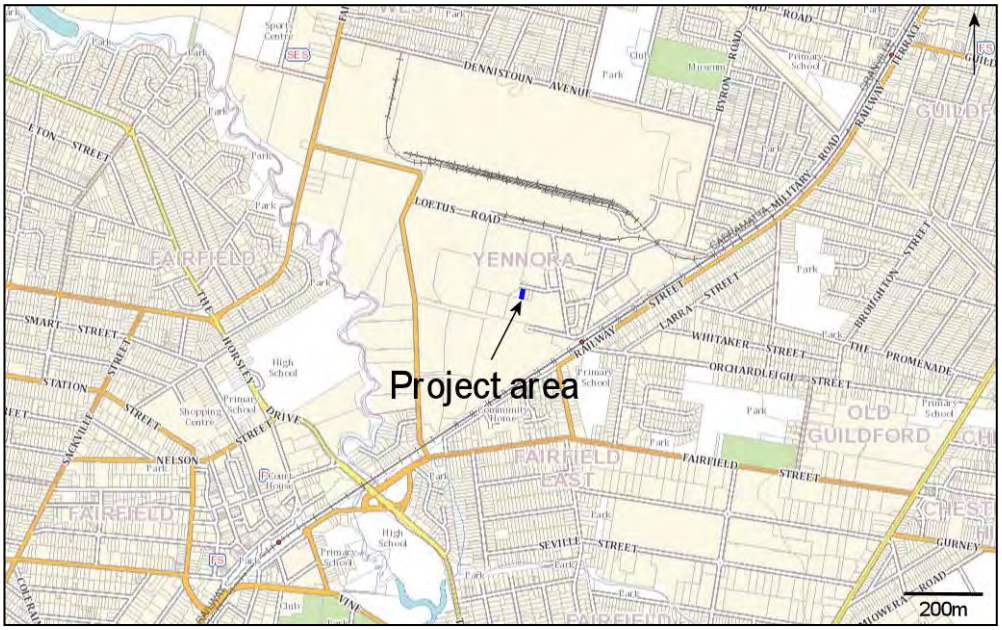
Dear Ricky Fields &,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

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If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Walgula
Ronald Stweart
walgaluchts@gmail.com

Dear Ronald,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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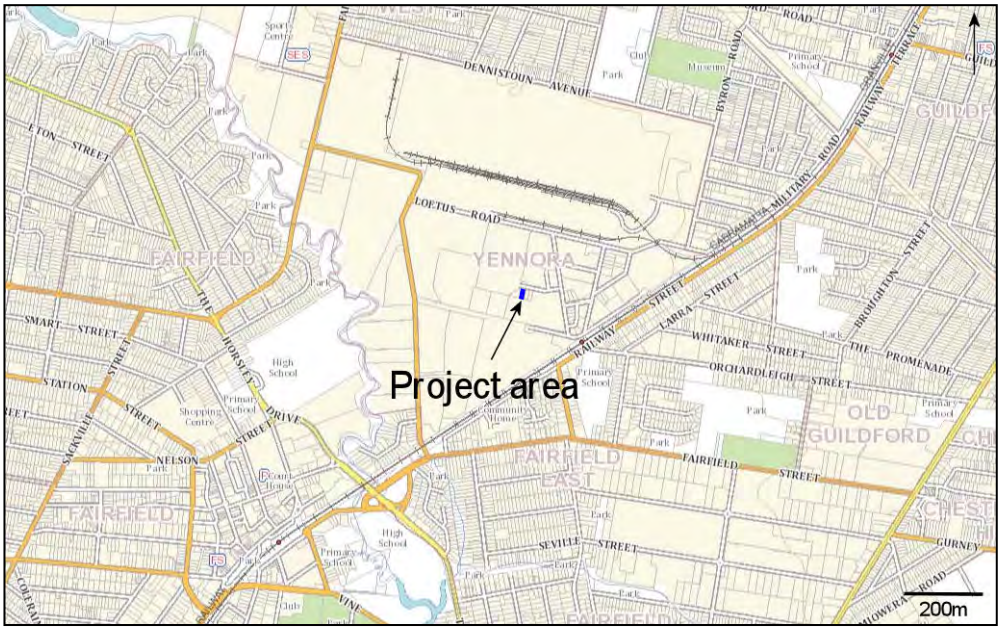
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Thauaira
Shane Carriage
thauairachts@gmail.com

Dear Shane,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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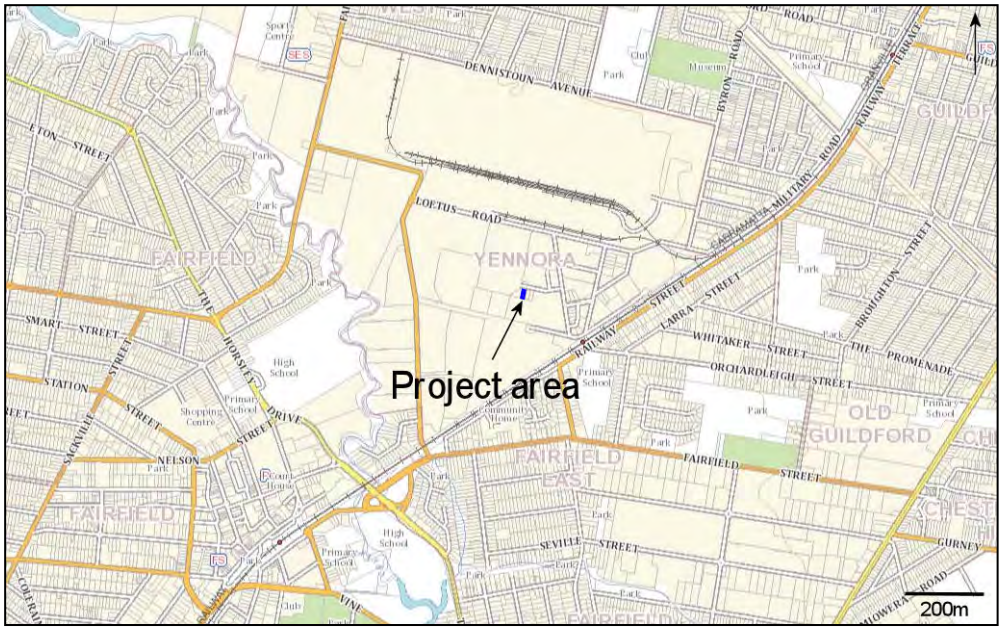
Location of the study area



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McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Dharug
Andrew Bond
dharugchts@gmail.com

Dear Andrew,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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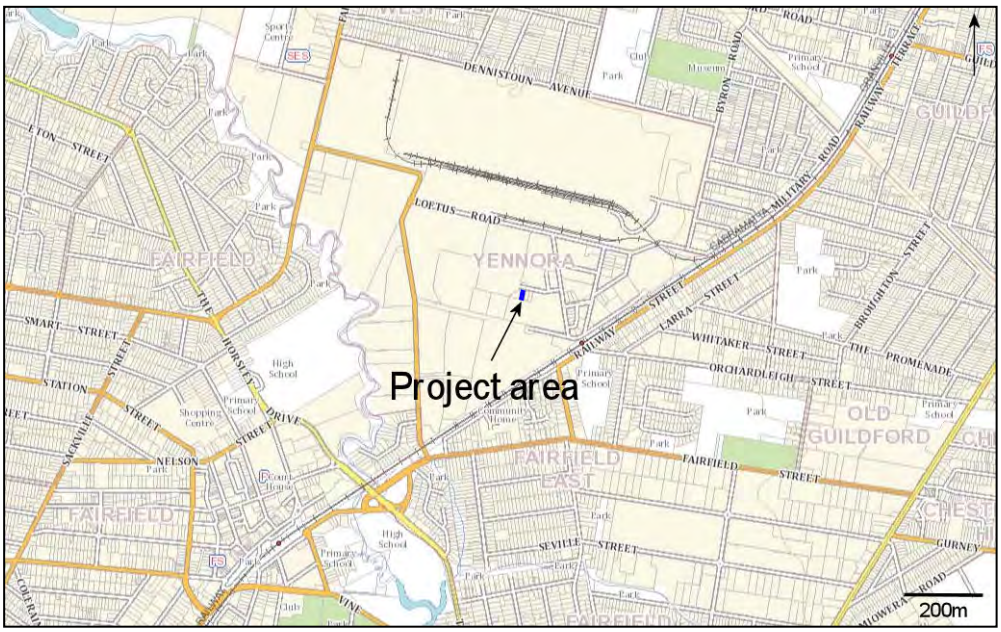
Location of the study area



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McCardle Cultural Heritage
PO Box 166
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for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Bilinga Cultural Heritage Technical Services
Robert Brown
bilinga@mirramajah.com
Email bounce back

Dear Robert,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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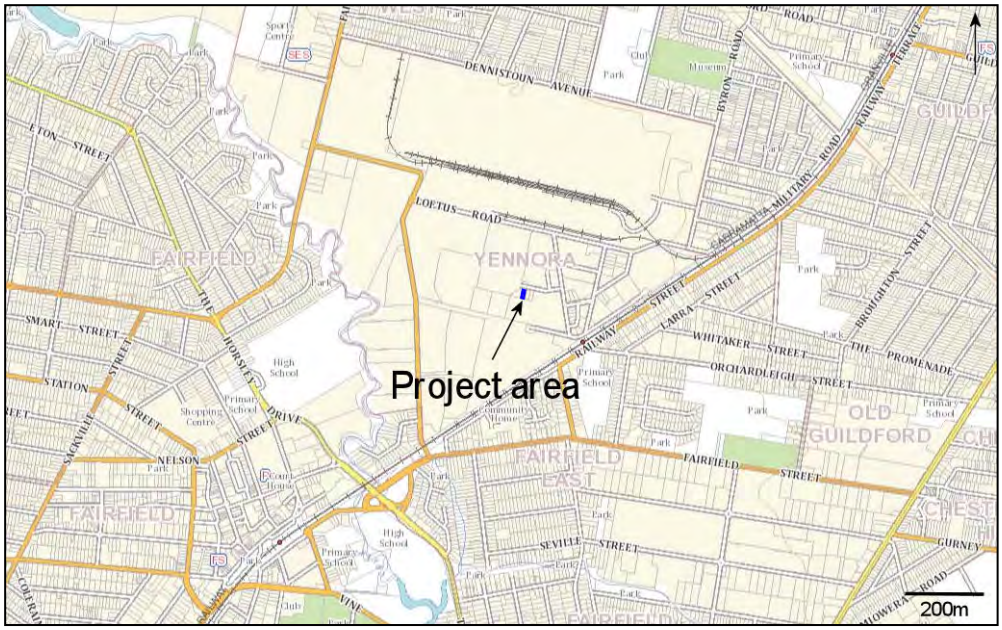

The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

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If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

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If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Gunyuu Cultural Heritage Technical Services
Darlene Hoskins-McKenzie
management@mirramajah.com
Email bounce back

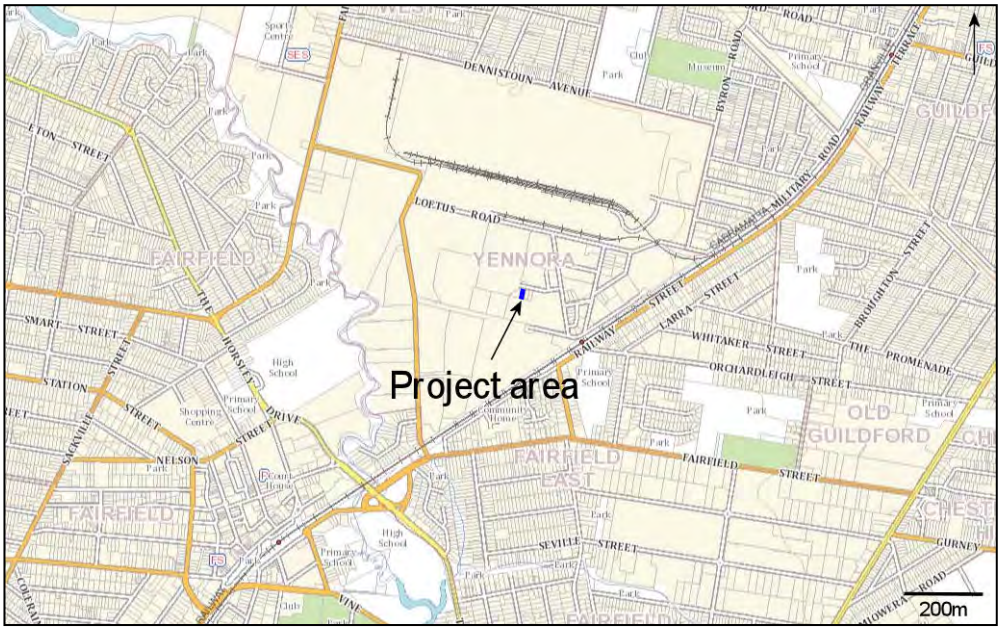
Dear Darlene,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

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4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

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1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Munyunga Cultural Heritage Technical Services
Suzannah McKenzie
munyunga@mirrmajah.com

Dear Suzannah,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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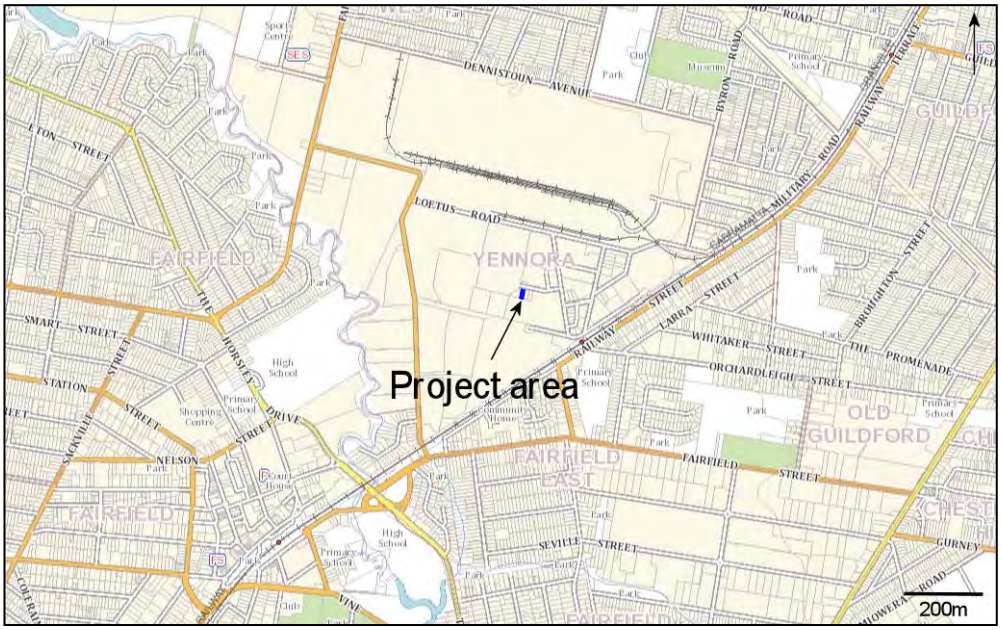
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

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Name: _____ Phone:_____

Name: _____ Phone:_____

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Name: _____ Phone:_____

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Name: _____ Phone:_____

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Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

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If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Murrumbul Cultural Heritage Technical Services
Levi McKenzie-Kirkbright
murrumbul@mirramajah.com
Email bounce back

Dear Levi,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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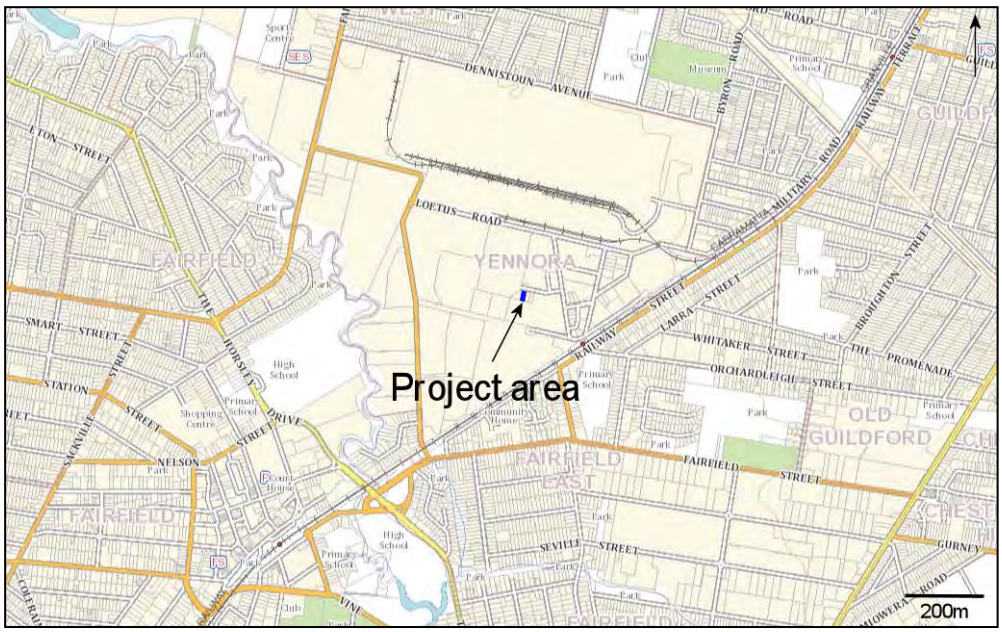
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

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McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Wingikara Cultural Heritage Technical Services
Wondai Kirkbright
wingikara@mirramajah.com
Email bounce back

Dear Wondai,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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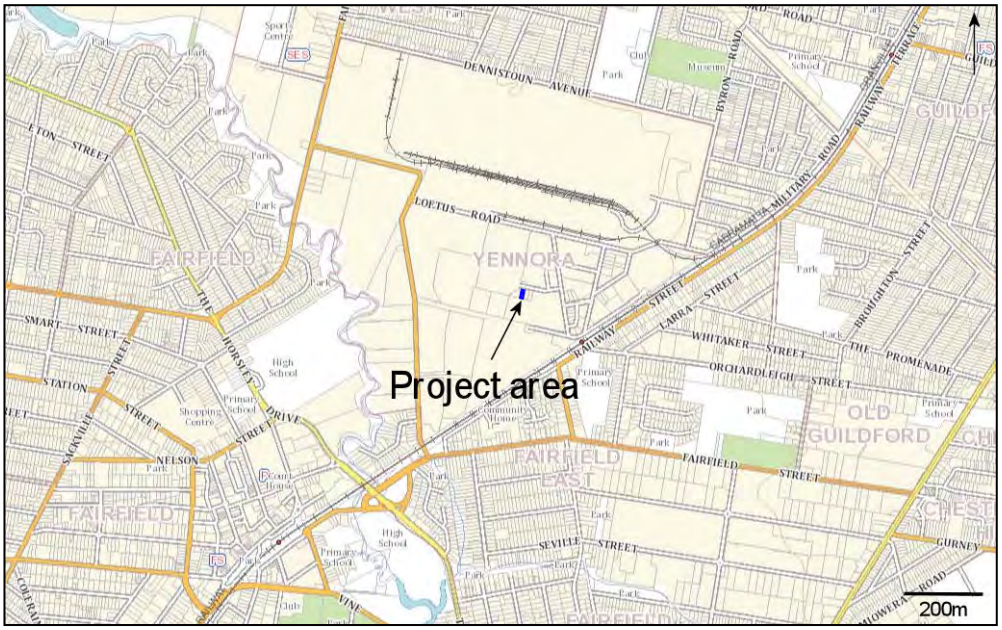
Location of the study area



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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

5) Do **you represent** a traditional knowledge holder of general knowledge? YES/NO

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Name: _____ Phone:_____

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Name: _____ Phone:_____

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Name: _____ Phone:_____

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Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Gulaga
Wendy Smith
gulagachts@gmail.com

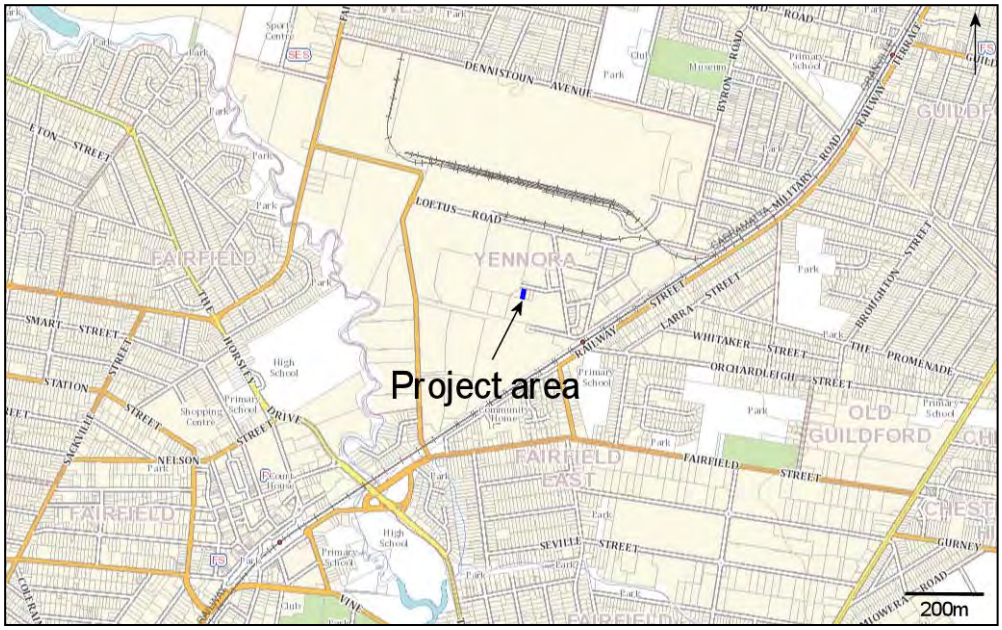
Dear Wendy,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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3) Are **you** a knowledge holder? YES/NO

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Biamanga
Seli Storer
biamangachts@gmail.com

Dear Seli,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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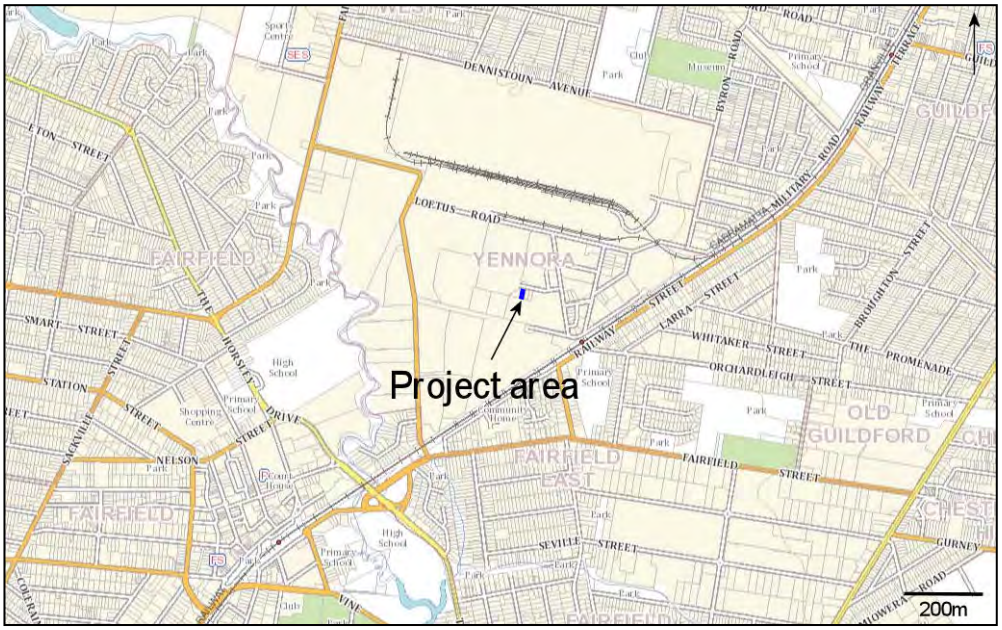
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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McCardle Cultural Heritage
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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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Name: _____ Phone:_____

Name: _____ Phone:_____

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1) Before the survey YES/NO

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1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Callendulla
Corey Smith
cullendullachts@gmail.com

Dear Corey,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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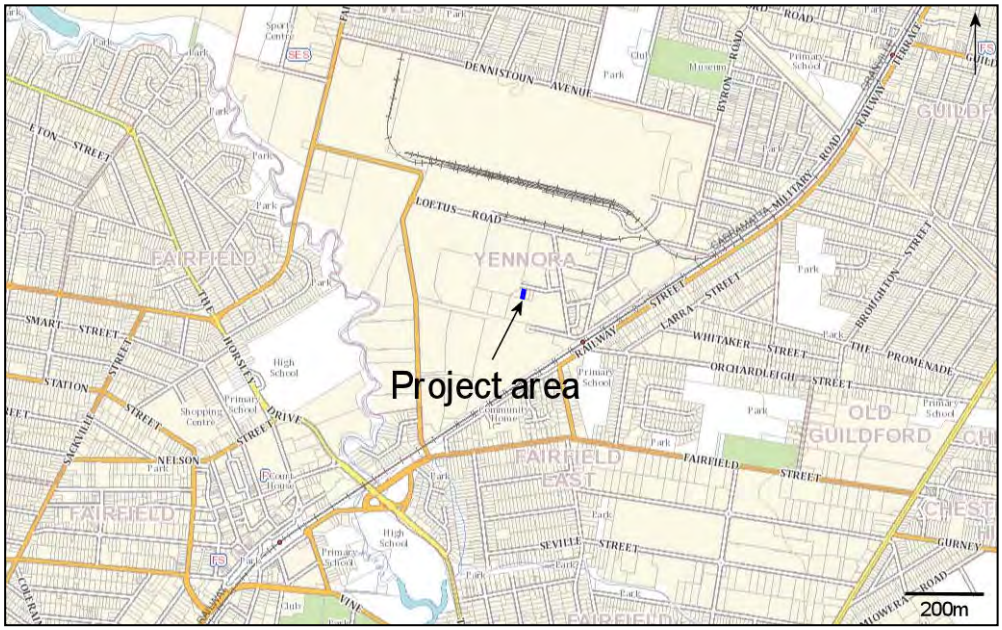
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Murramarang
Roxanne Smith
murramarangchts@gmail.com

Dear Roxanne,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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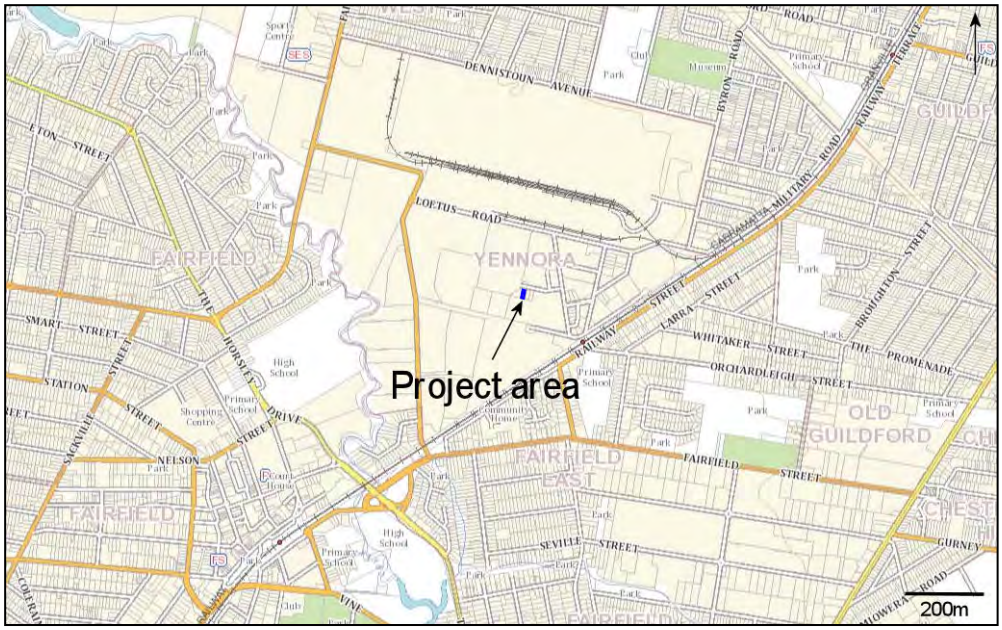
Location of the study area



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Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

5) Do **you represent** a traditional knowledge holder of general knowledge? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

DJMD Consultancy
Darren Duncan
darrenjohnduncan@gmail.com

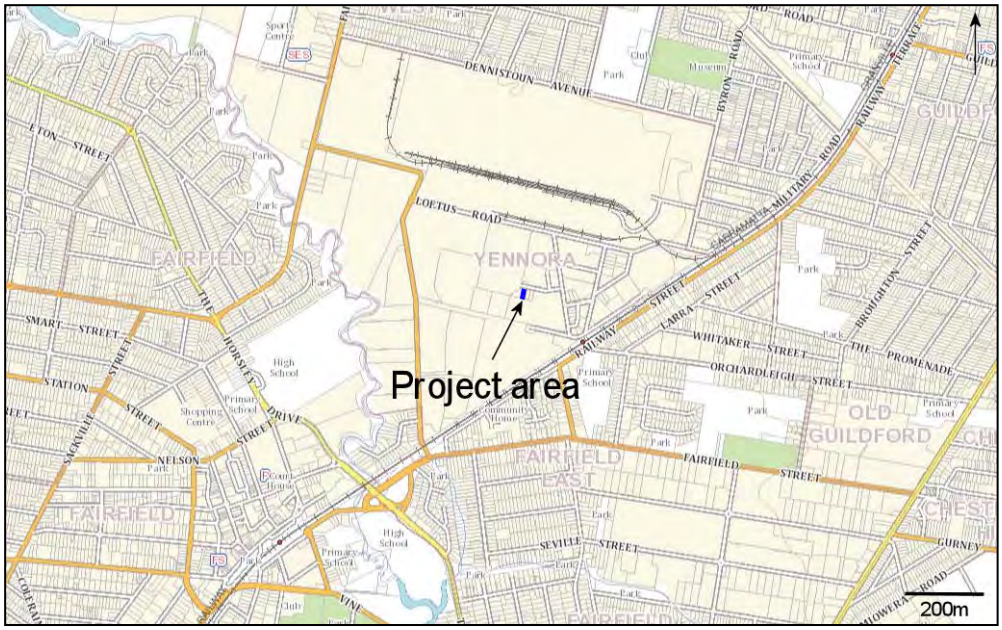
Dear Darren,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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3) Are **you** a knowledge holder? YES/NO

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If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Butucarbin Aboriginal Corporation
Jennifer Beal
koori@ozemail.com.au

Dear Jennifer,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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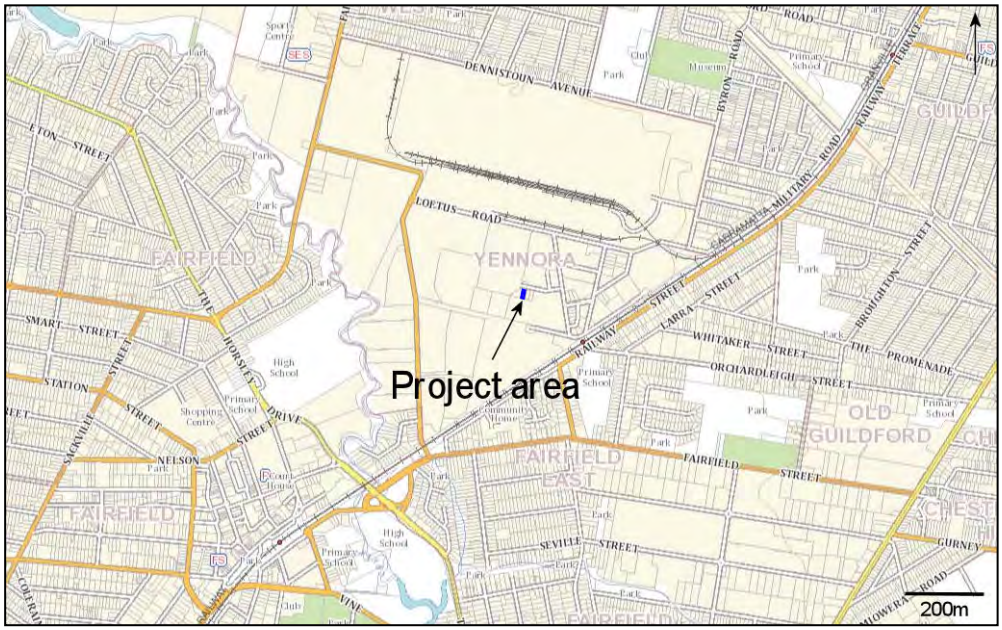
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

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4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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Name: _____ Phone:_____

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6) Do **you represent** a knowledge holder of recent information? YES/NO
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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Didge Ngunawal Clan
Lillyleal Carroll
7 Siskin St
Quakers Hill NSW 2763
didgengunawalclan@yahoo.com.au

Dear Lillyleal,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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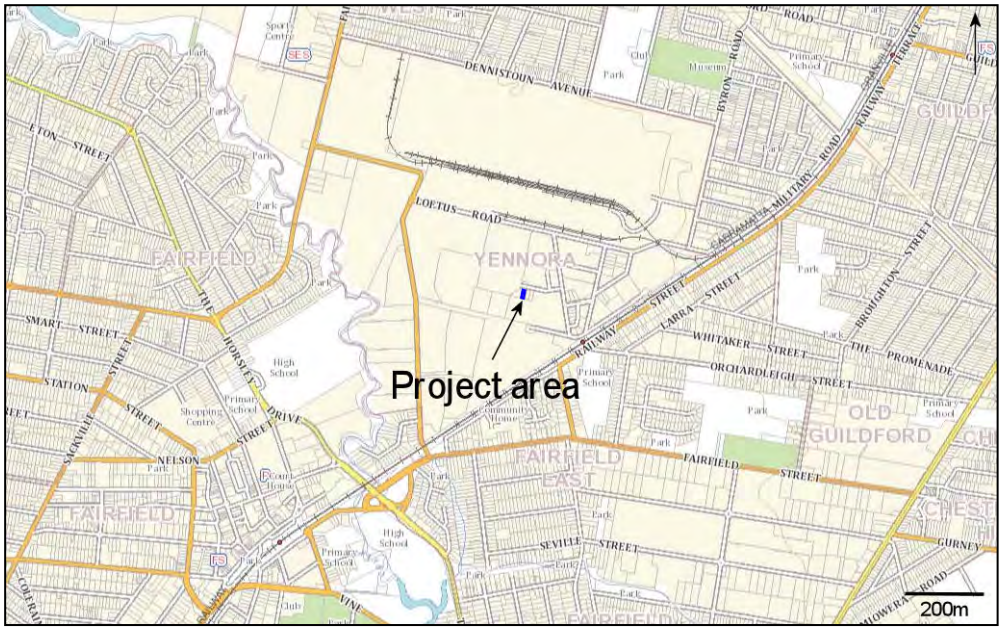
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Ginninderra Aboriginal Corporation
Steven Johnson
PO Box 3143
Gros Vale NSW 2745
Ginninderra.corp@gmail.com

Dear Steven,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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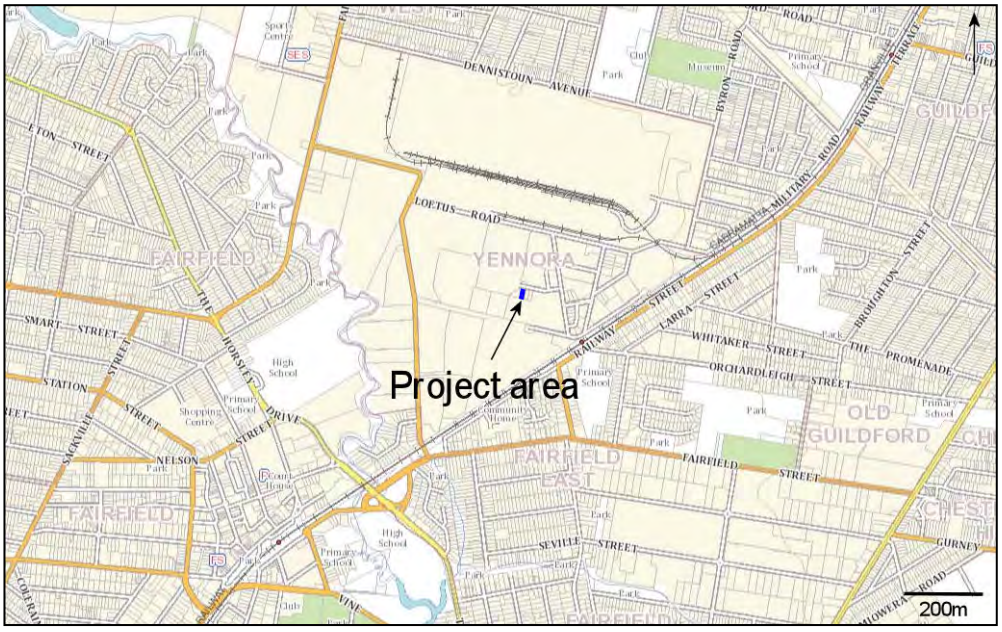
Location of the study area



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Penny McCardle
McCardle Cultural Heritage
PO Box 166
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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Gandangara LALC
Chris Ingrey
PO Box 1038
Liverpool NSW 2170

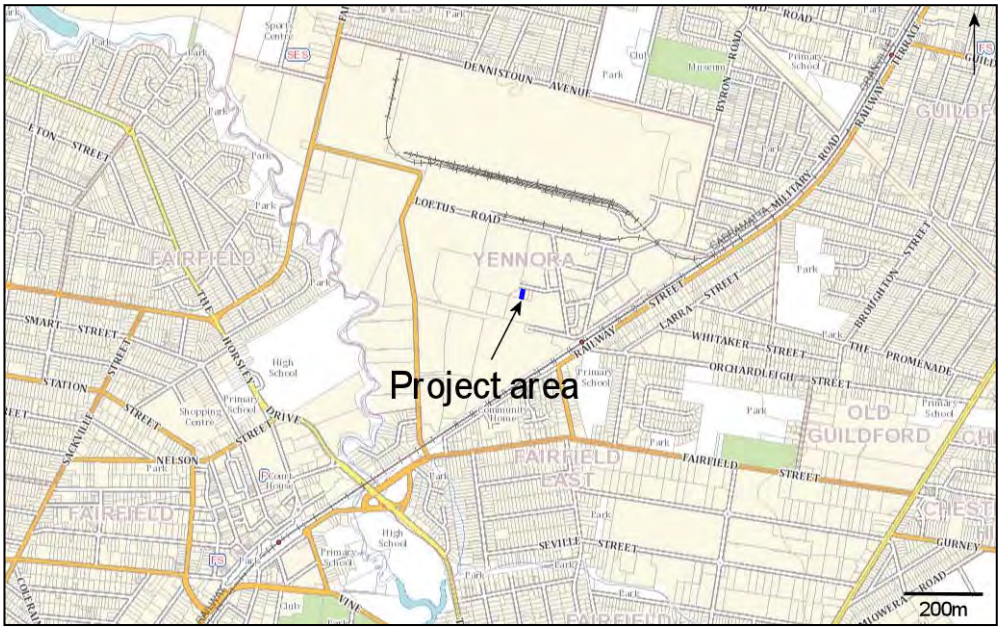
Dear Chris,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

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c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

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Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

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3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Phil Kahn
78 Forbes St
Emu Plains NSW 2750

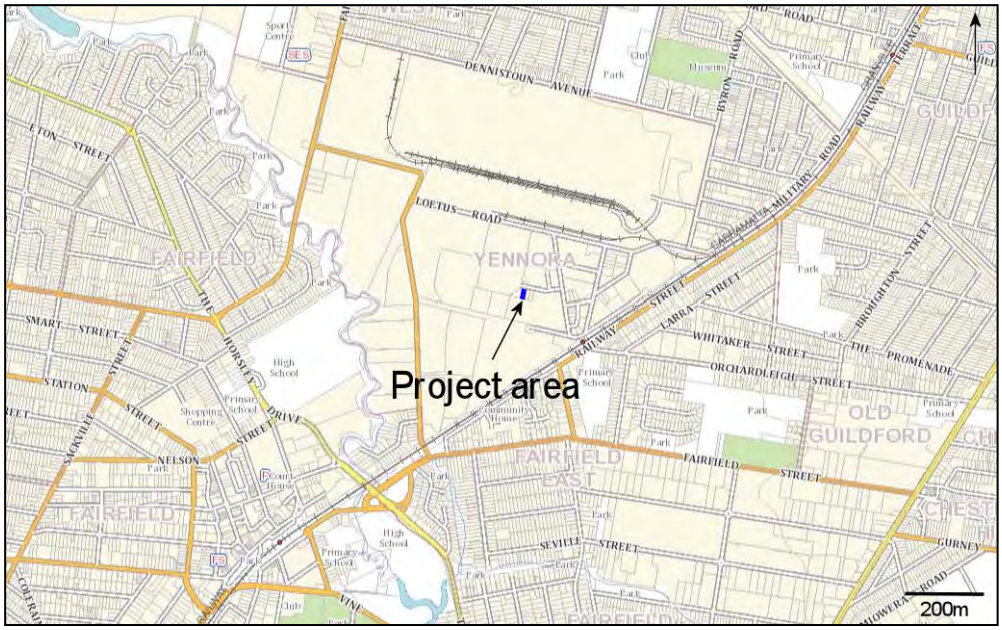
Dear Phil,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

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If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

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Name: _____ Phone:_____

Name: _____ Phone:_____

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Wurrumay Consultancy
Kerrie Slater
89 Pyramid Street
Emu Plains NSW 2750
wurrumay@hotmail.com

Dear Kerrie,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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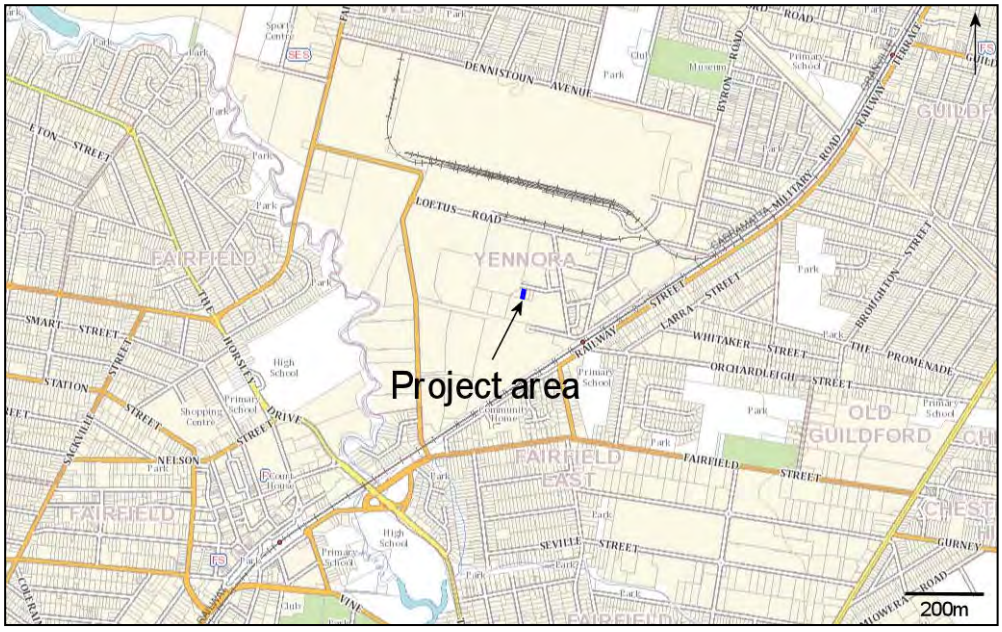
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

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Name: _____ Phone:_____

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Name: _____ Phone:_____

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Name: _____ Phone:_____

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Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

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If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Warragil Cultural Services
Aaron Slater

Warragil c.s@hotmail.com

Dear Aaron,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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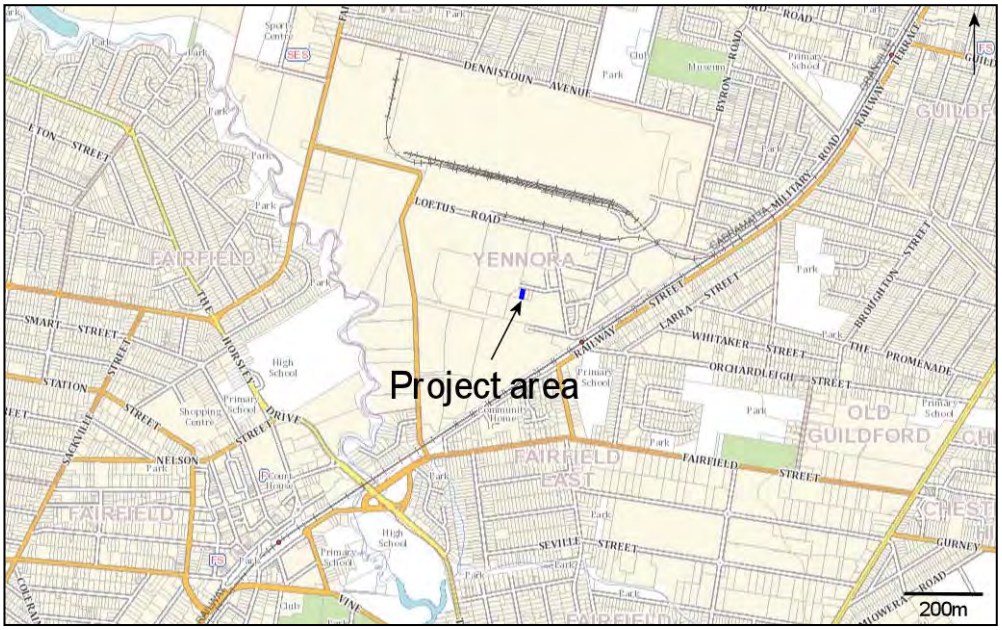
Location of the study area



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Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Gunyuu
Kylie Ann Bell
gunyuuchts@gmail.com

Dear Kylie Ann,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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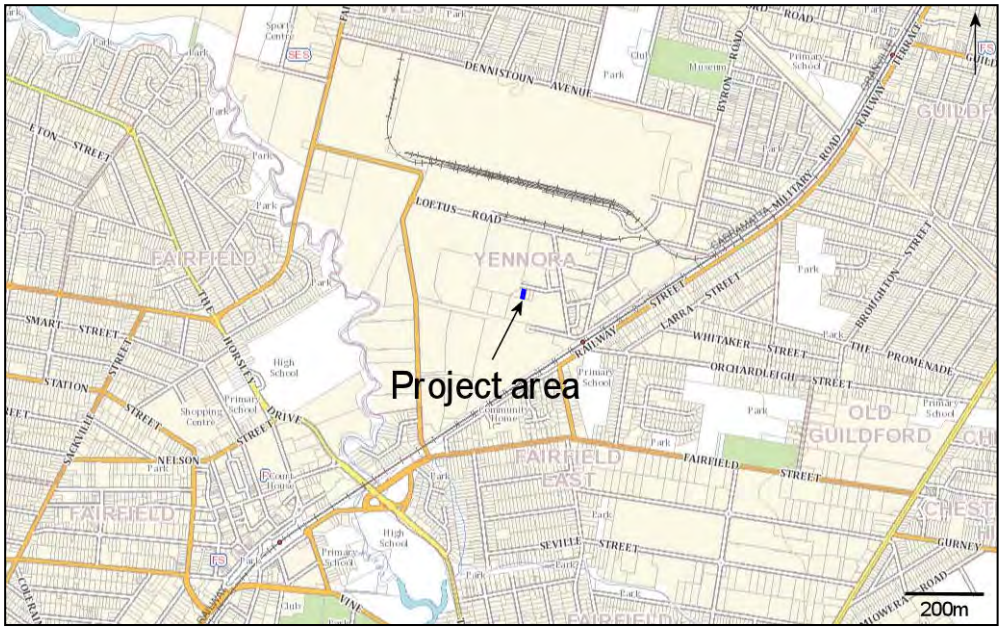
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

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If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

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Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Walbunja
Hika Te Kowhai
walbunja@gmail.com

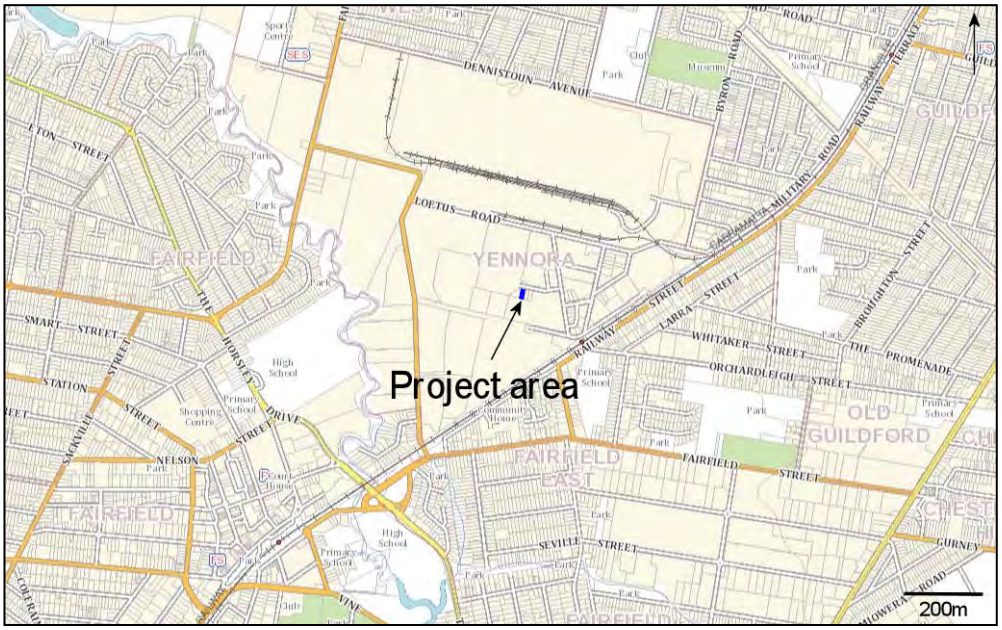
Dear Hika Te,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

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If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

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1) Before the survey YES/NO

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1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Badu
Karia Lea Bond
11 Jeffery Place
Moruya NSW 2537

Dear Karia Lea,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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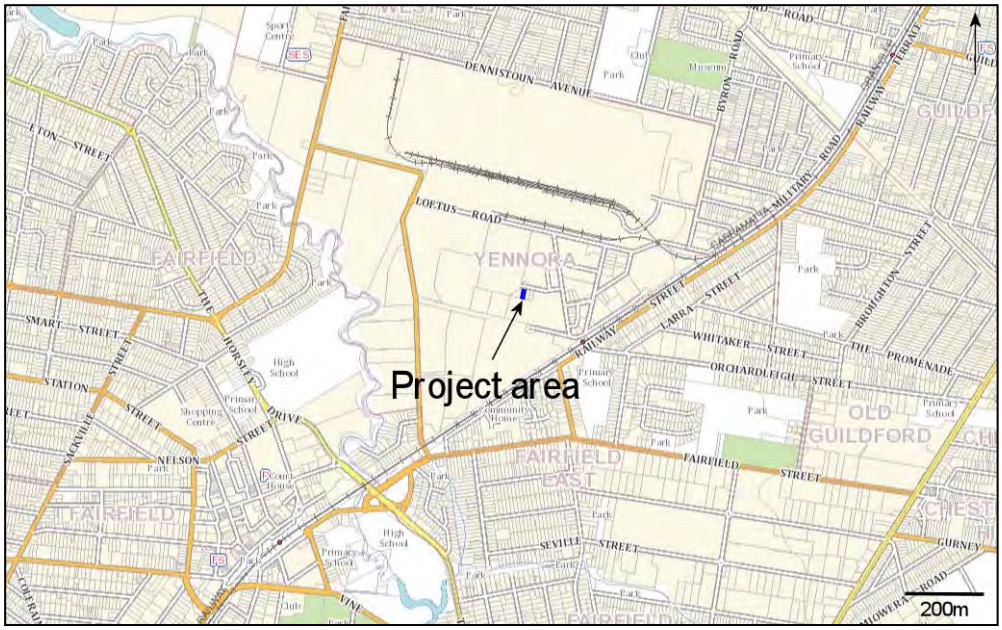
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

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If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

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Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

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If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Goobah Developments
Basil Smith
66 Grantham Rd
Batehaven NSW 2536

Dear Basil,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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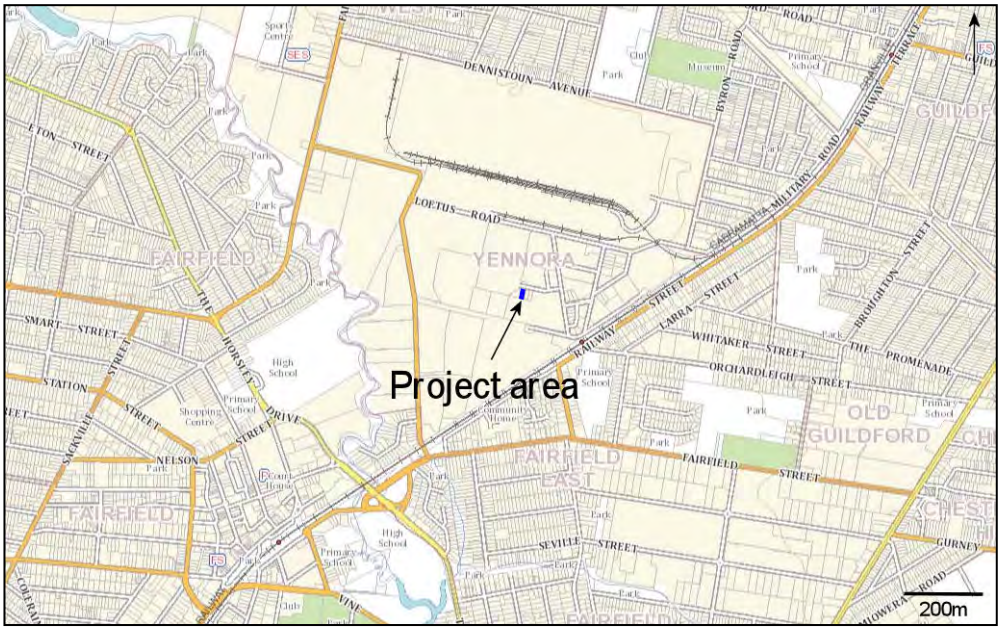
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Wullung
Lee-Roy James Boota
54 Blackwood St
Gerringong NSW 2534

Dear Lee-Roy,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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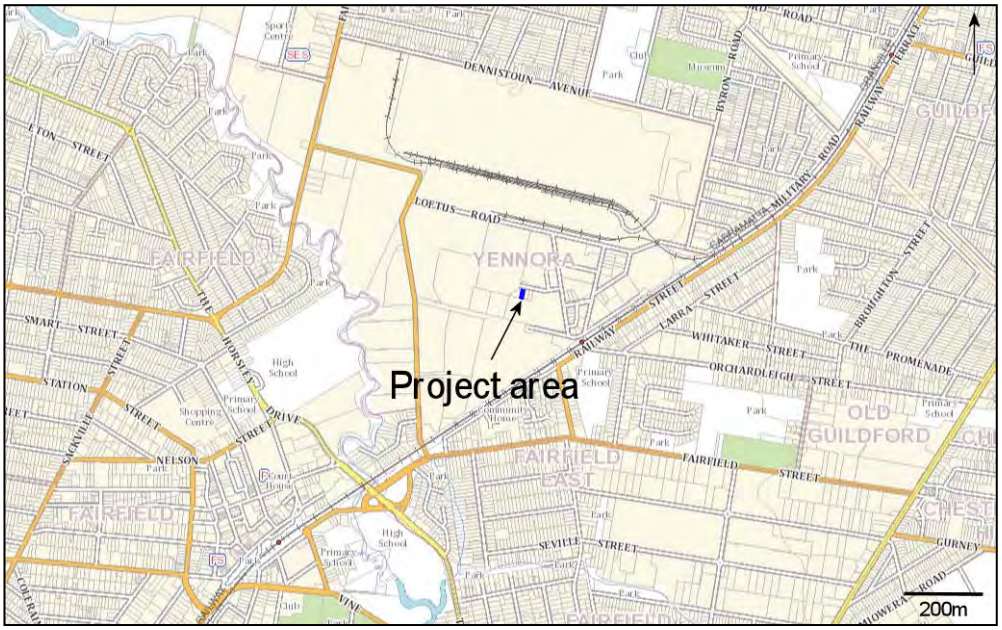

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- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

5) Do **you represent** a traditional knowledge holder of general knowledge? YES/NO

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Name: _____ Phone:_____

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Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
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Name: _____ Phone:_____

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Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@optusnet.com.au
0412 702 396

13 May 2019

Yerramurra
Robert Parson
yerramurra@gmail.com

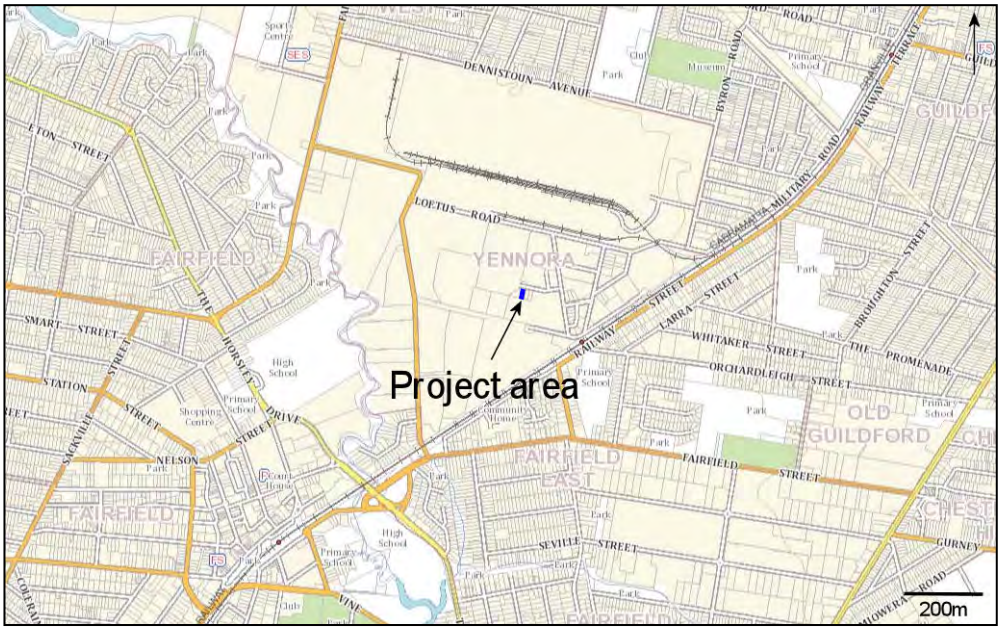
Dear Robert,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE
PO Box 166
Adamstown 2289 NSW
mcheritage@optusnet.com.au
0412 702 396

13 May 2019

Nundagurri
Newton Carriage
nundagurri@gmail.com

Dear Newton,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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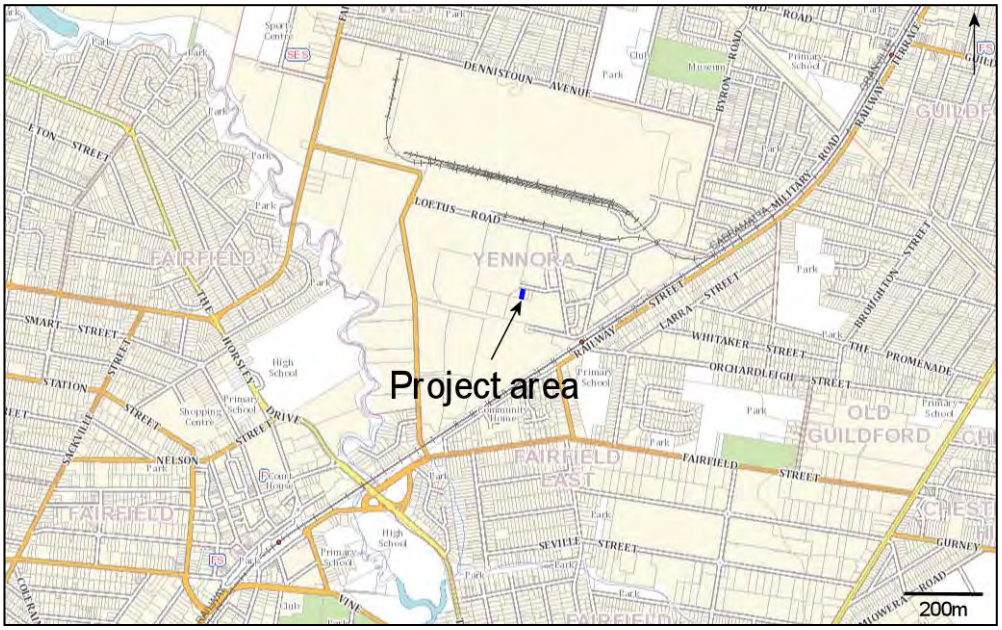
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

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McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Murrumbul Cultural Heritage Technical Services
Mark Henry
murrumbul@gmail.com

Dear Mark,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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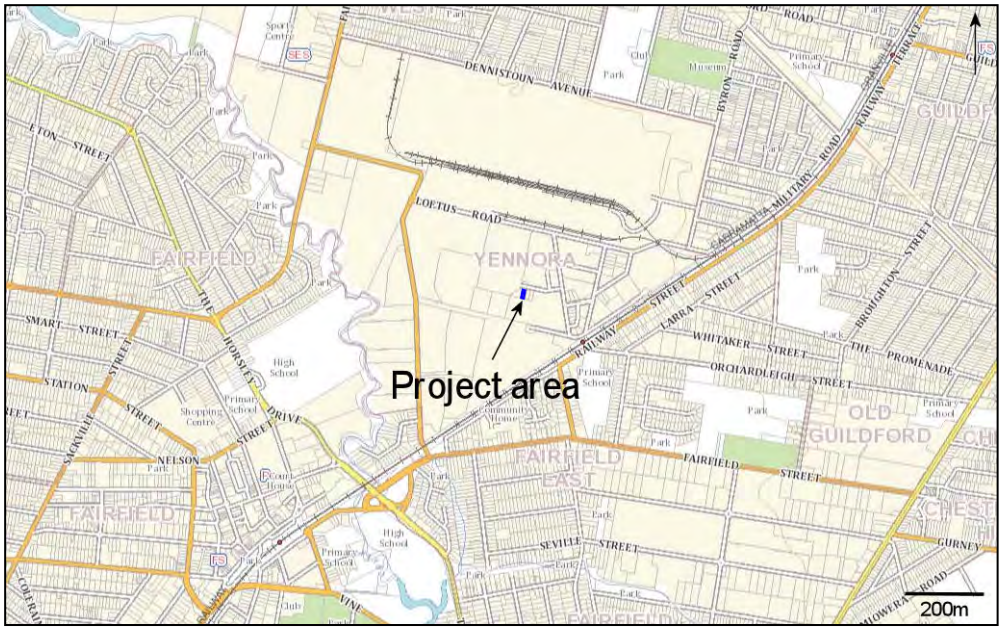
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@optusnet.com.au
0412 702 396

13 May 2019

Jerringong
Joanne Anne Stweart
jerringong@gmail.com

Dear Joanne Anne,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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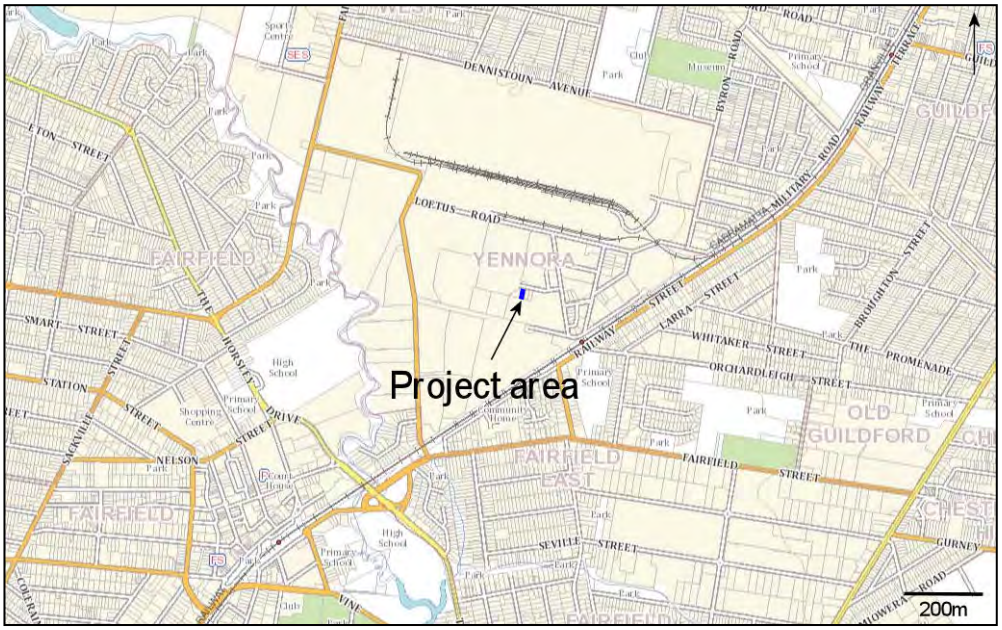
Location of the study area



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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

5) Do **you represent** a traditional knowledge holder of general knowledge? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ozemail.com.au
0412 702 396

13 May 2019

Pemulwuy CHTS
Pemulwuy Johnson
pemulwuyd@gmail.com

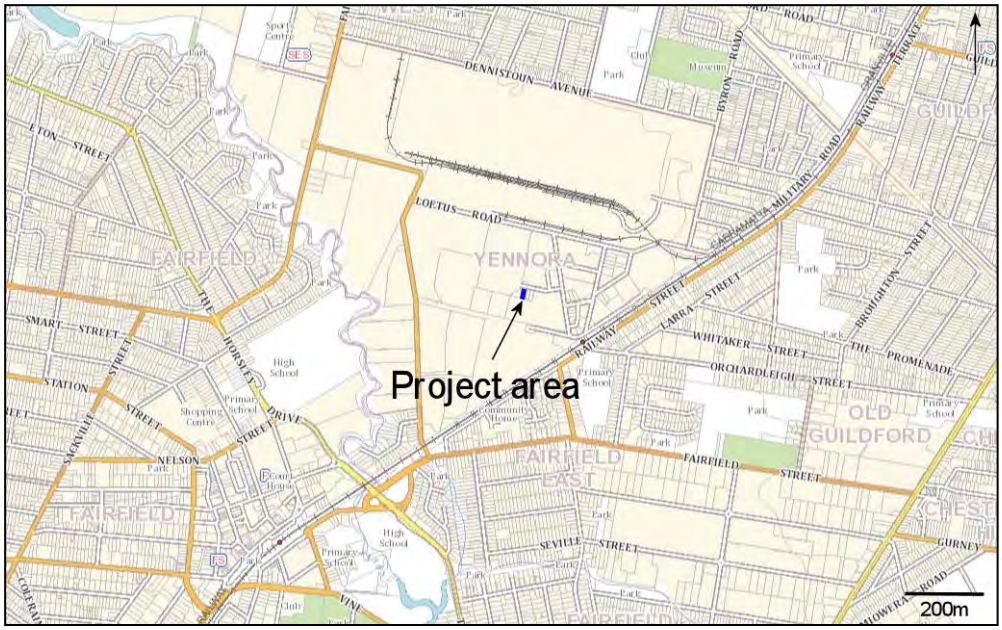
Dear Pemulwuy,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

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Name: _____ Phone:_____

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2) During the survey YES/NO

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1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE
PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Bilinga
Simalene Carriage
bilingachts@gmail.com

Dear Simalene,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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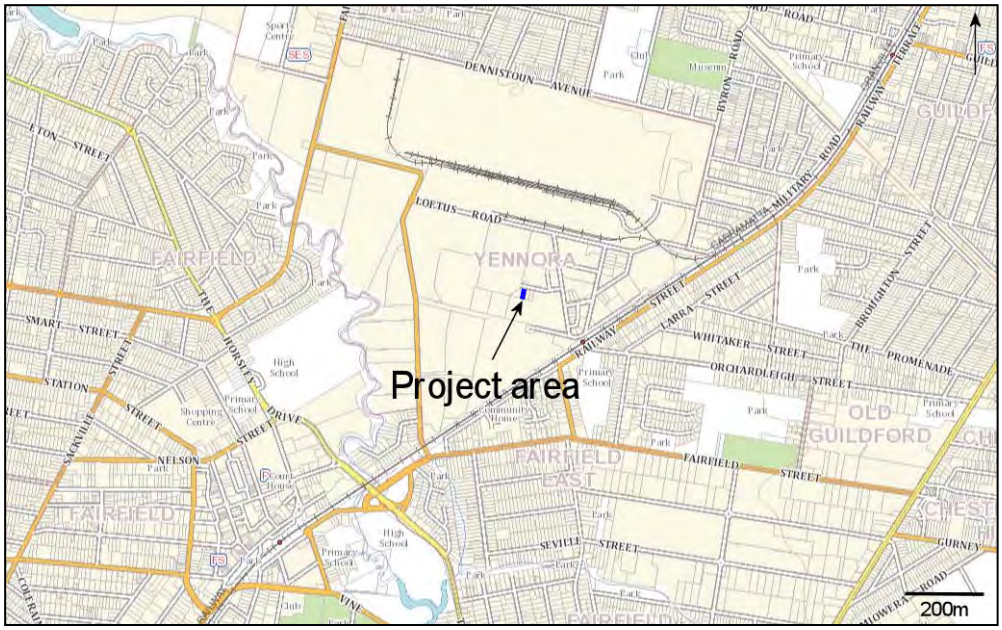
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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3) Are **you** a knowledge holder? YES/NO

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4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

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If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE
PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Munyunga
Kaya Dawn Bell
munyungachts@gmail.com

Dear Kaya Dawn,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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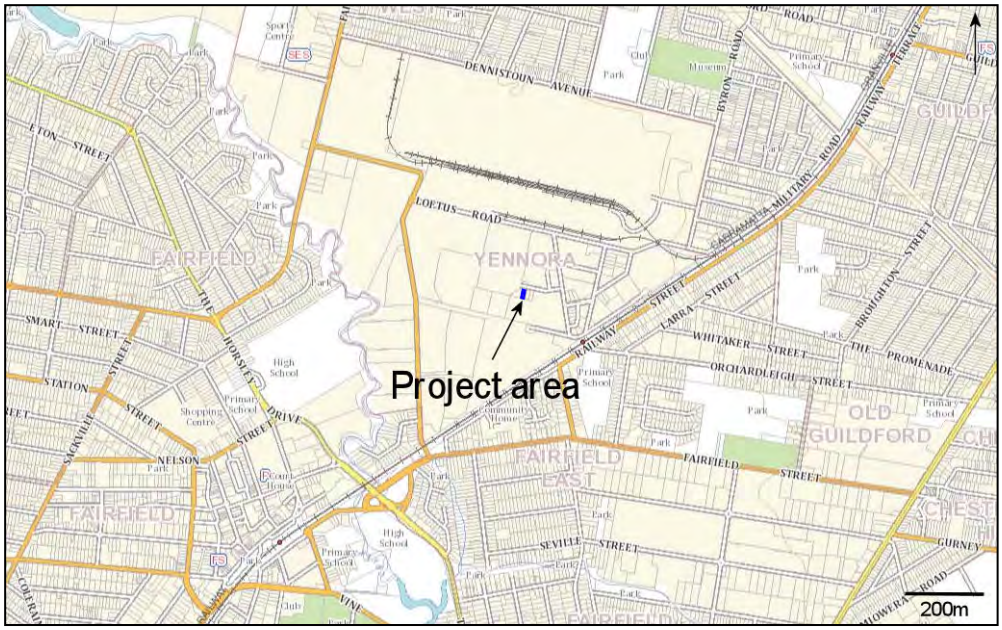
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

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4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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1) Before the survey YES/NO

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1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@optusnet.com.au
0412 702 396

13 May 2019

Wingikara
Hayley Bell
wingikarachts@gmail.com

Dear Hayley,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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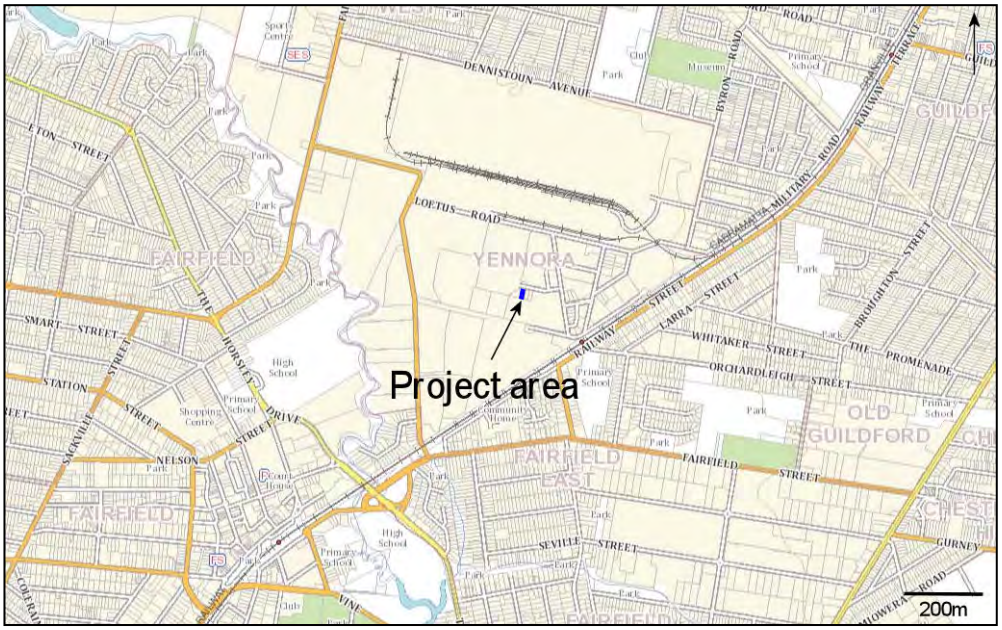
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

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Mobile No:_____

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If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

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Name: _____ Phone:_____

Name: _____ Phone:_____

5) Do **you represent** a traditional knowledge holder of general knowledge? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

6) Do **you represent** a knowledge holder of recent information? YES/NO
If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Minnamunnung
Aaron Broad
1 Waratah Ave.
Albion Part Rail NSW 2527

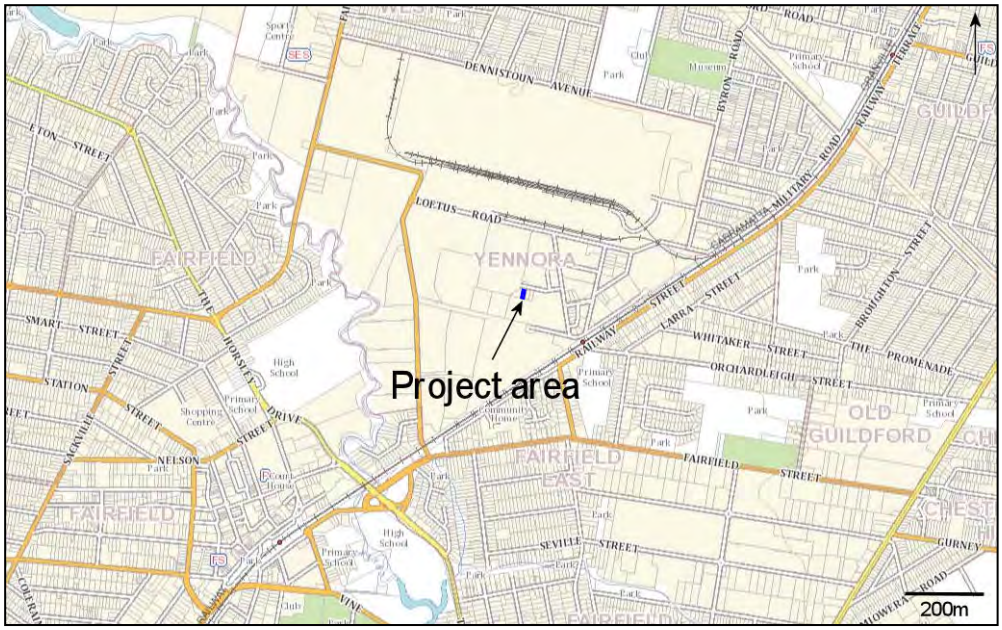
Dear Aaron,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to OEH and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Gundungurra Tribal Technical Services
Christopher Payne

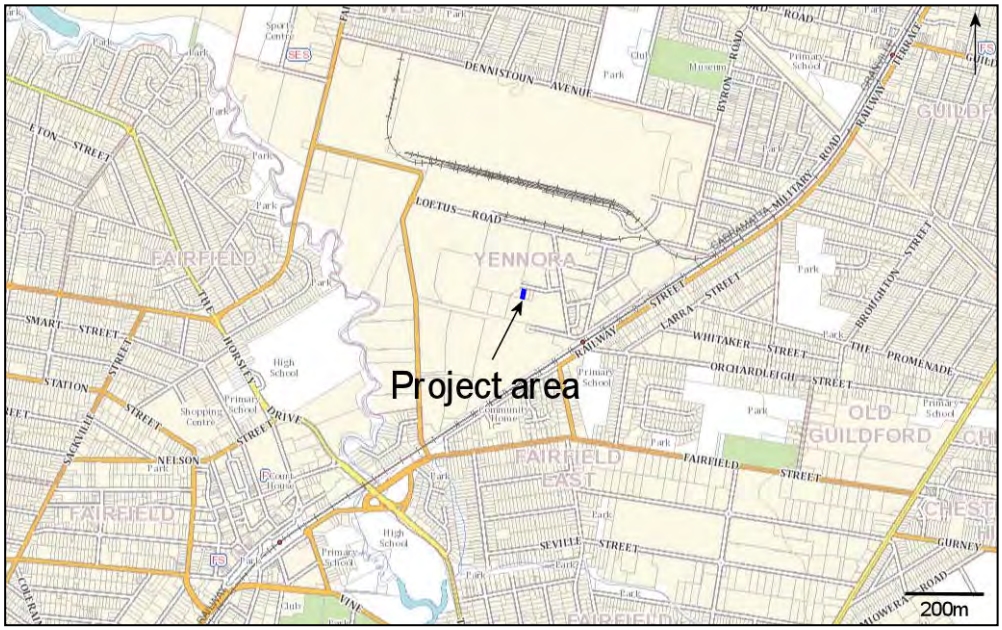
Dear Christopher,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

Name: _____ Phone:_____

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Name: _____ Phone:_____

Name: _____ Phone:_____

Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

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If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ozemail.com.au
0412 702 396

13 May 2019

Walgalu
Ronald Stewart
walgaluchts@gmail.om

Dear Ronald,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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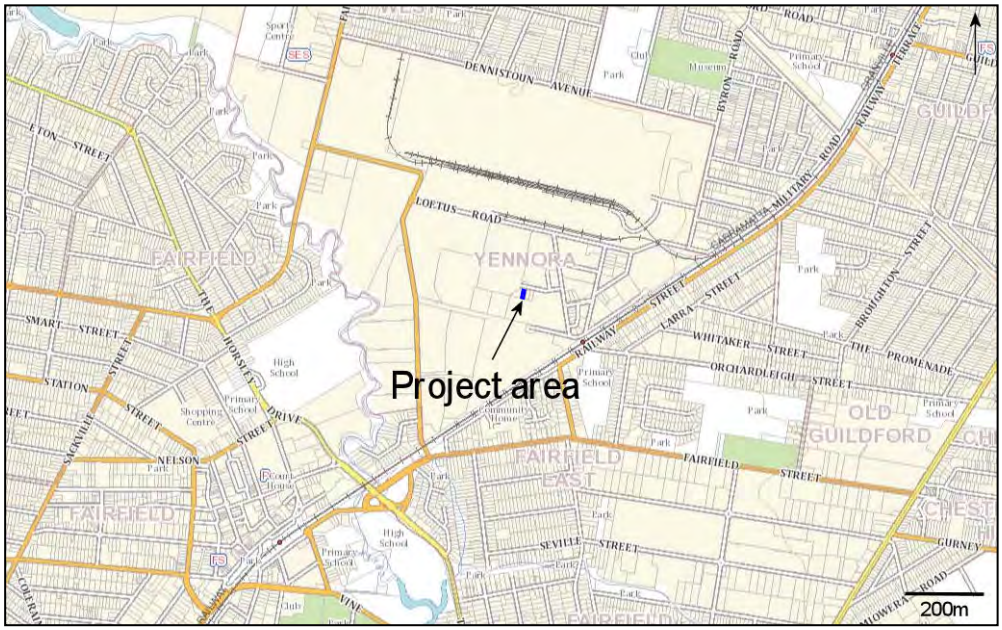
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

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4) Do **you represent** a traditional knowledge holder? YES/NO

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Name: _____ Phone:_____

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Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

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If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Nerrigundah
Newton Carrage
nerrigundachts@gmail.com

Dear Newton,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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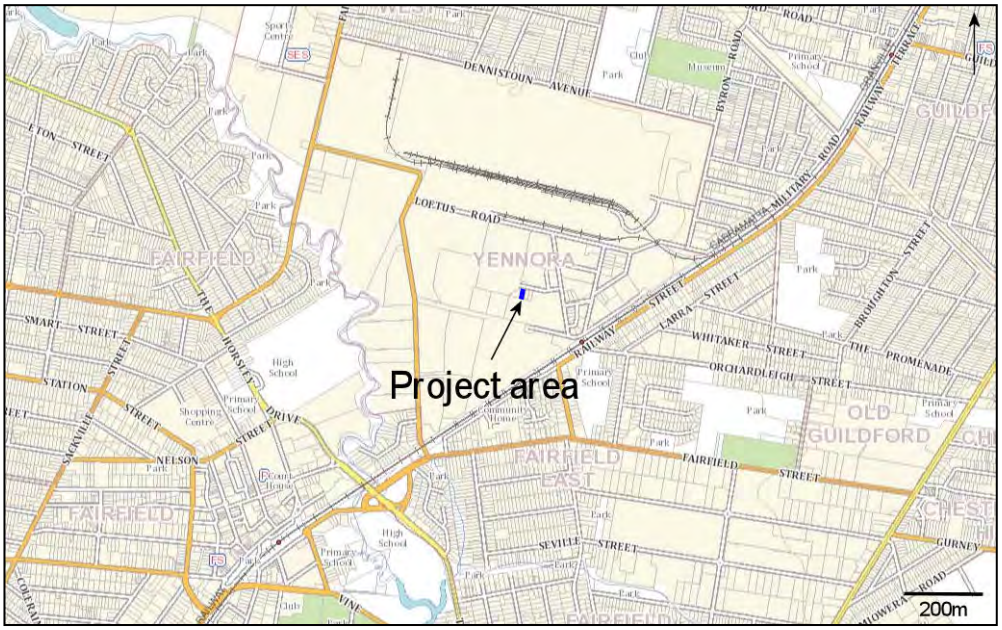
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

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Name: _____ Phone:_____

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Name: _____ Phone:_____

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Name: _____ Phone:_____

Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

3) After the survey (within a week after the survey due to time consideration for preparing the draft reports) YES/NO

If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Guntawang Aboriginal resource Incorporated
Wendy Morgan
113 Reservoir Road
Mt Pritchard NSW 2170

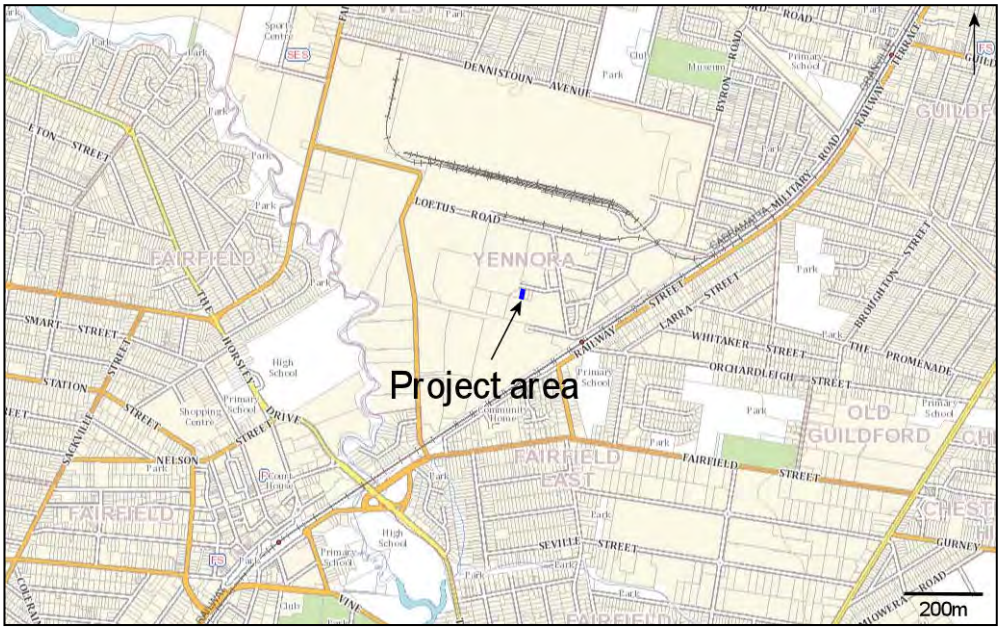
Dear Wendy,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

This is an invitation for Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s* 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

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- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

A number of questions are attached to assist MCH and the proponent in identifying traditional knowledge holders who are holders of specific detailed traditional knowledge, traditional knowledge holders who are holders of general traditional knowledge and knowledge holders who have knowledge based on other sources (such as but not limited to, ethnographic information, archaeological assessments, filed experience). MCH respectfully ask that you read the questions and provide your answers if you choose to register an interest in the project. MCH also sincerely apologise if you take offence to any questions or the manner in which we are guided to identify traditional knowledge holders; no offence is intended.

Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

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4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

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Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

2) During the survey YES/NO

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If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Barking Owel Aboriginal Corporation
Jody Kulakowski
2-65/69 Wehlow St
Mt Druit NSW

Dear Jody,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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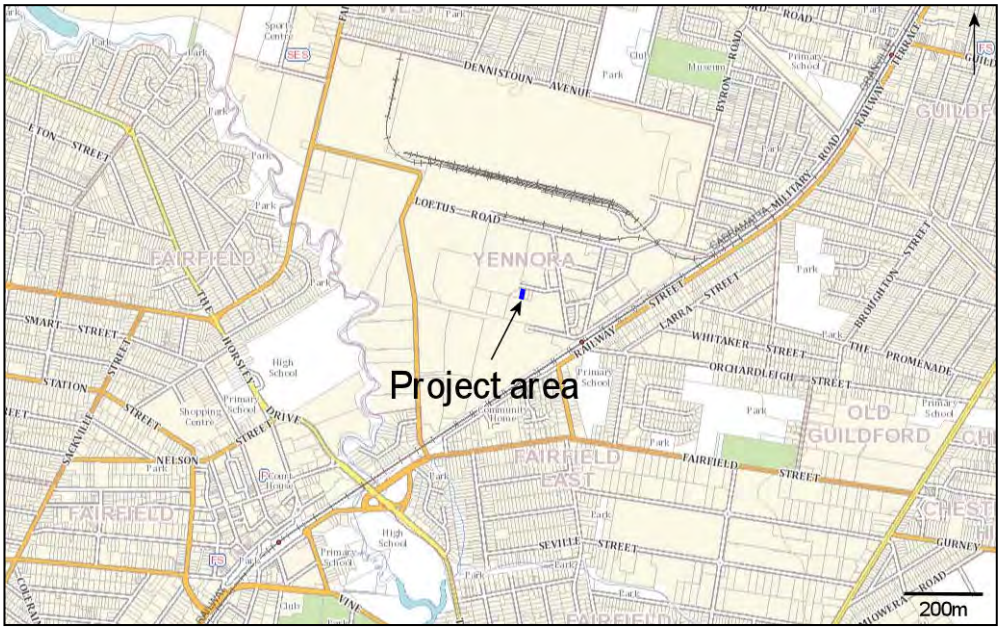
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Thoorga Nura
John Carriage
50B Hilltop Crescent
Surf Beach NSW 2536

Dear John,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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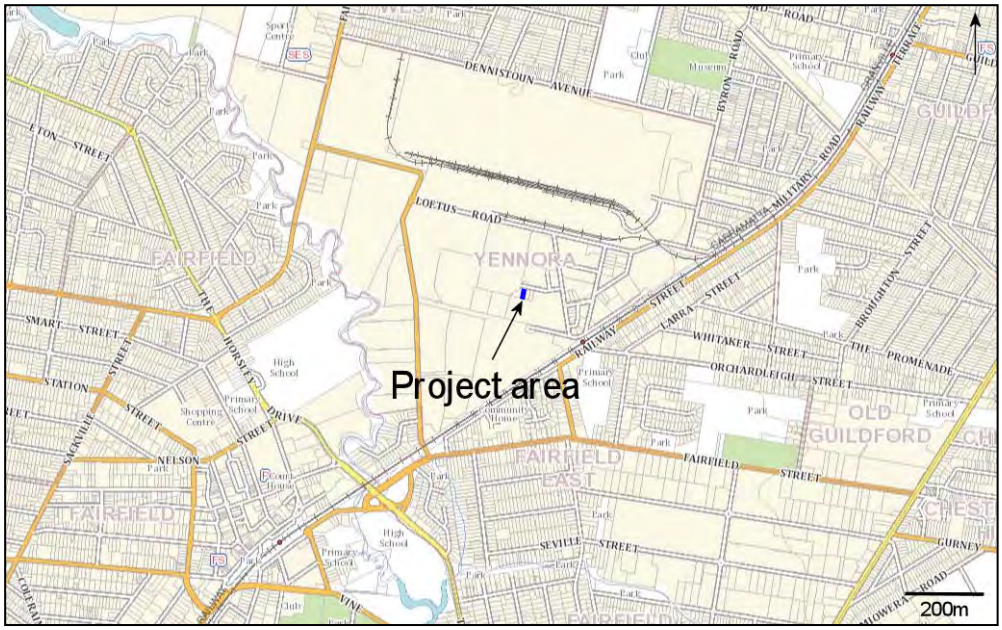

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Darug Boorooberongal Elders Aboriginal Corporation
Gordon Workman
73 Judith Anderson Drive
Doonside NSW 2767

Dear Gordon,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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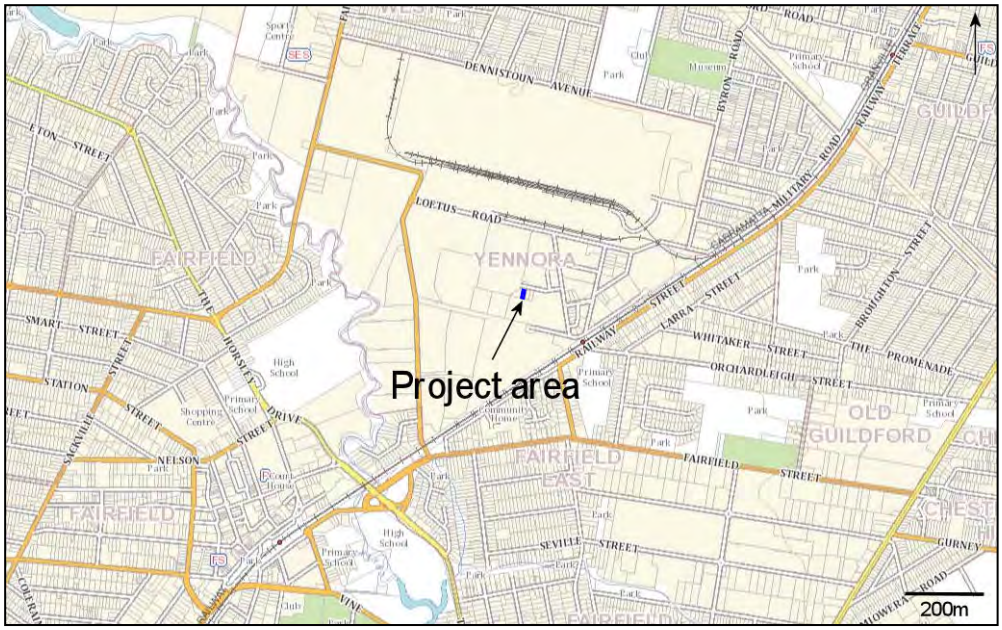
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

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_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

HB Heritage Consul;tants
Ralph Hampton & Nola Hampton
184 Captain Cook Drive
Wilmont NSW 2770

Dear Ralph Hampton &,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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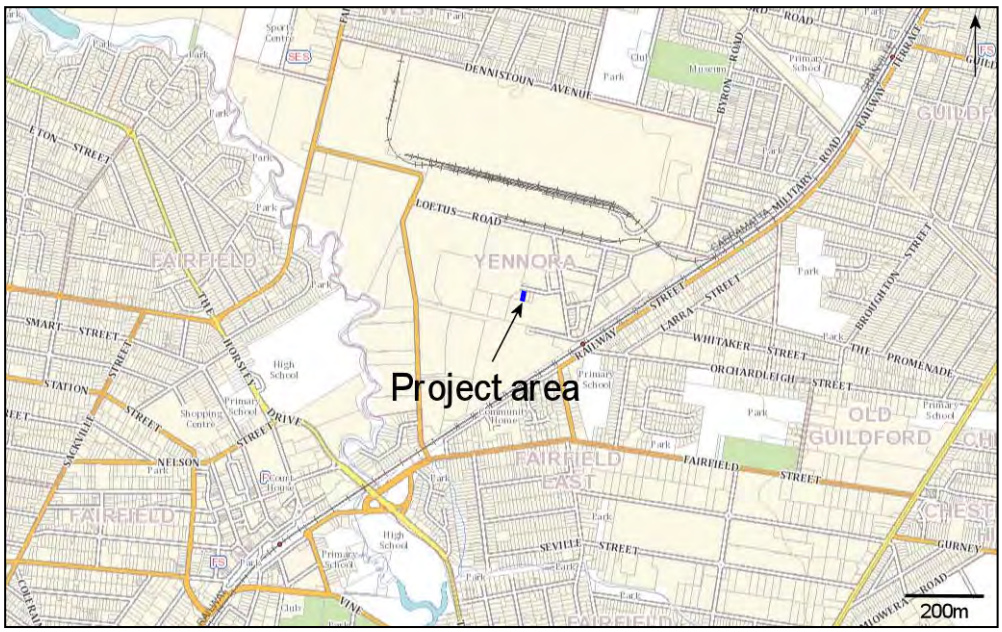

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- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person **and** provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non paid meeting and receive an information pack, or receive information packet through the mail, fax or e-mail. If a preferred method is not nominated, all information will be forward by mail, e-mail or fax.

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

If yes please clarify further:

a) I am a traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) I am a traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) I am a knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES NO

4) Do **you represent** a traditional knowledge holder? YES/NO

If yes, please provide details of whom you represent. You must provide written confirmation of those individual(s) whom you act on behalf of.

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Please nominate when you would like to provide any knowledge:

1) Before the survey YES/NO

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If you are <u>not</u> a descendant of the Gandangara people and would still like to register an interest in the project please answer the questions below.

1) Are you a knowledge holder (whereby you obtain your knowledge through written records such as ethnographic information, archaeological reports, field experience). YES/NO

2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Ngambaa Cultural Connections
Kaarina Slater
6 Natchez Crescent
Greenfield Park NSW 2167

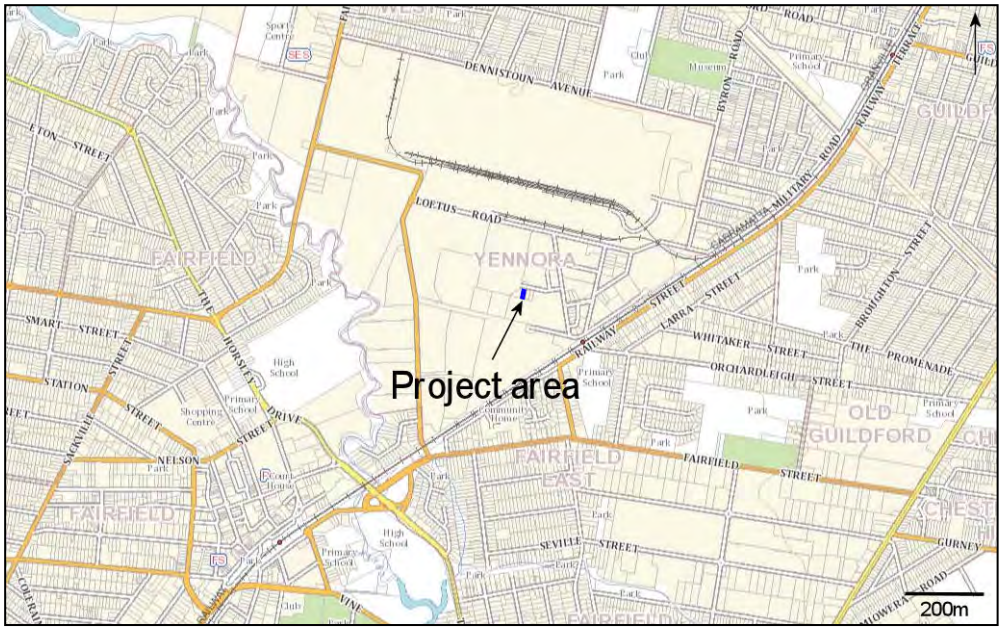
Dear Kaarina,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

As per the Office of Environment and Heritage (OEH) policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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All information provided will be included in the consultation component of the assessment report unless otherwise stated it is confidential.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

1) Are **you** part of a current Native Title Claim where the project area is located within? YES/NO

2) Are **you** a descendant of the Gandangara people? YES/NO

3) Are **you** a knowledge holder? YES/NO

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Goodradigbee Cultural & Heritage Aboriginal Corportaiuon
Caine Carroll
1 Morilla Road
East Kurrajong NSW 2758

Dear Caine,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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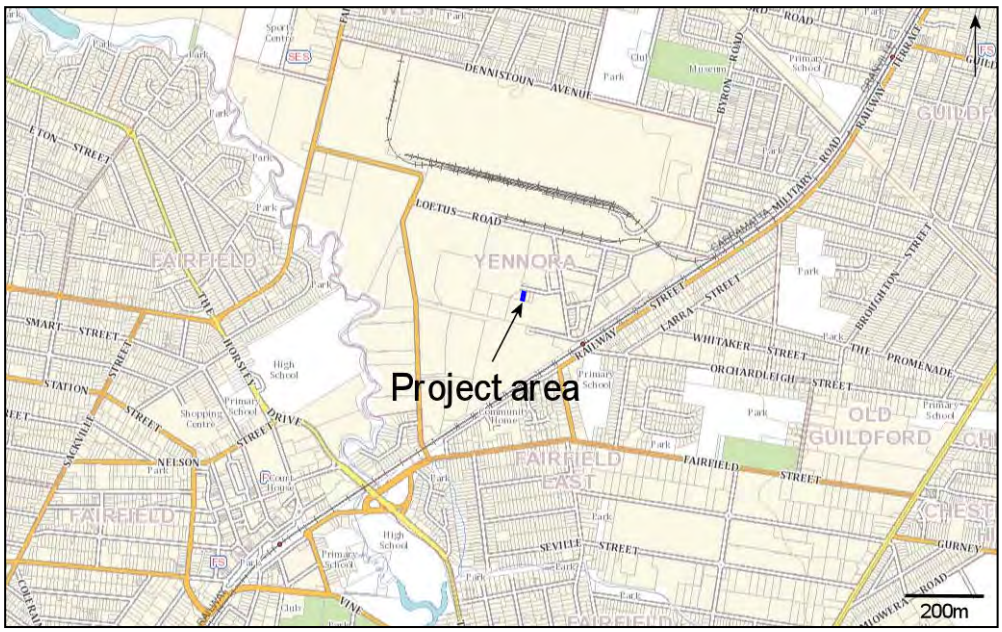
Location of the study area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist the Director General of the Office of Environment and Heritage (OEH), in his or her consideration and determination of the application should an AHIP be required.

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Should you wish to register your interest in this project, please register in writing no later than C.O.B. 27th May 2019 to:

Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

13 May 2019

Mura Indigenous Corporation
Phillip Carroll
11 Nargal Street
Flinders NSW 2529

Dear Phillip,

RE: Written notification of project proposal and registration of interest as required under OEH Aboriginal Cultural heritage Consultation requirements fro proponents 2010 (Stage 1)– proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH have been engaged by Baini Design on behalf of the Proponent (Think Planners Pty Ltd, PO Box 121 Wahroonga NSW 2076) to undertake an Aboriginal Cultural Heritage Assessment and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

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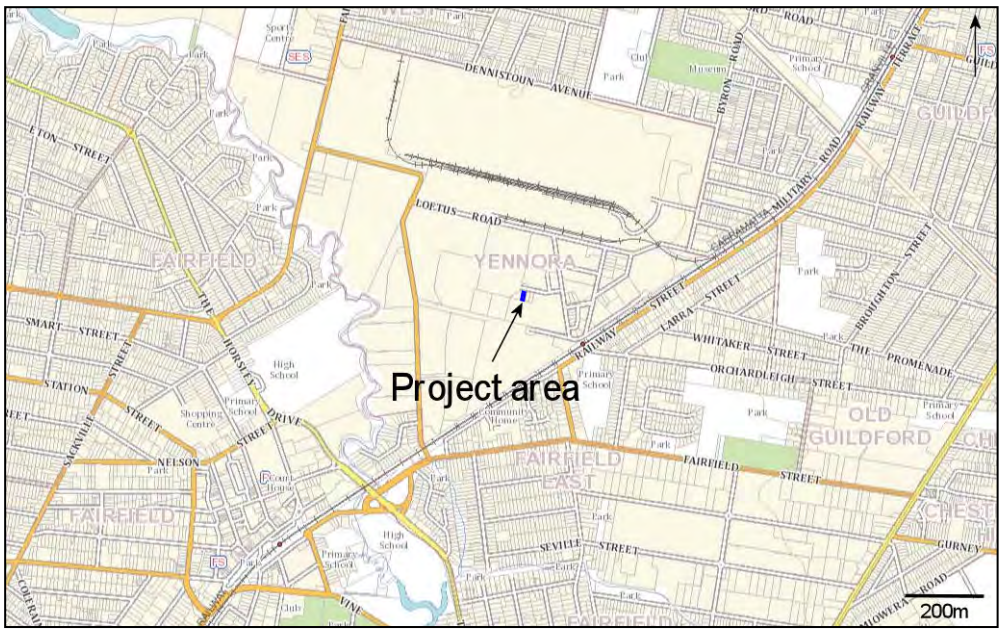
Location of the study area



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Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

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Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

REGISTRATION OF INTEREST: Yenora Facility

The project area lies within Gandangara traditional lands.

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

If you are a descendant of, or represent a descendant of the Gandangara people, please answer the questions below (circle yes/no).

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2) Do you have a specific or general interest in the project? If so, please outline your interest. YES/NO

_____
_____
_____

Archaeological Project - Expression of Interest

Darug Research
& Information Centre
71 Seven Hills Rd South,
Seven Hills, NSW, 2147
Ph (02) 9622-4081



Darug Tribal Aboriginal Corporation
ICN: 2734
PO Box 441
Blacktown, NSW, 2148
Ph | 02 9622 4081
Email: darug_tribal@live.com.au

22/05/2019

Penny McCardle
Principal Archaeologist
PO Box 166
Adamstown NSW 2289
mcheritage@iprimus.com.au
(04) 1270-2396

RE – 2010 (Stage 1) – proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yennora.

Dear Penny,

On behalf of the Board of Darug Tribal Aboriginal Corporation, I would like to thank you for the invitation to consult in the above-mentioned project.

The Darug Tribal Aboriginal Corporation, on behalf the Board and its Members, do hereby request to be included in all activities regarding this project, including any future correspondence there from arising.

Correspondence arising should be addressed to the Archaeological Coordinator, Mr. John Reilly and may be provided by post to the above PO Box address, or via e-mail to the above e-mail address. John may be contacted directly via Mobile at: (04) 0233-4123 or a message may be left on the answering machine in the DTAC Office via (02) 9622-4081.

On site consulting, and other services can be provided as required. The standard rate for such services is $100 excluding GST per hour ($110 per hour including GST).

The Corporation is a Not for Profit entity, and as such, all net income, following payment of wages to archaeological workers, derived from our participation in any project, goes toward supporting our Members, being the Traditional Owners of Darug land, the protection and preservation of Darug places and sites, the education of the wider community about the Darug people, their history, heritage and culture, and the functioning of the Corporation and its' services.

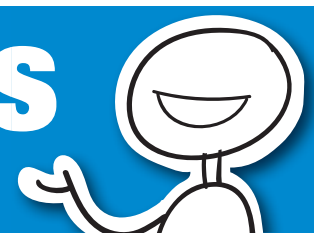
Sincerely,

Dirk Schmitt
Accountant to Darug Tribal Aboriginal Corporation

Connect with Classifieds

Fairfield City Champion

Phone: 132 425
Email: fcnclass@fairfaxmedia.com.au



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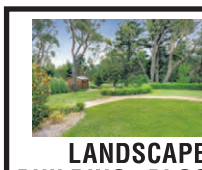

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Public Notices

Notification of project proposal and registration of interest under OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage Proposed Waste Management Facility at (14 Kiora Cres, Yennora, 49/-/DP18211)

McCardle Cultural heritage (MCH) have been engaged by Baini Design, on behalf of EnviroWaste (0420 511 727 - Eddy) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and Section 90 Aboriginal Heritage Impact Permit (AHIOP) application, if required, for the proposed Waste Management Facility at (14 Kiora Cres, Yennora, 49/-/DP18211)

The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of the AHIP application if required and to assist the Director General of OEH in his or her consideration and determination of the application should an AHIP be required.

In compliance with the OEH policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, MCH would like to extend an invitation to Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in the consultation process for this project.

Written registrations must be forward to MCH, P.O. Box 166 Adamstown, NSW, 2289; E:mcheritage@iprimus.com.au; Fax 02 4950 5501, no later than Wednesday 19th June, 2019 C.O.B.

All registered parties will then be contacted to discuss the project in compliance with the OEH policy. If you register your interest in this project, please also nominate your preferred option to receive the initial information. You may wish to attend a non paid meeting and receive an information pack, or receive an information packet through the mail, fax or e-mail.

Any parties to register are advised that, unless otherwise requested, their details will be forward to OEH and the relevant LALC within 28 days of the closing date of registration and in compliance with the OEH policy.

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0412 702 396

20 June 2019

Darren Duncan
Gandangara LALC
DDuncan@glalc.org.au

Dear Darren,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 2 & 3) – Presentation of information about the proposed project and request for comment on the proposed methods of investigation - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

McCardle Cultural Heritage (MCH) would like to thank you for registering your interest in this project. MCH sent a letter extending an invitation to register your interest and asking if you would prefer to have a meeting to discuss the project or have an information pack sent to you. As MCH did not receive your preferred option, we are posting the information packet.

In order for the proponent to fulfil its cultural heritage consultation requirements per the OEH policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Stage 2; s 4.2.1 to 4.2.4; Stage 3, s 4.3.1 to 4.3.7) please find enclosed an Aboriginal Cultural Heritage Assessment Information Packet that the proposed project including, but not limited to, details of the proposed the project including maps indicating the impact areas , an outline of the impact assessment process, summary of the cultural, environmental and archaeological contexts, a site specific predictive model, details of the proposed methodology, the roles and responsibilities of all parties, and provide an opportunity for you to identify and raise any cultural concerns, perspectives and assessment requirements you may have.

MCH would appreciate your input on;

- The proposed methodology
- Any Aboriginal objects and/or place(s) of cultural value within the investigation area and/or an any issues of cultural significance you are aware of
- Any protocols and/or restrictions you may wish to implement in relation to any information you may like to provide, and
- Any other factors you consider relevant to the heritage assessment;

Please make your written submission to MCH by close of business 17 July 2019. The absence of a response by the requested timeline will be taken as your indication that your organisation has no comments regarding the above.

The proponent (Baini Design on behalf of the Proponent Think Planners Pty Ltd) intends to engage a number of RAPs (relative to the scale and nature of the investigations) to participate in the field work. If you wish to be considered for paid participation in the field investigations please review and complete the Aboriginal stakeholder site officer application form attached to the information packet provided. Aboriginal representatives will be selected by Baini Design based upon merits of the applications received with respect to the selection criteria. Late application will not be accepted by Baini Design.

Please note that the number of people engaged and the duration of any engagement will be at the sole discretion of Baini Design who will notify MCH of the successful applicants. MCH will notify the successful applicants and all RAPs will be invited to participate in the field investigations regardless of remuneration and subject to Occupational Health and Safety requirements and operational requirements.

Please note that regardless of participation in the field investigations, RAPs will be consulted in accordance with the OEH policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* for the remainder of the assessment.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the OEH requirements, please ensure that any items that you or your group deem confidential are either stated at the beginning of a conversation or stamped/written on each piece of paper communicate.

MCH looks forward to your response and working with you on this project. Please do not hesitate to contact myself on 0412 702 396 should you have any questions.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Enclosures:
Aboriginal Cultural Heritage Assessment Information Packet

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PO Box 166
Adamstown 2289 NSW
mcheritage@ozemail.com.au
0412 702 396

20 June 2019

Jamie Workman
Darug Land Observations Pty Ltd
daruglandobservations@gmail.com

Dear Jamie,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 2 & 3) – Presentation of information about the proposed project and request for comment on the proposed methods of investigation - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

McCardle Cultural Heritage (MCH) would like to thank you for registering your interest in this project. MCH sent a letter extending an invitation to register your interest and asking if you would prefer to have a meeting to discuss the project or have an information pack sent to you. As MCH did not receive your preferred option, we are posting the information packet.

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MCH looks forward to your response and working with you on this project. Please do not hesitate to contact myself on 0412 702 396 should you have any questions.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Enclosures:
Aboriginal Cultural Heritage Assessment Information Packet

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PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

20 June 2019

Dirk Schmitt
Darug Tribal Aboriginal Corporation
darug_tribal@live.com.au

Dear Dirk,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 2 & 3) – Presentation of information about the proposed project and request for comment on the proposed methods of investigation - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

McCardle Cultural Heritage (MCH) would like to thank you for registering your interest in this project. MCH sent a letter extending an invitation to register your interest and asking if you would prefer to have a meeting to discuss the project or have an information pack sent to you. As MCH did not receive your preferred option, we are posting the information packet.

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MCH looks forward to your response and working with you on this project. Please do not hesitate to contact myself on 0412 702 396 should you have any questions.

Yours sincerely,

for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Enclosures:
Aboriginal Cultural Heritage Assessment Information Packet

Expansion of the Existing Resource Processing Facility at 14Kiora Crescent, Yennora

LGA: Cumberland

Aboriginal Cultural Heritage Assessment Information Packet

20 June 2019

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Report No: J19035 Info Pack	
Approved by:	Penny McCardle
Position:	Director
Signed:	
Date:	20 June 2019

This report has been prepared in accordance with the scope of services described in the contract or agreement between McCardle Cultural Heritage Pty Ltd (MCH), ACN: 104 590 141, ABN: 89 104 590 141, and Baini Design. The report relies upon data, surveys, measurements and specific times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by Baini Design. Furthermore, the report has been prepared solely for use by and Baini Design and MCH accepts no responsibility for its use by other parties.

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GLOSSARY

Aboriginal Cultural Heritage Values: traditional values of Aboriginal people, handed down in spiritual beliefs, stories and community practices and may include local plant and animal species, places that are important and ways of showing respect for other people.

Aboriginal Place: are locations that have been recognised by the Minister for Climate Change and the Environment (and gazetted under the *National Parks and Wildlife Act 1974*) as having special cultural significance to the Aboriginal community. An Aboriginal Place may or may not include archaeological materials.

Aboriginal Site: an Aboriginal site is the location of one or more Aboriginal archaeological objects, including flaked stone artefacts, midden shell, grinding grooves, archaeological deposits, scarred trees etc.

Harm: is defined as an act that may destroy, deface or damage an Aboriginal object or place. In relation to an object, this means the movement or removal of an object from the land in which it has been situated

Traditional Aboriginal Owners: Aboriginal people who are listed in the Register of Aboriginal owners pursuant to Division 3 of the *Aboriginal Land Register Act (1983)*. The Registrar must give priority to registering Aboriginal people for lands listed in Schedule 14 of the *National Parks and Wildlife Act 1974* or land subject to a claim under 36A of the *Aboriginal Land Rights Act 1983*.

Traditional Knowledge: Information about the roles, responsibilities and practices set out in the cultural beliefs of the Aboriginal community. Only certain individuals have traditional knowledge and different aspects of traditional knowledge may be known by different people, e.g. information about men's initiation sites and practices, women's sites, special pathways, proper responsibilities of people fishing or gathering food for the community, ways of sharing and looking after others, etc.

1 INTRODUCTION

McCardle Cultural Heritage Pty Ltd (MCH) has been commissioned by Baini Design on behalf of the Proponent (Think Planners Pty Ltd) to prepare an Aboriginal Cultural Heritage Assessment report (ACHA) for a proposed expansion of the existing Resource Processing Facility (liquid waste processing facility) at 14 Kiora Crescent, Yenora, Cumberland Local Government Area (LGA).

The assessment will determine the potential impacts upon the indigenous cultural heritage within the development area. It is intended that any areas of indigenous cultural heritage value will be identified and appropriate management recommendations will be established through consultation with the registered Aboriginal parties.

In compliance with the OEH policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Stage 2, s4.21 to 4.2.4 and Stage 3 s4.3.1 to 4.3.7), this Aboriginal Cultural Heritage Information Packet provides information about the proposed project including, but not limited to, details of the proposed the project including maps indicating the impact areas , an outline of the impact assessment process, cultural context, summary of the environmental and archaeological contexts, a site specific predictive model, details of the proposed methodology the roles and responsibilities of all parties, and provide an opportunity for you to identify and raise any cultural concerns, perspectives and assessment requirements you may have.

The assessment has been undertaken to meet the Office of Environment and Heritage (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010a,* the *OEH Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2011,* the *OEH Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010b,* and the brief.

1.1 CONSULTATION

Consultation will be undertaken as per the OEH *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* and will be detailed in the Aboriginal Cultural heritage Assessment report.

1.2 PROJECT AREA

The project area (Figure 1.1 to 1.3), 14 Kiora Crescent, Yenora, includes Lot 14 DP18211 and is an existing Resource Processing Facility (liquid waste processing facility).

Figure 1.1Location of the project area

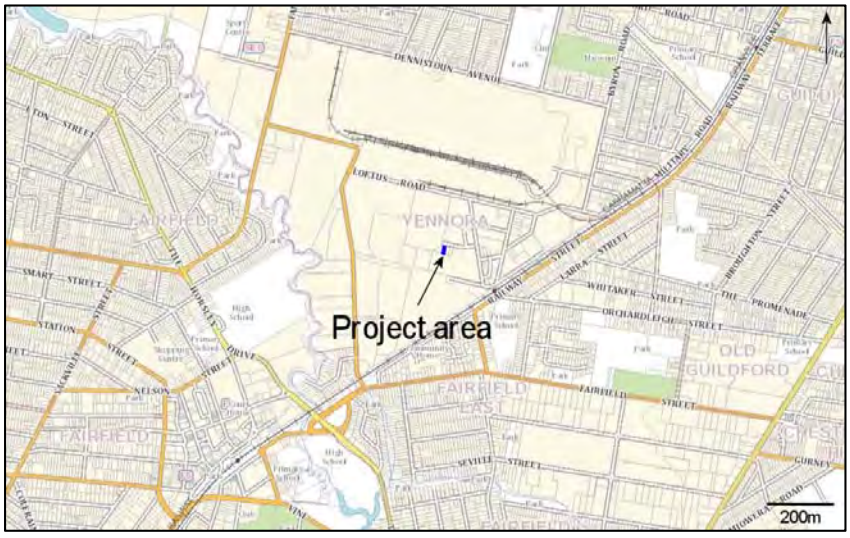

Figure 1.2 Local location of the project area



Figure 1.3 Aerial location of the project area (nearmap 7 April 2019)



1.3 PROJECT OUTLINE AND IMPACTS

The proposed is increasing the capacity of the existing liquid waste processing facility of up to 25,000 tones per annum of waste.

1.4 CRITICAL DEVELOPMENT TIME LINES

The proponent wishes to commence works as soon as possible but also acknowledges the need to undertake indigenous cultural heritage investigations on the site. Ideally these would be undertaken prior to any works commencing on the site, however, it would be possible to stage the development to exclude areas identified for investigation until the investigations are complete.

1.5 CRITICAL ARCHAEOLOGICAL TIMELINE

The following Table indicates the timelines critical for the archaeological assessment. However, please note that consultation may be increased or decreased depending on response times and knowledge sharing.

1.1 Archaeological timeline

Stages	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Stage 1: consult.										
Stage 2: survey										
Stage 3: reporting										
Stage 4: finalisation										

2 ENVIRONMENTAL CONTEXT

The environmental context provides a background to the landforms and potential resources that may have been available in the past. The land uses also assists in an understanding of potential impacts they would have had on the landscape and associated cultural materials. This information is utilised with the archaeological context in order to ascertain a reliable predictive model of not only sit location and site type, but also the likelihood of survivability within that landscape.

The project area is situated on the Liverpool Sub-group of the Waiiamatta Group consisting of shale with some sandstone beds (Sydney 1:250,000 Geological Series Map 1966). Stone tools identified in the local area were usually manufactured from mudstone/tuff and silcrete, both of which are absent from the local area and as such any stone tools within the proejct area would have been transported (possibly traded) into the area. Situated on the Blacktown residual soil landscape, the project area is located approximately 670 metres east of Prospect Creek (1st order) with the closest reliable water source (Georges River) located approximately 4 kilometres to the south and the Parramatta River located approximately 7.5 kilometres north east. Thus, the project area was not resourced in terms of fresh water availability nor any associated subsistence or medicinal resources. European settlers extensively cleared the original native vegetation in the 1800's and since then the project area has been subject to excavation and construction works associated with the existing facility on the property. The project area, located on a highly disturbed landscape that included industrial and residential developments resulting in none of the original landforms are present, would have displaced and remove any cultural materials that may have been present.

3 ARCHAEOLOGICAL CONTEXT

The archaeological background provides context to the project area and wider cultural landscape in which the project area is situated. It identifies known sites, their landform location and proximity to subsistence resources. It also provides the nature and extent of known sites as well as their distribution across the landscape, thereby enabling a site specific predictive model to be developed.

A search of the OEH AHIMS register has shown that 3 known Aboriginal sites are currently recorded within four kilometres of the project area and include one scar tree, one artefact site and one PAD with artefacts, all located 3.5 to 4 kilometres south of the project area. Researching both the regional and local archaeological contexts, the following archaeological patterning is evident:

- the majority of sites are located on elevated landforms within 50 metres of a reliable water source with a drop of site number and densities from 50 metres of water;
- the likelihood of finding sites of any size increases with proximity to water and the likelihood of finding large artefact scatters also increases markedly with proximity to water;
- the main site types are artefact scatters and isolated finds;
- the data suggests that slopes were the preferred location, however, this does not account for vertical movement of artefacts or sites being moved from flooding, flowing creeks etc.;
- mudstone, silcrete and tuff are by far the most common raw material types represented at sites in the region. Quartz and chert are the next most frequently in artefact assemblages followed by volcanic materials, porphyry and petrified wood. Siltstone, rhyolite and porcellanite are relatively rare;
- flakes, broken flakes and flaked pieces are the most common artefact types recorded;
- the stone artefacts are usually relatively dated to within the last 5,000 years; and

- the vast majority of artefactual material in the region was observed on exposures with good to excellent ground surface visibility.

3.1.1 PREDICTIVE MODEL

Just as the environmental context and the results of the regional and local archaeological contexts have assisted in formulating a predictive model, the predictive modeling has assisted in formulating the field investigation methodology (Section 4).

The AHIMS search and both the regional and local archaeological contexts, have shown that very limited sites are located within 4 kilometres of the project rea. Given its location from reliable fresh water supply and associated resources, archaeological evidence of the area is expected to include evidence of transitory activities such as hunting and gathering and travel to such resources. Such past Aboriginal Land uses manifest in the archaeological record as very low-density artefacts scatters and isolated finds. However, given the works associated with the construction of the existing facility in the project area, including excavation, soil removal, fill and structure construction, if evidences of past Aboriginal land uses were present in the project area, it would have been destroyed through these activities.

4 METHODS OF INVESTIGATION

There are two methods of investigation including the gathering of cultural significance knowledge and archaeological assessment. These are briefly outlined below.

4.1 GATHERING OF INFORMATION OF CULTURAL SIGNIFICANCE

MCH and the proponent understand that unlike the written word, Aboriginal cultural knowledge is not static, but responds to change through absorbing new information and adapting to its implications. Aboriginal cultural knowledge is handed down through oral tradition (song, story, art, language and dance) from generation to generation, and preserves the relationship to the land (DECCW 2010).

Specific details and parts of cultural knowledge are usually held and maintained by individuals or within particular family groups. Although the broader community may be aware of the general features of that knowledge, it is not a common practice within Aboriginal society for detailed cultural knowledge to be known in the broader community or within Aboriginal community organisations. However, at times these organisations may defer to particular individuals or family groups as being the knowledge-holders of particular sets of cultural knowledge about places or the environment (DECCW 2010).

Proposed methods of gathering information of cultural significance are provided in the Cultural Heritage information packet.

All responses to the cultural information packet will be considered in the final methods which will adapt accordingly. Any other changes to the methods may occur on site in order adapt to unforseen field conditions.

4.2 ARCHAEOLOGICAL ASSESSMENT

This entails an archaeological assessment of the proposed project area. It includes the gathering of both environmental and archaeological information to gain an understanding of the environment, disturbances and provide a predictive model for the proposed project area.

Following the completion of the survey, a report that includes detailed environmental and archaeological background, results, discussion, the cultural significance as determined by the registered Aboriginal parties and mitigation measures will be provide to all registered parties for their review. This will also include opportunities for the registered Aboriginal parties to provide feedback on any management or mitigation recommendations. All registered parties will also be required to provide their own report/letter within a specified time and a copy of the final report will be provided to all parties. A summary of the regional and local archaeological contexts ism provided in order to assist in the development of a predictive model for the project area that will in turn assist in determining the survey methodology/strategy.

5 PROPOSED METHODS OF GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

There are two methods of investigation including the gathering of information about cultural significance and an archaeological assessment. The archaeological assessment was discussed in the Archaeological information packet provided to you. The gathering of information about cultural significance for the Cultural heritage Assessment is briefly outlined below.

5.1 GATHERING OF INFORMATION OF CULTURAL SIGNIFICANCE

The aim of the cultural heritage assessment is to facilitate a process whereby RAPs can;

1) Contribute culturally appropriate information
2) Contribute to the proposed methodology
3) Provide information that will enable the cultural significance of Aboriginal objects and/or places within the project area to be determined.

MCH and the proponent understand that unlike the written word, Aboriginal cultural knowledge is not static, but responds to change through absorbing new information and adapting to its implications. Aboriginal cultural knowledge is handed down through oral tradition (song, story, art, language and dance) from generation to generation, and preserves the relationship to the land (DECCW 2010).

Specific details and parts of cultural knowledge are usually held and maintained by individuals or within particular family groups. Although the broader community may be aware of the general features of that knowledge, it is not a common practice within Aboriginal society for detailed cultural knowledge to be known in the broader community or within Aboriginal community organisations. However, at times these organisations may defer to particular individuals or family groups as being the knowledge-holders of particular sets of cultural knowledge about places or the environment (DECCW 2010).

In some cases the information provided may be sensitive and MCH and the proponent will not share that information with all registered Aboriginal parties or others without the express permission of the individual. MCH and the proponent would like to develop and implement appropriate protocols for sourcing and holding cultural information.

5.2 IDENTIFYING KNOWLEDGE HOLDERS

The aim is to identify Traditional Owners/traditional knowledge holders who have knowledge that is relevant to the project area so that any potential effects of the project or activity on the Indigenous heritage values of objects and/or places can be identified.

It also aims to identify Indigenous people who may not necessarily be Traditional Owners/traditional knowledge holders but who do have interests in the area so that any effects of the project or activity on the Indigenous heritage values of objects and/or places, such as mission stations and historic buildings, will be identified.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), the Burra Charter (2013) and Ask First (2002) which provide guidelines to identify traditional knowledge holders.

Knowledge holders are defined as follows:

a) Traditional knowledge holder of specific, details knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

b) Traditional knowledge holder of general knowledge pass directly by a traditional knowledge holder in a traditional manner YES/NO

c) Knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc). YES/NO

Knowledge holders have been initially identified through the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 1 (S. 4.1.1 to 4.1.2) that seeks to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Additionally, knowledge holders were sought to be identified through the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 1 (S. 4.1.3 to 4.1.8) that sought to identify, notify and register Aboriginal people who identify as knowledge holders (using the above defined knowledge holder criteria) who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Native Title Claimant Groups/individuals are acknowledged as knowledge holders due to the requirements through the Native Title Registration process. Native Title Claimant groups/individuals are also asked to further define the knowledge holder using the above defined knowledge holder criteria.

This process ensures consistent consultation for all RAPs and adheres to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010).

5.3 IDENTIFYING CULTURAL SIGNIFICANCE

Cultural significance is embodied in the place—in its fabric, setting, use, associations and meanings. It may exist in: objects at the place or associated with it; in other places that have some relationship to the place; and in the activities and traditional and customary practices that may occur at the place or that are dependent on the place. A place may be of cultural significance if it satisfies one or more of these criteria. Satisfying more criteria does not mean a place is necessarily more significant.

Only Aboriginal people who are descendants of the people from the traditional lands in which the project is situated can identify the cultural significance of their own cultural heritage.

The cultural significance of a place is assessed by analysing evidence gathered through the physical investigation of the place, research and consultation for this project in line with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales (DECCW 2010) and the ICOMS Burra Charter (2013).

Part of the process is to evaluate its qualities against a set of criteria that are established for this purpose. The criteria used include those set out by the Burra Charter (see below).

5.4 VALUES AND QUESTIONS TO CONSIDER

The following values and questions are derived from the Burra Charter (2913) to facilitate your consideration when providing information on the cultural significance of any Aboriginal objects(s) and/or place(s). The criteria discussed below are a means to assess cultural significance in order to meet the

Government Departmental requirements. MCH understands that the method of assessing cultural significance presented may not be culturally appropriate and considered offensive to some; it is not intended to be so.

There are five terms or values, which are listed alphabetically in the Burra Charter, and are often included in Australian heritage legislation. Criteria are also used to help define cultural and natural significance, and there is now a nationally agreed set of heritage assessment criteria and each of these criteria may have tangible and intangible aspects and it is essential that both are acknowledged.

The five criteria include Aesthetic value, Historic value, Scientific value, Social value and Spiritual value. These are discussed below along with some questions for consideration when you consider reporting on the cultural significance.

5.4.1 AESTHETIC SIGNIFICANCE

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. It is how we respond to visual and non-visual aspects such as sounds, smells and other factors that can have a strong impact on your thoughts, feelings and attitudes. It may also include consideration of the form, scale, colour, texture and material and its beauty (Australia ICOMOS 2013).

When considering the aesthetic value and significance of a site and/or PAD, some questions to consider may include:

- Does the object or place have special compositional or uncommonly attractive qualities involving combinations of colour, textures, spaces, massing, detail, movement, unity, sounds, scents?
- Is the object or place distinctive within the setting or a prominent visual landmark?
- Does the object or place have qualities which are inspirational or which evoke strong feelings or special meanings?
- Is the object or place symbolic for its aesthetic qualities: for example, does it inspire artistic or cultural response, is it represented in art, photography, literature, folk art, folk lore, mythology or other imagery or cultural arts?
- Does the object or place display particular aesthetic characteristics of an identified style or fashion?
- Does the object or place show a high degree of creative or technical achievement?

5.4.2 HISTORIC SIGNIFICANCE

The historic value encompasses all aspects of history. For example it may include the history of aesthetics, art, science, society and spirituality. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment (Australia ICOMOS 2013).

When considering the historic value and significance of a site and/or PAD, some questions to consider may include:

- Is the object or place associated with an important event or theme in Awabakal and/or your history?
- Is the object or place important in showing patterns in the development of Awabakal and/or your history locally, in a region, or on a state-wide, or national or global basis?
- Does the object or place show a high degree of creative or technical achievement for a particular period?

- Is the object or place associated with a particular person or cultural group important in the history of the local area, state, nationally or globally?

5.4.3 SCIENTIFIC SIGNIFICANCE

The scientific value refers to the information content of a place and its ability to reveal more about an aspect of the past through examination or investigation of the place, including the use of archaeological techniques. The relative scientific value of a place is likely to depend on the importance of the information or data involved, on its rarity, quality or representativeness, and its potential to contribute further important information about the place itself or a type or class of place or to address important research questions (Australia ICOMOS 2013). Whilst the scientific value and significance will be discussed in detail in the Archaeological Heritage Impact Assessment report, it is important to consider this value when assessing the cultural values and significance of an object and/or place.

When considering the scientific value and significance of a site and/or PAD, you may consider:

- Would further investigation of the place have the potential to reveal substantial new information and new understandings about people, places, processes or practices which are not available from other sources?

5.4.4 SOCIAL VALUE

Social value refers to the associations a place has for a particular community or cultural group and the cultural or social meaning it has for that community or cultural group (Australia ICOMOS 2013).

When considering the social value and significance of a site and/or PAD, some questions to consider may include:

- Is the object or place important as a local marker or symbol?
- Is the object or place important as part of Awabakal community identity or the identity of another particular cultural group?
- Is the object or place important to the Awabakal people, community or other cultural group because of associations and meanings developed from long use and association?

5.4.5 SPIRITUAL VALUE

Spiritual value embraces the intangible values and meanings embodied in or evoked by a place which gives importance to the spiritual identity, or traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations, and be expressed through cultural practices and related places (Australia ICOMOS 2013). The qualities of the place may inspire a strong and/or spontaneous emotional or metaphysical response in people, expanding their understanding of their place, purpose and obligations in the world, particularly in relation to the spiritual realm (Australia ICOMOS 2013).

When considering the spiritual value and significance of a site and/or PAD, some questions to consider may include:

- Does the object or place contribute to the spiritual identity or belief system of the Awabakal or another cultural group?
- Is the place a repository of knowledge, traditional art or lore related to spiritual practice of the Awabakal people or another a cultural group?

- Is the object or place important in maintaining the spiritual health and wellbeing of Awabakal people or another culture or group?
- Do the physical attributes of the object or place play a role in recalling or awakening an understanding of an individual or a group's relationship with the spiritual realm?
- Do the spiritual values of the object or place find expression in Awabakal cultural practices or human-made structures, or inspire creative works?

5.5 PROVIDING YOUR KKNOWLEDGE AND CULTURAL SIGNIFICANCE INFORMATION

It is difficult to provide options that will ensure every individuals needs are met. In light of this, the following proposed options are provided are in no way the only options available. If you have alternative ways of providing your knowledge and cultural significance information please notify MCH to ensure we can facilitate your requirements where appropriate.

It is acknowledged and understands that the methods and options discussed are not traditional customs and some may take offence. MCH sincerely apologise for any offence taken as none is intended.

1) Discussion in the field during the survey
2) Written documentation (letter, e-mail, fax)
3) Meeting to discuss and/or provide written documentation
4) Formal interview with specific questions/answers and/or discussions
5) Phone conversation
6) Skype conversation
7) Using the attached form/questioner

5.6 PROPOSED CULTURAL HERITAGE ASSESSMENT REPORT

MCH will undertake the cultural heritage assessment as traditional knowledge holders/Traditional Owners and contemporary knowledge holders will be identified as set out above. The cultural heritage assessment will include, but not be limited to:

- Background ethnographic, historic and contemporary research of the Aboriginal people of the area, including but not limited to, past land uses, resources, customs and traditions where the information is available to examine connection to country throughout the past and into the future;
- Discussions with knowledge holders and those who identify themselves as having an interest in the project, taking into account that Indigenous people may have differing degrees of knowledge about heritage places and their importance;
- Discussion will also take place during the survey (as well as throughout the project) as requested by some knowledge holders;
- An additional focused field survey if required to identify, locate and record any Indigenous heritage values of objects and/or places in a manner that is appropriate;
- The writing of a cultural heritage assessment report with the knowledge holders and RAPs ensuring the content is appropriate and sensitive to the knowledge holders; and
- All detailed information provided will be confidential unless otherwise stipulated by the knowledge holders, however, in order to protect any Indigenous heritage values of objects and/or places, their location must be known (not necessarily documented in detail or mapped) in order to discuss the appropriate mitigation and management options and recommendations.

5.7 FORMS

You will find forms attached for your connivance. However, if you prefer to use your own please feel free to do so. Please ensure that these are either filled out in full or your own forms/letters answer the questions and return to MCH no later than 17 July 2019.

6 ARCHAEOLOGICAL INVESTIGATION METHODS

6.1.1 OBJECTIVES

The objective of the investigation is to determine whether subsurface cultural material exists in the areas identified as having archaeological potential. The detection of surface material will drive the management recommendations and mitigation measures to ensure that any significant cultural resources are identified and protected where possible or is subject to minimal impact by the proposed development.

The Archaeological investigation will be carried out in accordance with the OEH policy - *2010*, Section 2 and the OEH policy - *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

6.1.2 ARCHAEOLOGICAL HERITAGE ASSESSMENT METHODOLOGY & REPORT

Overall, the assessment will include, but not limited to, the following;

The provision of an Archaeological Heritage Impact Assessment Report that will include:

- Project background, including project description, detailed maps, legislative context, qualifications of the investigator
- Consultation outlining the process as per the OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010
- Landscape context including, landforms, soils, geology, geomorphology, water sources, fauna and flora, history of land use and impacts and, natural impacts
- Archaeological context including review of previous regional and local work in the area, AHIMS search, summary and discussion of the local and regional character of Aboriginal land use and its material traces, occupation model and site specific predictive model
- Results that will include the survey results (see below for proposed survey methodology), detailed descriptions of landforms (survey units), vegetation cover, exposures, land uses and disturbances, site(s) and PAD(s). It will also include any analysis and discussion
- An assessment of scientific values and significance assessment
- An impact assessment
- Management and mitigation measures
- Recommendations
- References
- Appendices will include the AHIMS results and community consultation log and communications

6.1.3 PROPOSED SURVEY METHODOLOGY

The survey methodology is in accordance with the OEH policy - *Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales 2010*, Section 2.2. This proposed methodology is subject to variation due to unforseen field conditions/constraints.

- Survey units identified based on landforms

- Transects will be via foot with the survey team spaced at 5-10 metres apart across the entire investigation area of impact
- Ground surface visibility recorded for each survey unit and given a % rating of vegetation cover
- Exposures recorded for each survey unit given a % rating of exposure and exposure type
- Using the effective coverage and exposure information, calculate the effective survey coverage for each survey unit and the entire investigation area
- Disturbances recorded for each survey unit
- Take representative photographs of survey units
- All sites and/or PADs recorded in each survey unit and accurately mapped

Sites and their boundaries will be defined as;

- The spatial extent of the visible objects or direct evidence of their location
- Obvious physical boundaries where present such as, but not limited to, mound sites, middens, ceremonial grounds, disturbances (i.e. road, building)
- Identification by the Aboriginal community on the basis of cultural information

All sites and PADs will include, but not limited to, the following:

- Site type and content
- Survey unit (landform)
- Distance from water sources
- Vegetation cover (if any)
- Exposure (if any)
- Disturbances (if any)
- GPS co-ordinates
- Identified site boundaries
- Potential for in situ deposits
- Photographs (with a metric scale)

6.1.4 RESEARCH QUESTIONS

The assessment is designed to address a number of research hypothesis. The research questions listed below derive from Kuskies (2005) detailed work in the region and are used here for consistency in analysis and discussions as well as local and regional comparative research.

- What past Aboriginal activities occurred within the project area?
- What types of past Aboriginal occupation occurred within the project area (e.g. transitory movement, hunting, gathering, camping etc)?
- Were the types of activity and nature of occupation related to environmental factors (e.g. landforms, proximity to reliable water)?
- Does spatial patterning of activity areas occur within the project area?
- Did single or multiple episodes of occupation occur within the project area?

- Did episodes of occupation occur at different times over the whole time-span of occupation in the region within the project area?
- Is there potential for older evidence of occupation (i.e. early Holocene)?
- How intensive was occupation of the sites, in both a local and regional context?
- Did microblade and microlith production occur on the sites?
- Were other tools manufactured on the sites?
- Was maintenance of tools conducted on site?
- Was knapping of flakes largely casual and opportunistic, meeting requirements on 'as needed' basis?
- What raw materials were favoured for use on site within the project area and why?
- Did thermal alteration of raw materials occur within the project area?
- How does the evidence and inferred human behaviour represented within the project area compare with evidence from other locations in the region?
- How does the evidence relate to the regional and local models of occupation?

7 ROLES, RESPONSIBILITIES AND FUNCTIONS OF PARTIES

The roles, responsibilities and functions of all parties are outlined below and is taken from DECCW (2010).

7.1 OFFICE OF ENVIRONMENT AND HERITAGE (OEH)

The Director General of OEH is the decision-maker who decides to grant or refuse an Aboriginal Heritage Impact Permit (AHIP) application. If an AHIP is issued, conditions are usually attached and OEH is responsible for ensuring the AHIP holder complies with those conditions. When considering an application under Part 6 of the NPW Act, the Director General will review the information provided by proponents in line with its internal policies and procedures to assess potential or actual harm to Aboriginal objects or places (DECCW, 2009).

The Environment Protection and Regulation Group (EPRG) of OEH is responsible for administering the regulatory functions under Part 6 of the NPW Act. OEH expects that proponents and Aboriginal people should:

- be aware that Part 6 of the NPW Act establishes the Director General or delegate of OEH as the decision-maker; and
- recognise that the Director General's (or delegates) decisions may not be consistent with the views of the Aboriginal community and/or the proponent. However, OEH will consider all relevant information it receives as part of its decision-making process.

7.2 PROPONENT

All proponents operate within a commercial environment which includes:

- strict financial and management issues, priorities and deadlines;
- the need to gain community support in order to secure any necessary approval/consent/ licence/permit to operate;
- the need for clearer processes and certainty of outcomes;
- the need for suitable access to land for the purpose of their development project;
- the need to work efficiently within the project's time, quality and cost planning and management parameters; and
- the need for culturally appropriate assessment findings relevant to their project.

Under these requirements, proponents should undertake the following:

- bring the registered Aboriginal parties or their nominated representatives together and be responsible for ensuring appropriate administration and management of the consultation process;
- consider the cultural perspectives, views, knowledge and advice of the registered Aboriginal parties involved in the consultation process in assessing cultural significance and developing any heritage management outcomes for Aboriginal object(s) and/or place(s);
- provide evidence to OEH of consultation by including information relevant to the cultural perspectives, views, knowledge and advice provided by the registered Aboriginal parties; and
- accurately record and clearly articulate all consultation findings in the final cultural heritage assessment report.

7.3 REGISTERED ABORIGINAL STAKEHOLDERS

The interests and obligations of Aboriginal people relate to the protection of Aboriginal cultural heritage. It is only Aboriginal people who can determine who is accepted by their community as being authorised to speak for Country and its associated cultural heritage. Where there is a dispute about who speaks for Country, it is appropriate for Aboriginal people, not OEH or the proponent, to resolve this dispute in a timely manner to enable effective consultation to proceed.

Aboriginal people who can provide information about cultural significance are, based on Aboriginal lore and customs, the traditional owners or custodians of the land that is the subject of the proposed project area. Traditional owners or custodians with appropriate cultural heritage knowledge necessary to make informed decisions who wish to register as an Aboriginal party are those people who:

- continue to maintain a deep respect for their ancestral belief system, traditional lore and customs;
- recognise their responsibilities of their community, knowledge and obligations to protect and conserve their culture and heritage and to care for their traditional lands or country; and
- have the trust of their community, knowledge and understanding of their culture and permission to speak about it.

The registered Aboriginal parties should undertake the following;

- ensure the appropriate cultural knowledge holder is providing the appropriate information;
- uphold and respect the traditional rights, obligations and responsibilities of Aboriginal people within their own boundaries and not to infringe in other areas or Aboriginal people outside their own boundaries;
- consider and provide the proponent the cultural perspectives, views, knowledge and advice during the consultation process, assessing cultural significance and developing any heritage management outcomes for Aboriginal object(s) and/or place(s); and
- need to work efficiently within the project's time and provide feedback in a timely manner.

7.4 LOCAL ABORIGINAL LAND COUNCILS

The NSW Aboriginal Land Council (NSWALC) and Local Aboriginal Land Councils (LALCs) have statutory functions relevant to the protection of Aboriginal culture and heritage under the NSW Aboriginal Land Rights Act 1983. These requirements do not extend the role of NSWALC and LALCs in the significance assessment process. That is, these requirements do not provide NSWALC and/or LALCs any additional or specific decision-making role in the assessment of significance of Aboriginal object(s) and/or place(s) that are subject to an AHIP application under Part 6 of the NPW Act.

LALCs may choose to register an interest to be involved in the consultation process, or may assist registered Aboriginal parties to participate in the consultation process established by these requirements. In order to ensure effective consultation and the subsequent informed heritage assessment, LALCs are encouraged to identify and make contact with Aboriginal people who hold cultural knowledge in their area.

7.5 EMPLOYMENT

The proponent may engage a number of Aboriginal representatives from the registered parties (based on the size and nature of the project) to participate and assist in the fieldwork component of this project. If you would like to be considered for paid field work please answer the selection criteria attached and ensure you attach certificates of currency for the relevant insurances, CV(s), any certificates and references. MCH will then pass this information onto the proponent for their consideration to make the selection for

fieldwork participants should they wish to do so. MCH will ensure all Aboriginal parties are invited to participate in fieldwork; however paid participation is determined by the proponent.

7.6 FORMS

You will find forms attached for your connivance. However, if you prefer to use your own please feel free to do so. Please ensure that these are either filled out in full or your own forms/letters answer the questions and return to MCH no later than 17 July 2019.

REFERENCES

Australian Heritage Commission. 2002. Ask First. A Guide to respecting Indigenous Heritage Places and Values.

Australian International Council on Monuments and Sites (ICOMOS). 2013a. The Burra Charter.

Australian ICOMOS. 2013b. The Practice Note – Understanding and assessing cultural significance

Australian ICOMOS. 2013c. The Practice Note – The Burra Charter and archaeological practice

Australian ICOMOS. 2013d. The Practice Note – The Burra Charter and Indigenous cultural heritage management

Department of Environment, Climate Change and Water (DECCW). 2010a. *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.* Department of Environment, Climate Change and Water NSW, Sydney.

Department of Environment, Climate Change and Water (DECCW). 2010b. *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*. Department of Environment, Climate Change and Water NSW, Sydney.

Appendix A

MCH would like to clearly state that, should you wish to provide feedback in another form, you are encouraged to do so. You are under no obligation to complete the current form.

However, should you wish to use this form, please complete, sign and return to MCH using one of the following;

Fax: 4952 5501

e-mail: mcheritage@iprimus.com.au

Postal address: MCH

PO Box 166

Adamstown, NSW 2289

ABORIGINAL STAKEHOLDER SITE OFFICER APPLICATION

Position description

A site officer must demonstrate that they have satisfactorily participated in previous archaeological fieldwork with an archaeologist. A trainee site officer does not need to demonstrate previous archaeological experience. Site officers must be able to:

- undertake direction from the project archaeologist
- work in a range of climates wearing protective clothing
- work in teams with a wide range of people
- identify a broad range of Aboriginal objects across the landscape

To qualify as a site officer, appropriate training in identifying Aboriginal objects must have been undertaken (such as the Office of Environment and Heritage's (OEH) sites awareness training course, or other relevant secondary or tertiary studies) or equivalent knowledge or experience must be demonstrated.

The duties of the site officer under the direction of the project archaeologist may include, but not limited to:

- walking the project area
- meeting general and site-specific Occupational Health and Safety requirements

Selection criteria

The proponent will offer positions based on the following key selection criteria:

- an individual's ability to undertake the tasks specified above
- an individual's availability to undertake the activity (physically able to undertake field work)
- an individual's experience in undertaking similar activities. Applications may be subject to a reference check
- individuals with demonstrated cultural knowledge relevant to the local area
- individuals who can demonstrate they can communicate the results of the field work back to their managers and RAPs
- In addition to a consideration of the key selection criteria, the Proponent may give preference to applicants who live locally.

The proponent is under no obligation to offer site officer positions based on an individual's association with a cultural group or area. The proponent makes no guarantee that registered parties will be engaged to undertake archaeological field activities. The number of site officer positions available will be based on need as described in the archaeological methodology. However, MCH will ensure all registered stakeholders are invited to participate in the survey regardless of engagement arrangements between the stakeholder(s) and the proponent. Applicants will be notified whether they have been successful or unsuccessful in their application.

Engagement

The Proponent selects and has final approval on who will be engaged as a site officer. Successful applicants will be engaged to provide the services through a written contract that will be provided at a later date. The proponent will only engage Service Providers with NSW workers compensation insurance, public liability insurance, and comprehensive motor vehicle insurance or third party property damage insurance.

Payment

The proponent will pay the Service Provider at a rate that will be based on the project budget. The quoted rate is the rate to be paid by the Proponent to the Service Provider - not to the individual site officer/trainee site officer. The site officer/trainee site officer will be paid by the Service Provider at a rate agreed to by the Service Provider and the site officer/trainee site officer. Payment will only be made for the provision of the services (actual hours worked), and not for the time spent travelling to and from site. Payment will be made upon the receipt of a cultural heritage report and receipt of your response to the draft report.

ABORIGINAL SITE OFFICER APPLICATION FORM

Yennora resource processing facility

An Aboriginal site officer application form must be filled out for each individual seeking engagement as a site officer.	
Name of organisation (if relevant)	
Name	
Contact number	
Mailing address	
Email address	
Fax	
Position applied for	Site officer ☐ Trainee Site Officer ☐
Please list any formal qualifications or relevant experience to the position applied for (attach documentation as required)	
Please list any previous archaeological, sites, survey, excavation or other relevant experience (attach additional sheets as required)	
Please provide the contact details of at least one archaeologist (other than the project archaeologist) who can be contacted as a referee	

INSURANCES		
Public Liability	Expiry date:	(attach certificate of currency)
Worker Compensation	Expiry date: :	(attach certificate of currency)
Comprehensive Motor Vehicle	Expiry date: :	(attach certificate of currency)

Failure to provide up to date Certificate of Currencies will prevent you participating in any fieldwork. MCH may have received copies previously, however, they must be provided for each project.

OCCUPATIONAL Health & SAFETY (OH&S)

All participants are required to comply with MCH and the proponents OH&S requirements.

This includes high visibility clothing, hat, sunscreen and steel caped boots. You will be advised of any additional requirements.

This also includes appropriate and acceptable behaviour at all times.

Failure to comply will prevent you from participating in the field work.

COMMENTS ON PROPOSED METHODOLOGY

Yennora resource processing facility

I, _____ (*please insert your name*) of _____ (*please insert the name of your group*), **agree to the methodology** outlined by MCH in relation to gathering information about cultural significance:

_____

_____

Signed: _____ Date: _____

Position within organisation: _____

I, _____ (*please insert your name*) of _____ (*please insert the name of your group*), **do not agree to the methodology** outlined by MCH in relation to gathering information about cultural significance for the following reasons (*please explain your reasons for disagreeing):*

_____

_____

I would like to suggest the following (please provide your reasoning):_____

_____

Signed: _____ Date: _____

Position within organisation: _____

PROVIDING KNOWLEDGE ABOUT CULTURAL SIGNIFICANCE

Yennora resource processing facility

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

I would like to provide knowledge about cultural significance using the following method(s). Please tick your preferred method(s):

1) Discussion in the field during the survey
2) Written documentation (letter, e-mail, fax)
3) Meeting to discuss and/or provide written documentation
4) Formal interview with specific questions/answers and/or discussions
5) Phone conversation
6) Skype conversation
7) Using the attached form/questioner

Other: Please provide details:

_____

_____

_____

_____

DARUG CUSTODIAN
ABORIGINAL CORPORATION

#

DARUG CUSTODIAN
ABORIGINAL
CORPORATION

PO BOX 81 WINDSOR 2756
PHONE: 0245775181 FAX: 0245775098
MOBILE: 0414962766 Justine Coplin
EMAIL: justinecoplin@optusnet.com.au

Attention McCardle Cultural Heritage Pty Ltd **Date:**

Subject: 14 Kiora Crescent Yennora

Dear Penny

Our group is a non- profit organisation that has been active for over forty years in Western Sydney, we are a Darug community group with over three hundred members. The main aim in our constitution is the care of Darug sites, places, wildlife and to promote our culture and provide education on the Darug history.

The Yennora area is an area that our group has a vast knowledge of, we have worked and lived in for many years, this area is significant to the Darug people due to the connection of sites and the continued occupation. Our group has been involved in all previous assessments and works in this area as a traditional owner Darug group for the past 40 plus years.

Therefore we would like to register our interest for full consultation and involvement in the above project area.

Please contact us with all further enquiries on the above contacts.

Regards



Justine Coplin

Penny McCardle

From: Penny McCardle <mcheritage@iprimus.com.au>
Sent: Monday, 24 June 2019 11:25 AM
To: 'justinecoplin@optusnet.com.au'
Subject: RE: reg of interest Yennora

HI Justine,

Unfortunately the closing date for registration was the 19th. I can send you a copy of the final report if you like?

Kind regards,

Dr. Penny McCardle
Archaeologist
Forensic Anthropologist

M
McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

CONFIDENTIAL COMMUNICATION
This email and any files transmitted with it are confidential and are intended solely for the use of the individual or entity to whom it is addressed. If you are not the intended recipient, or the person responsible for delivering the email to the intended recipient, you have received this email in error. If so, please immediately notify us by reply email to the sender and delete from your computer the original transmission and its contents. Any use, dissemination, forwarding, printing or copying of this email and any file attachments is strictly prohibited. Thank you for your assistance.

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

14 July 2019

Darren Duncan
Gandangara LALC
DDuncan@glalc.org.au

Dear Darren,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3) – Survey invitation and letter of engagement- Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

The proponent (Baini Design on behalf of the Proponent Think Planners Pty Ltd) has received a number of applications and after careful consideration has selected whom they wish to engage in a paid capacity. The proponent and MCH would like to advise that your application for paid participation has been successful. MCH would like to organise the survey for the above-named project for the 1st August 2019starting at 10am on site. We anticipate work will be complete within half an hour, however, please be advised this time may change.

As part of the assessment process the proponent require an appropriate person from your organisation to participate in the survey of the study area to identify known or potential cultural heritage features. A cultural heritage report must be prepared following the survey and receipt of the draft archaeological report within the required 28 days review period. The cultural heritage report will identify known or potential Aboriginal objects or places and/or any other cultural heritage matters that may be affected by the project.

Baini Design on behalf of the Proponent Think Planners Pty Ltd and MCH wishes to reiterate our intent to positively engaging with the local Aboriginal community. In this spirit an invitation has been extended to all registered applicants to attend the survey. If you accept the terms outlined in the Letter of Engagement (attached) please sign the Letter of Engagement and return to McCardle Cultural Heritage. Participation in the program is dependent on the receipt of the Letter of engagement and insurance certificate of currencies.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the OEH requirements, please ensure that any items that you or your group deem confidential are made apparent to your field representative prior to field work to ensure that information remains confidential if required. Failure to disclose that information is confidential may result in the information being included in the report.

Should you have any questions regarding these terms and conditions or the project please contact myself on 0412 702 396.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Aboriginal Site Officer/Trainee Site Officer

Letter of Engagement

Baini Design on behalf of the Proponent Think Planners Pty Ltd wishes to engage Gandangara LALC (Service Provider) to provide one Site Officer to undertake an archaeological survey of the proposed development at Yenora.

The proponent and Service Provider agree to the terms and conditions of the engagement as follows:

Services
The Service Provider will engage the one Site Officer to undertake the following:

- Archaeological survey of the project area
- a cultural heritage report and invoice within 28 days of receiving the draft report from MCH

Fees
The proponent will pay the following Fees to the Service Provider for Services:

- $75.00 + GST per person per hour for work undertaken by a Site Officer

Payment will be within 28 days of receipt of a correct invoice and cultural heritage report. Invoices are to be provided at the end of the month.

Invoices are to be addressed to:
Proponent Think Planners Pty Ltd
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mcheritage@iprimus.com.au

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The Service provider must ensure that the Site Officers sign a time sheet at the start and finish of each day the Services are provided. Fees will not be paid unless time sheets for each Site Officer has been completed. The archaeologist will have a time sheet that may be used.

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The Service Provider must ensure that the Site Officers are fit for work, undertake the Services in a timely manner, with reasonable care, skill and professionalism and in accordance with all applicable laws and any reasonable directions or requirements made by the proponent and/or MCH.

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All field staff must call MCH the evening before work to notify their absence for the following day and organise for a replacement. If no notice is provided, that staff members place in the field team will be suspended until MCH are notified they will be back at work. It is the responsibility of the Service Provider to organise a replacement site officer from the list of persons provided to MCH at the start of the project.

Proponent and MCH property
All materials and equipment provided by MCH or the proponent during the term of engagement remain the property of MCH or the proponent and must be returned upon completion of the Services or termination of the agreement.

Confidentially
All information provided by MCH or the proponent to the Service Provider and/or Site Officer in relation to the services or the business or operations of the proponent and MCH are confidential. The Service Provider will ensure it and the Site Officer keep such information confidential at all times (including after the completion of the Services) and must not disclose it to any other person without the prior written consent from the proponent and/or MCH.

OH&S Requirements
Before commencement of work you must provide MCH with certificate of currencies for Workers Comp and Public Liability. Field representatives participating in the survey will be required to wear steel cap boots, long pants and long shirt (hi-visibility) with appropriate sun protection including a hat. It is recommended that participants bring adequate amounts of food and water for the day.

Early termination
The proponent reserves the right to terminate this agreement at any time by giving 1 week written notice to the Service Provider. If the proponent terminates this agreement under this clause, then, subject to satisfactory performance of the Services, the proponent will pay the Service provider a proportionate part of the Fee according to the amount or proportion of Services supplied up to the date of termination.

No subcontracting
The Service Provider must not subcontract the provision of the Services without the proponent's prior written consent.

Insurances
The Service Provider must provide certificates of currency for Workers Comp, Public Liability and Comprehensive Motor vehicle insurances prior to the Services being provided.

Indemnity and release
The Service Provider undertakes the Services at its sole risk and the proponent and MCH will not be liable for any loss, damage, injury or death sustained by any person as a result of the Services being provided.

The Service provider indemnifies and releases the proponent and MCH against any loss the proponent or MCH suffers or any claims made against the proponent or MCH by any person arising out of the provisions of the Services except to the extent that nay loss or claims arise from any negligence by the proponent or MCH.

Variations
No changes to these terms can be made without the prior written agreement with the proponent.

Exclusion of other terms
This letter contains the sole agreement of the parties and all other terms are excluded.

If you agree that the contents of this letter correctly set out the terms of engagement between the proponent and your organisation then please sign both copies, keep one for yourself, and return the other signed copy to MCH within 10 days.

Acceptance (Yennora)

Signed by Gandangara LALC

I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract. I/we declare that I/we are authorised to sign this letter on behalf of Gandangara LALC.
Please provide your ABN:

Signature of Witness	**Signature of authorised person**
Print name of Witness	**Print name of authorised person**
	Print title and position of authorised person
Date:	**Date:**

McCARDLE
CULTURAL HERITAGE
PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

14 July 2019

Jamie Workman
Darug Land Observations Pty Ltd
daruglandobservations@gmail.com

Dear Jamie,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3) – Survey invitation and letter of engagement- Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

The proponent (Baini Design on behalf of the Proponent Think Planners Pty Ltd) has received a number of applications and after careful consideration has selected whom they wish to engage in a paid capacity. The proponent and MCH would like to advise that your application for paid participation has been successful. MCH would like to organise the survey for the above-named project for the 1st August 2019starting at 10am on site. We anticipate work will be complete within half an hour, however, please be advised this time may change.

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Should you have any questions regarding these terms and conditions or the project please contact myself on 0412 702 396.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Aboriginal Site Officer/Trainee Site Officer

Letter of Engagement

Baini Design on behalf of the Proponent Think Planners Pty Ltd wishes to engage Darug Land Observations Pty Ltd (Service Provider) to provide one Site Officer to undertake an archaeological survey of the proposed development at Yenora.

The proponent and Service Provider agree to the terms and conditions of the engagement as follows:

Services
The Service Provider will engage the one Site Officer to undertake the following:

- Archaeological survey of the project area
- a cultural heritage report and invoice within 28 days of receiving the draft report from MCH

Fees
The proponent will pay the following Fees to the Service Provider for Services:

- $75.00 + GST per person per hour for work undertaken by a Site Officer

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C/o MCH
mcheritage@iprimus.com.au

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Acceptance (Yennora)

Signed by Darug Land Observations Pty Ltd

I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract. I/we declare that I/we are authorised to sign this letter on behalf of Darug Land Observations Pty Ltd. Please provide your ABN:

Signature of Witness	**Signature of authorised person**
Print name of Witness	**Print name of authorised person**
	Print title and position of authorised person
Date:	**Date:**

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

14 July 2019

Dirk Schmitt
Darug Tribal Aboriginal Corporation
darug_tribal@live.com.au

Dear Dirk,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3) – Survey invitation and letter of engagement- Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

The proponent (Baini Design on behalf of the Proponent Think Planners Pty Ltd) has received a number of applications and after careful consideration has selected whom they wish to engage in a paid capacity. The proponent and MCH would like to advise that your application for paid participation has been successful. MCH would like to organise the survey for the above-named project for the 1st August 2019starting at 10am on site. We anticipate work will be complete within half an hour, however, please be advised this time may change.

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Yours sincerely,
for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Aboriginal Site Officer/Trainee Site Officer

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Acceptance (Yennora)	
Signed by Darug Tribal Aboriginal Corporation	
I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract. I/we declare that I/we are authorised to sign this letter on behalf of Darug Tribal Aboriginal Corporation. **Please provide your ABN:**	
Signature of Witness	**Signature of authorised person**
Print name of Witness	**Print name of authorised person**
	Print title and position of authorised person
Date:	**Date:**

Penny McCardle

From: Darren Duncan <DDuncan@glalc.org.au>
Sent: Tuesday, 16 July 2019 2:40 PM
To: Penny McCardle
Cc: Ruth Sheridan; Melissa Williams
Subject: RE: Yenora Survey

Hi Penny

We would like to be involved in the survey at Yenora and I look forward to working with you

Regards,

Darren Duncan

Culture and Heritage Officer

Gandangara Local Aboriginal Land Council

64 Macquarie Street, Liverpool

Ph: (02) 9602 5280 Mob: 04105 10397 Fax: (02) 9602 2741: www.glalc.org.au

Gandangara LALC acknowledges the Cabrogal Clan and the Darug Nation as the traditional custodians of the land and as such pays deep respect to the Elders past and present. We also acknowledge that the Dhurawal and Darug Nations continue to have a long standing relationship with this country and its people.

From: Penny McCardle <mcheritage@iprimus.com.au>
Sent: Tuesday, 16 July 2019 1:42 PM
To: Darren Duncan <DDuncan@glalc.org.au>
Subject: Yenora Survey

16 July 2019

Darren Duncan
Gandangara LALC

Dear Darren,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3) –Survey invitation and letter of engagement- Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

The proponent (Baini Design on behalf of the Proponent Think Planners Pty Ltd) has received a number of applications and after careful consideration has selected whom they wish to engage in a paid capacity. The proponent and MCH would like to advise that your application for paid participation has been successful. MCH would like to organise the survey for the above-named project for the 1st August 2019 starting at 10am on site. We anticipate work will be complete within half an hour, however, please be advised this time may change.

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Should you have any questions regarding these terms and conditions or the project please contact myself on 0412 702 396.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd



Penny McCardle
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Forensic Anthropologist

Aboriginal Site Officer/Trainee Site Officer

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Exclusion of other terms
This letter contains the sole agreement of the parties and all other terms are excluded.

If you agree that the contents of this letter correctly set out the terms of engagement between the proponent and your organisation then please sign both copies, keep one for yourself, and return the other signed copy to MCH within 10 days.

Acceptance (Yennora)

Signed by Gandangara LALC

I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract. I/we declare that I/we are authorised to sign this letter on behalf of Gandangara LALC.
Please provide your ABN:

Signature of Witness	**Signature of authorised person**
Print name of Witness	**Print name of authorised person**
	Print title and position of authorised person

Date:	Date:

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@iprimus.com.au
P: 0412 702 396

mcheritage.com.au

26 August 2019

Darren Duncan
Gandangara LALC
DDuncan@glalc.org.au

Dear Darren,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3 & 4 – Review of Draft Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

Please find enclosed a copy of the draft Aboriginal Cultural Heritage Assessment (ACHA) for the above-named project for your review.

The cultural heritage Assessment includes information provided by the knowledge holders and is included with their permission. As required by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 3 (S. 4.3.5; 4.3.6; 4.3.7) and Stage 4 (S. 4.4.1; 4.4.2; 4.4.3) and based on the information provided by knowledge holders throughout the project, the cultural significance will be included in the final report.

MCH would like to provide further opportunity to provide your further input and request your comments on the draft ACHA. Additionally, any concerns you may have are also important and we would like the opportunity to address any concerns you may have.

As outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 4 (S. 4.4.3) MCH would appreciate your input and your comments on the draft reports no later than C.O.B. 27 September 2019.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the OEH requirements, please ensure that if any response to the draft report is deemed confidential that this is either stated at the beginning of a conversation or stamped/written on each piece of paper communicate.

Please note that in order to adhere to time constraints, the absence of a response by the requested timeline, will be taken by the proponent as your indication that your organisation has no comments regarding the draft ACHA.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

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26 August 2019

Jamie Workman
Darug Land Observations Pty Ltd
daruglandobservations@gmail.com

Dear Jamie,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3 & 4 – Review of Draft Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

Please find enclosed a copy of the draft Aboriginal Cultural Heritage Assessment (ACHA) for the above-named project for your review.

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26 August 2019

Dirk Schmitt
Darug Tribal Aboriginal Corporation
darug_tribal@live.com.au

Dear Dirk,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3 & 4 – Review of Draft Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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Forensic Anthropologist

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28 September 2019

Gandangara LALC
Darren Duncan
DDuncan@glalc.org.au

Dear Darren,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 4 –Final Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH would like to take this opportunity to thank you for your involvement in the above-named project. Your time and input has been instrumental throughout the project

As outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 4 (S. 4.4.5) please find enclosed copy of the final Aboriginal Cultural Heritage Assessment for your records.

We look forward to continue working with you in the future.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

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28 September 2019

Darug Land Observations Pty Ltd
Jamie Workman
daruglandobservations@gmail.com

Dear Jamie,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 4 –Final Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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28 September 2019

Darug Tribal Aboriginal Corporation
Dirk Schmitt
darug_tribal@live.com.au

Dear Dirk,

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Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Penny McCardle

From: Penny McCardle <mcheritage@iprimus.com.au>
Sent: Thursday, 23 April 2020 10:34 AM
To: 'Sam Higgs'
Subject: consultation question

HI Sam,

Hope you are well.

MCH completed aa ACHA last year with the last contact with the RAPs was 28th September 2019.

The client has just contacted me for an expansion of the same project. My questions is, the consultation is less than a month past the 6 months cut off period before we have to re-start the consultation process again.

Due to the current state of the world and slowing down of work/projects due to setting up working from home etc, this expansion was previously known just not finalised due to the lock down conditions.

So, my question is, do we have to restart the consultation process, or is there some leeway due to the COVID-19 lock down?

Kind regards,

Dr. Penny McCardle
Archaeologist
Forensic Anthropologist

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mcheritage.com.au

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Penny McCardle

From: Penny McCardle <mcheritage@iprimus.com.au>
Sent: Monday, 27 April 2020 7:58 AM
To: 'Samantha Gibbins'
Subject: FW: consultation question

Importance: High

HI Sam,

Please see below

Kind regards,

Dr. Penny McCardle
Archaeologist
Forensic Anthropologist

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From: Penny McCardle <mcheritage@iprimus.com.au>
Sent: Thursday, 23 April 2020 10:34 AM
To: 'Sam Higgs' <Sam.Higgs@environment.nsw.gov.au>
Subject: consultation question

HI Sam,

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Dr. Penny McCardle
Archaeologist
Forensic Anthropologist

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Penny McCardle

From: Penny McCardle <mcheritage@iprimus.com.au>
Sent: Wednesday, 29 April 2020 12:58 PM
To: 'Fran Scully'
Subject: FW: consultation question

Importance: High

HI Fran,

Hope you are well.

I have been trying to contact the Sydney office for a week but have not had a response to my question below. My client is waiting if you have some time to respond that would be greatly appreciated.

MCH completed aa ACHA last year with the last contact with the RAPs was 28th September 2019.

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Archaeologist
Forensic Anthropologist

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Penny McCardle

From: Barry Gunther <Barry.Gunther@environment.nsw.gov.au>
Sent: Wednesday, 29 April 2020 3:01 PM
To: Penny McCardle
Cc: Fran Scully; Samantha Gibbins; Sam Higgs
Subject: FW: consultation question

Importance: High

Hi Penny,

Thank you for your email below.

Considering the disruption to normal work processes and relocating of work environments due to the Covid19 Virus, in this instance it is not necessary to recommence the consultation process.

However this does not set a precedence and it is advised to document and provide a response or rational of what has occurred in the ACHAR log of consultation when sending in the AHIP application.

In addition it is advised to send out to the RAPs as early as possible an update letter explaining any delays in the project to allow for continuous consultation as much as possible.

regards

Barry Gunther

Aboriginal Heritage Planning Officer

Climate Change & Sustainability | Department of Planning, Industry and Environment
T 02 9995 6830 | **E** barry.gunther@environement.nsw.gov.au
Level 10, 4 Parramatta Square, 12 Darcy St, Parramatta NSW 2150 | Locked Bag 5022
www.dpie.nsw.gov.au

The Greater Sydney ACH Team has a group email address: gs.ach@environment.nsw.gov.au. Please address all further email correspondence in relation to Aboriginal cultural heritage regulation matters in the Greater Sydney region to this address. If appropriate, emails can be marked to the attention of your usual contact in the Team

NSW GOVERNMENT | Planning, Industry & Environment

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: Penny McCardle <mcheritage@iprimus.com.au>
Sent: Wednesday, 29 April 2020 12:58 PM
To: Fran Scully <Fran.Scully@environment.nsw.gov.au>
Subject: FW: consultation question
Importance: High

HI Fran,

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Archaeologist
Forensic Anthropologist

This email is intended for the addressee(s) named and may contain confidential and/or privileged information.
If you are not the intended recipient, please notify the sender and then delete it immediately.
Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment and Heritage.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

McCARDLE
CULTURAL HERITAGE
PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

30th April 2020

Darren Duncan
Gandangara LALC
DDuncan@glalc.org.au

Dear Darren,

RE: BCD Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3) – Survey invitation and letter of engagement- Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

The proponent and MCH would like to advise that the project area has expanded to include the lot next to the project area. Due to the Covid-19 pandemic and staff having to relocate work to their home, these was a delay in notifying MCH and yourself. As this delay meant that the consultation cut off deadline was overdue by 3 weeks, MCH contacted BCD and explained the unusual situation who agreed that consultation may continue and did not have to re-start. We apologise for any inconvenience this may have caused.

The expansion will include 16 Kiora Crescent, Yennora which also has an existing building as shown in the figure below. This will be an additional facility to the project and will include an out-of-date liquid product/food waste destruction facility.



MCH would like to organise the survey of the expansion for the above-named project for the 7th May 2020 starting at 10am on site. We anticipate work will be complete within half an hour, however, please be advised this time may change.

As part of the assessment process the proponent require an appropriate person from your organisation to participate in the survey of the study area to identify known or potential cultural heritage features. A cultural heritage report must be prepared following the survey and receipt of the draft archaeological report within the required 28 days review period. The cultural heritage report will identify known or potential Aboriginal objects or places and/or any other cultural heritage matters that may be affected by the project.

If you accept the terms outlined in the Letter of Engagement (attached) please sign the Letter of Engagement and return to McCardle Cultural Heritage. Participation in the program is dependent on the receipt of the Letter of engagement and insurance certificate of currencies.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the OEH requirements, please ensure that any items that you or your group deem confidential are made apparent to your field representative prior to field work to ensure that information remains confidential if required. Failure to disclose that information is confidential may result in the information being included in the report.

Should you have any questions regarding these terms and conditions or the project please contact myself on 0412 702 396.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Aboriginal Site Officer/Trainee Site Officer

Letter of Engagement

Benbow Environmental on behalf of the Proponent Enviro Waste Services Group Pty Ltd wishes to engage Gandangara LALC (Service Provider) to provide one Site Officer to undertake an archaeological survey of the proposed development at Yenora.

The proponent and Service Provider agree to the terms and conditions of the engagement as follows:

Services
The Service Provider will engage the one Site Officer to undertake the following:

- Archaeological survey of the project area
- a cultural heritage report and invoice within 28 days of receiving the draft report from MCH

Fees
The proponent will pay the following Fees to the Service Provider for Services:

- $75.00 + GST per person per hour for work undertaken by a Site Officer

Payment will be within 28 days of receipt of a correct invoice and cultural heritage report. Invoices are to be provided at the end of the month.

Invoices are to be addressed to:
Enviro Waste Services Group Pty Ltd
C/o MCH
mcheritage@iprimus.com.au

Time sheets
The Service provider must ensure that the Site Officers sign a time sheet at the start and finish of each day the Services are provided. Fees will not be paid unless time sheets for each Site Officer has been completed. The archaeologist will have a time sheet that may be used.

Work performance
The Service Provider must ensure that the Site Officers are fit for work, undertake the Services in a timely manner, with reasonable care, skill and professionalism and in accordance with all applicable laws and any reasonable directions or requirements made by the proponent and/or MCH.

Absences
All field staff must call MCH the evening before work to notify their absence for the following day and organise for a replacement. If no notice is provided, that staff members place in the field team will be suspended until MCH are notified they will be back at work. It is the responsibility of the Service Provider to organise a replacement site officer from the list of persons provided to MCH at the start of the project.

Proponent and MCH property
All materials and equipment provided by MCH or the proponent during the term of engagement remain the property of MCH or the proponent and must be returned upon completion of the Services or termination of the agreement.

Confidentially
All information provided by MCH or the proponent to the Service Provider and/or Site Officer in relation to the services or the business or operations of the proponent and MCH are confidential. The Service Provider will ensure it and the Site Officer keep such information confidential at all times (including after the completion of the Services) and must not disclose it to any other person without the prior written consent from the proponent and/or MCH.

OH&S Requirements
Before commencement of work you must provide MCH with certificate of currencies for Workers Comp and Public Liability. Field representatives participating in the survey will be required to wear steel cap boots, long pants and long shirt (hi-visibility) with appropriate sun protection including a hat. It is recommended that participants bring adequate amounts of food and water for the day.

Early termination
The proponent reserves the right to terminate this agreement at any time by giving 1 week written notice to the Service Provider. If the proponent terminates this agreement under this clause, then, subject to satisfactory performance of the Services, the proponent will pay the Service provider a proportionate part of the Fee according to the amount or proportion of Services supplied up to the date of termination.

No subcontracting
The Service Provider must not subcontract the provision of the Services without the proponent's prior written consent.

Insurances
The Service Provider must provide certificates of currency for Workers Comp, Public Liability and Comprehensive Motor vehicle insurances prior to the Services being provided.

Indemnity and release
The Service Provider undertakes the Services at its sole risk and the proponent and MCH will not be liable for any loss, damage, injury or death sustained by any person as a result of the Services being provided.

The Service provider indemnifies and releases the proponent and MCH against any loss the proponent or MCH suffers or any claims made against the proponent or MCH by any person arising out of the provisions of the Services except to the extent that nay loss or claims arise from any negligence by the proponent or MCH.

Variations
No changes to these terms can be made without the prior written agreement with the proponent.

Exclusion of other terms
This letter contains the sole agreement of the parties and all other terms are excluded.

If you agree that the contents of this letter correctly set out the terms of engagement between the proponent and your organisation then please sign both copies, keep one for yourself, and return the other signed copy to MCH within 10 days.

Acceptance (Yennora)

Signed by Gandangara LALC

I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract. I/we declare that I/we are authorised to sign this letter on behalf of Gandangara LALC.
Please provide your ABN:

Signature of Witness	**Signature of authorised person**
Print name of Witness	**Print name of authorised person**
	Print title and position of authorised person
Date:	**Date:**

McCARDLE
CULTURAL HERITAGE
PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

30th April 2020

Jamie Workman
Darug Land Observations Pty Ltd
daruglandobservations@gmail.com

Dear Jamie,

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Yours sincerely,
for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Aboriginal Site Officer/Trainee Site Officer

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Before commencement of work you must provide MCH with certificate of currencies for Workers Comp and Public Liability. Field representatives participating in the survey will be required to wear steel cap boots, long pants and long shirt (hi-visibility) with appropriate sun protection including a hat. It is recommended that participants bring adequate amounts of food and water for the day.

Early termination
The proponent reserves the right to terminate this agreement at any time by giving 1 week written notice to the Service Provider. If the proponent terminates this agreement under this clause, then, subject to satisfactory performance of the Services, the proponent will pay the Service provider a proportionate part of the Fee according to the amount or proportion of Services supplied up to the date of termination.

No subcontracting
The Service Provider must not subcontract the provision of the Services without the proponent's prior written consent.

Insurances
The Service Provider must provide certificates of currency for Workers Comp, Public Liability and Comprehensive Motor vehicle insurances prior to the Services being provided.

Indemnity and release
The Service Provider undertakes the Services at its sole risk and the proponent and MCH will not be liable for any loss, damage, injury or death sustained by any person as a result of the Services being provided.

The Service provider indemnifies and releases the proponent and MCH against any loss the proponent or MCH suffers or any claims made against the proponent or MCH by any person arising out of the provisions of the Services except to the extent that nay loss or claims arise from any negligence by the proponent or MCH.

Variations
No changes to these terms can be made without the prior written agreement with the proponent.

Exclusion of other terms
This letter contains the sole agreement of the parties and all other terms are excluded.

If you agree that the contents of this letter correctly set out the terms of engagement between the proponent and your organisation then please sign both copies, keep one for yourself, and return the other signed copy to MCH within 10 days.

Acceptance (Yennora)

Signed by Darug Land Observations Pty Ltd

I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract. I/we declare that I/we are authorised to sign this letter on behalf of Darug Land Observations Pty Ltd. Please provide your ABN:

Signature of Witness	**Signature of authorised person**
Print name of Witness	**Print name of authorised person**
	Print title and position of authorised person
Date:	**Date:**

McCARDLE
CULTURAL HERITAGE
PO Box 166
Adamstown 2289 NSW
mcheritage@ipcmus.com.au
0412 702 396

30th April 2020

Dirk Schmitt
Darug Tribal Aboriginal Corporation
darug_tribal@live.com.au

Dear Dirk,

RE: BCD Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3) – Survey invitation and letter of engagement- Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

The proponent and MCH would like to advise that the project area has expanded to include the lot next to the project area. Due to the Covid-19 pandemic and staff having to relocate work to their home, these was a delay in notifying MCH and yourself. As this delay meant that the consultation cut off deadline was overdue by 3 weeks, MCH contacted BCD and explained the unusual situation who agreed that consultation may continue and did not have to re-start. We apologise for any inconvenience this may have caused.

The expansion will include 16 Kiora Crescent, Yennora which also has an existing building as shown in the figure below. This will be an additional facility to the project and will include an out-of-date liquid product/food waste destruction facility.



MCH would like to organise the survey of the expansion for the above-named project for the 7th May 2020 2020 starting at 10am on site. We anticipate work will be complete within half an hour, however, please be advised this time may change.

As part of the assessment process the proponent require an appropriate person from your organisation to participate in the survey of the study area to identify known or potential cultural heritage features. A cultural heritage report must be prepared following the survey and receipt of the draft archaeological report within the required 28 days review period. The cultural heritage report will identify known or potential Aboriginal objects or places and/or any other cultural heritage matters that may be affected by the project.

If you accept the terms outlined in the Letter of Engagement (attached) please sign the Letter of Engagement and return to McCardle Cultural Heritage. Participation in the program is dependent on the receipt of the Letter of engagement and insurance certificate of currencies.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the OEH requirements, please ensure that any items that you or your group deem confidential are made apparent to your field representative prior to field work to ensure that information remains confidential if required. Failure to disclose that information is confidential may result in the information being included in the report.

Should you have any questions regarding these terms and conditions or the project please contact myself on 0412 702 396.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd



Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Aboriginal Site Officer/Trainee Site Officer

Letter of Engagement

Benbow Environmental on behalf of the Proponent Enviro Waste Services Group Pty Ltd wishes to engage Darug Tribal Aboriginal Corporation (Service Provider) to provide one Site Officer to undertake an archaeological survey of the proposed development at Yenora.

The proponent and Service Provider agree to the terms and conditions of the engagement as follows:

Services
The Service Provider will engage the one Site Officer to undertake the following:

- Archaeological survey of the project area
- a cultural heritage report and invoice within 28 days of receiving the draft report from MCH

Fees
The proponent will pay the following Fees to the Service Provider for Services:

- $75.00 + GST per person per hour for work undertaken by a Site Officer

Payment will be within 28 days of receipt of a correct invoice and cultural heritage report. Invoices are to be provided at the end of the month.

Invoices are to be addressed to:
Enviro Waste Services Group Pty Ltd
C/o MCH
mcheritage@iprimus.com.au

Time sheets
The Service provider must ensure that the Site Officers sign a time sheet at the start and finish of each day the Services are provided. Fees will not be paid unless time sheets for each Site Officer has been completed. The archaeologist will have a time sheet that may be used.

Work performance
The Service Provider must ensure that the Site Officers are fit for work, undertake the Services in a timely manner, with reasonable care, skill and professionalism and in accordance with all applicable laws and any reasonable directions or requirements made by the proponent and/or MCH.

Absences
All field staff must call MCH the evening before work to notify their absence for the following day and organise for a replacement. If no notice is provided, that staff members place in the field team will be suspended until MCH are notified they will be back at work. It is the responsibility of the Service Provider to organise a replacement site officer from the list of persons provided to MCH at the start of the project.

Proponent and MCH property
All materials and equipment provided by MCH or the proponent during the term of engagement remain the property of MCH or the proponent and must be returned upon completion of the Services or termination of the agreement.

Confidentially
All information provided by MCH or the proponent to the Service Provider and/or Site Officer in relation to the services or the business or operations of the proponent and MCH are confidential. The Service Provider will ensure it and the Site Officer keep such information confidential at all times (including after the completion of the Services) and must not disclose it to any other person without the prior written consent from the proponent and/or MCH.

OH&S Requirements
Before commencement of work you must provide MCH with certificate of currencies for Workers Comp and Public Liability. Field representatives participating in the survey will be required to wear steel cap boots, long pants and long shirt (hi-visibility) with appropriate sun protection including a hat. It is recommended that participants bring adequate amounts of food and water for the day.

Early termination
The proponent reserves the right to terminate this agreement at any time by giving 1 week written notice to the Service Provider. If the proponent terminates this agreement under this clause, then, subject to satisfactory performance of the Services, the proponent will pay the Service provider a proportionate part of the Fee according to the amount or proportion of Services supplied up to the date of termination.

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Insurances
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The Service provider indemnifies and releases the proponent and MCH against any loss the proponent or MCH suffers or any claims made against the proponent or MCH by any person arising out of the provisions of the Services except to the extent that nay loss or claims arise from any negligence by the proponent or MCH.

Variations
No changes to these terms can be made without the prior written agreement with the proponent.

Exclusion of other terms
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If you agree that the contents of this letter correctly set out the terms of engagement between the proponent and your organisation then please sign both copies, keep one for yourself, and return the other signed copy to MCH within 10 days.

Acceptance (Yennora)	
Signed by Darug Tribal Aboriginal Corporation	
I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract. I/we declare that I/we are authorised to sign this letter on behalf of Darug Tribal Aboriginal Corporation. **Please provide your ABN:**	
Signature of Witness	**Signature of authorised person**
Print name of Witness	**Print name of authorised person**
	Print title and position of authorised person
Date:	**Date:**

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
mcheritage@iprimus.com.au
P: 0412 702 396

mcheritage.com.au

15 June 2020

Darren Duncan
Gandangara LALC
DDuncan@glalc.org.au

Dear Darren,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3 & 4 – Review of Draft Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

Please find enclosed a copy of the draft Aboriginal Cultural Heritage Assessment (ACHA) for the above-named project for your review.

The cultural heritage Assessment includes information provided by the knowledge holders and is included with their permission. As required by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 3 (S. 4.3.5; 4.3.6; 4.3.7) and Stage 4 (S. 4.4.1; 4.4.2; 4.4.3) and based on the information provided by knowledge holders throughout the project, the cultural significance will be included in the final report.

MCH would like to provide further opportunity to provide your further input and request your comments on the draft ACHA. Additionally, any concerns you may have are also important and we would like the opportunity to address any concerns you may have.

As outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 4 (S. 4.4.3) MCH would appreciate your input and your comments on the draft reports no later than C.O.B. 13th July 2020.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the OEH requirements, please ensure that if any response to the draft report is deemed confidential that this is either stated at the beginning of a conversation or stamped/written on each piece of paper communicate.

Please note that in order to adhere to time constraints, the absence of a response by the requested timeline, will be taken by the proponent as your indication that your organisation has no comments regarding the draft ACHA.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

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CULTURAL HERITAGE

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Adamstown 2289 NSW
mcheritage@iprimus.com.au
P: 0412 702 396

mcheritage.com.au

15 June 2020

Jamie Workman
Darug Land Observations Pty Ltd
daruglandobservations@gmail.com

Dear Jamie,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3 & 4 – Review of Draft Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

Please find enclosed a copy of the draft Aboriginal Cultural Heritage Assessment (ACHA) for the above-named project for your review.

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Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

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mcheritage@iprimus.com.au
P: 0412 702 396

mcheritage.com.au

15 June 2020

Dirk Schmitt
Darug Tribal Aboriginal Corporation
darug_tribal@live.com.au

Dear Dirk,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3 & 4 – Review of Draft Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

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Please note that in order to adhere to time constraints, the absence of a response by the requested timeline, will be taken by the proponent as your indication that your organisation has no comments regarding the draft ACHA.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

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mcheritage@iprimus.com.au
P: 0412 702 396

mcheritage.com.au

13 July 2020

Gandangara LALC
Darren Duncan
DDuncan@glalc.org.au

Dear Darren,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 4 –Final Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH would like to take this opportunity to thank you for your involvement in the above-named project. Your time and input has been instrumental throughout the project

As outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 4 (S. 4.4.5) please find enclosed copy of the final Aboriginal Cultural Heritage Assessment for your records.

We look forward to continue working with you in the future.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

McCARDLE
CULTURAL HERITAGE

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mcheritage@iprimus.com.au
P: 0412 702 396

mcheritage.com.au

13 July 2020

Darug Land Observations Pty Ltd
Jamie Workman
daruglandobservations@gmail.com

Dear Jamie,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 4 –Final Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH would like to take this opportunity to thank you for your involvement in the above-named project. Your time and input has been instrumental throughout the project

As outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 4 (S. 4.4.5) please find enclosed copy of the final Aboriginal Cultural Heritage Assessment for your records.

We look forward to continue working with you in the future.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

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mcheritage@iprimus.com.au
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13 July 2020

Darug Tribal Aboriginal Corporation
Dirk Schmitt
darug_tribal@live.com.au

Dear Dirk,

RE: OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 4 –Final Cultural Heritage Assessment - Proposed increase to the existing Resource Processing Facility (liquid waste processing facility) at Yenora

MCH would like to take this opportunity to thank you for your involvement in the above-named project. Your time and input has been instrumental throughout the project

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We look forward to continue working with you in the future.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

APPENDIX B

AHIMS search results

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : Yennora

Client Service ID : 503225

Penny Mccardle

Po Box 166
Adamstown New South Wales 2289
Attention: Penny Mccardle

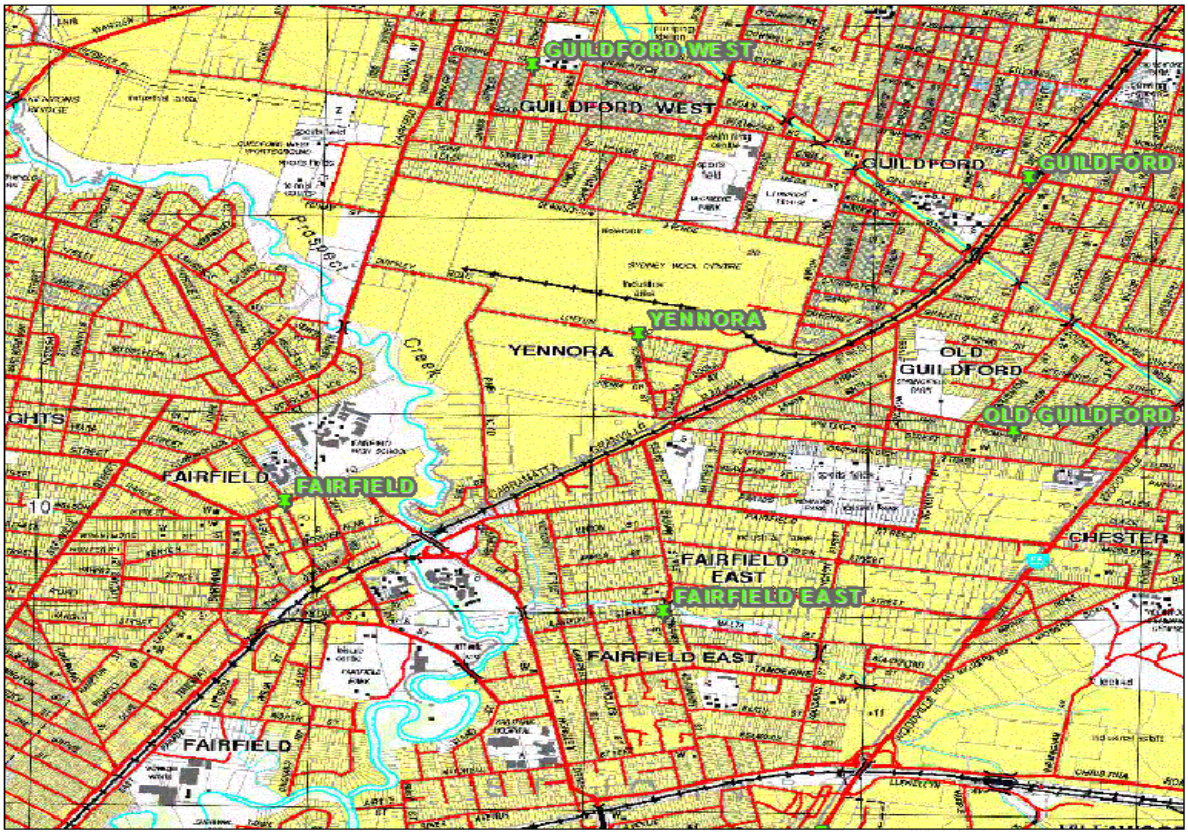
Email: mcheritage@iprimus.com.au

Date: 08 May 2020

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 310000 - 314000, Northings : 6249000 - 6253000 with a Buffer of 50 meters. Additional Info : assessment, conducted by Penny Mccardle on 08 May 2020.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

3	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

3 Marist Place, Parramatta NSW 2150
Locked Bag 5020 Parramatta NSW 2220
Tel: (02) 9585 6380 Fax: (02) 9873 8599

ABN 30 841 387 271
Email: ahims@environment.nsw.gov.au
Web: www.environment.nsw.gov.au

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Yennora

Client Service ID : 503225

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-0734	Orphan School Creek 1	AGD	56	310680	6248780	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	102196
	Contact	**Recorders**	Gandangara Eel Dreamers					**Permits**		
45-5-3269	OSC 1	AGD	56	310694	6248899	Open site	Valid	Artefact : -		102196
	Contact	**Recorders**	Therin Archaeological Consulting					**Permits**	2571	
45-5-3272	PC1	AGD	56	311160	6249391	Open site	Valid	Potential Archaeological Deposit (PAD) : -, Artefact : -		102196
	Contact T Russell	**Recorders**	Australian Museum Consulting (AM Consulting)					**Permits**	2582,2594,2696	

Report generated by AHIMS Web Service on 08/05/2020 for Penny Mccardle for the following area at Datum :GDA, Zone : 56, Eastings : 310000 - 314000, Northings : 6249000 - 6253000 with a Buffer of 50 meters. Additional Info : assessment. Number of Aboriginal sites and Aboriginal objects found is 3

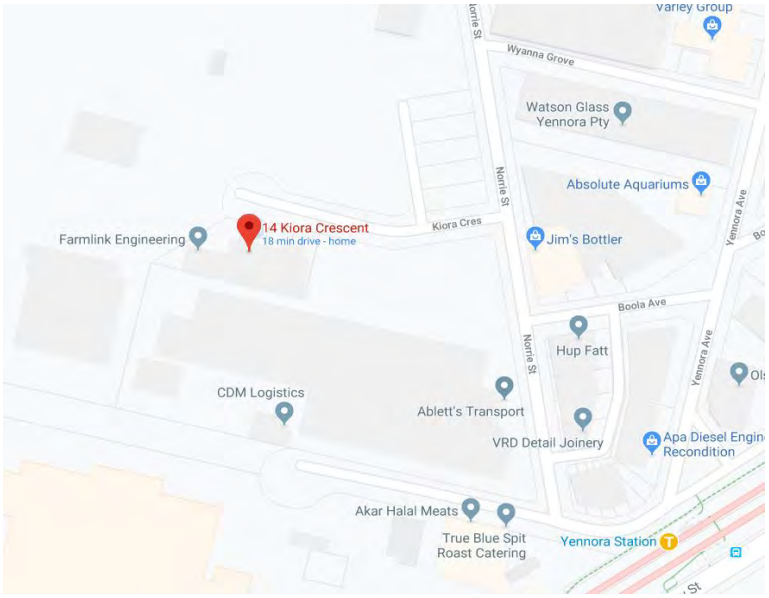
This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

(PIRMP) Pollution Incident Response Management Plan

POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

EPA LICENSE # 20444







(PIRMP) Pollution Incident Response Management Plan

1. Purpose and Scope

The purpose of the PIRMP is to ensure compliance with the requirements of the Protection of the Environment Legislation Amendment Act 2011 (POELA Act)2.

This Pollution Incident Response Management Plan (PIRMP) has been developed to describe response to a potential pollution incident of **Enviro Waste Services Group** and to meet the requirements of the Protection of the Environment Operations Act (POEO Act 1997).

The PIRMP covers the **property at 14 Kiora Crescent, YENNORA**

The plan covers description of potential hazards, actions to be taken to prevent additional environmental harm and details of communication required in the event of an incident.

The plan is based on a risk assessment of the site.

2. Facility Details

Enviro Waste Services Group Pty Ltd is an Australian owned and operated Company. We specialise in various wastes such as:

- Grease traps
- Septic/sewer
- Stormwater pits
- Oily Water

We are also a Treatment Facility for such waste.

The waste is stored in the relevant tanks while it gets treated and is ready to be disposed of.

3. Definition of Pollution Incident

The definition of “pollution incident” means an incident or set of circumstances during or because of which there is likely to be a leak, spill or other escape or deposit of a substance because of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on a premise, but it does not include an incident of circumstances involving the emission of any noise.

A pollution incident is required to be notified if there is a risk of “material Harm to the environment” which is defined in Section 147 of the PEOA as:

a) Harm to the environment is material if:
   i) It involves actual or potential harm to the health & safety of human beings or to the ecosystems that is not trivial

ii) It results in actual or loss of property damage to an amount, or amounts in aggregate, exceeding $10,000 (or such amount as is prescribed by the regulations) and

b) Loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

Inventory of possible pollutants

PRODUCT NAME	LOCATION OF STORAGE	MAXIMUM QTY STORED
Caustic Soda	On a pallet in bundied area	800 kg
Degreaser	In an IBC in bundied area	1000 litres
Hydrated Lime	On a pallet in bundied area	800 kg

- Safety Data Sheets for these chemicals are displayed in the Warehouse.

4. Description and Likelihood of Hazards /Pollution Identification

Due to the nature of the business, the products that are stored and used onsite are considered potential pollutants.

Even though the utmost care is taken when dealing with such pollutants, there has been measures in place to ensure the correct procedure is used to deal with any mishaps that may occur.

At Enviro Waste Services Group Pty Ltd, the following chemicals may be potential pollutants:

5. Hazards Identification & Prevention:

Chemical Name	Hazards Identified	Precaution
Caustic Soda	Severe burns, risk of damage to eyes	Avoid contact with skin and eyes. Protective clothing, gloves & masks must be worn
Degreaser	Severe burns, risk of damage to eyes, may cause respiratory irritation	Avoid contact with skin and eyes. Protective clothing, gloves & masks must be worn
Hydrated Lime	Irritating to eyes, respiratory system and skin	Avoid contact with skin and eyes. Protective clothing, gloves & masks must be worn

6. Pre-Emptive Action

Failure of Containment Tanks

In the event of this occurring:

- Shut off the valve,
- Employees will vacate the premises.
- The correct Authorities will be notified.

Depending on the incident that may occur, the correct action will be taken to clean up and remove any hazards.

In the case of spills, a Vacuum truck will be used to suck up the waste/spill.

7. Transportation of Waste

All transporters of liquid waste comply with the following regulations to avoid any incidents occurring in relation to transporting of liquid waste:

- The transportation of waste must be carried out in a manner that avoids the spillage of waste
- Any vehicle or plant used for the transportation of the waste must be constructed and maintained to prevent spillage of the waste
- Any container used to transport the waste must be secured safely on the vehicle used for the transportation of waste.
- Incompatible waste must not be mixed or transported together
- Liquid waste must not be mixed with other wastes
- The waste must be able to be sampled by the release of suitable and accessible valves on the top and where appropriate bottom of any container used to transport the waste

8. Spill Response

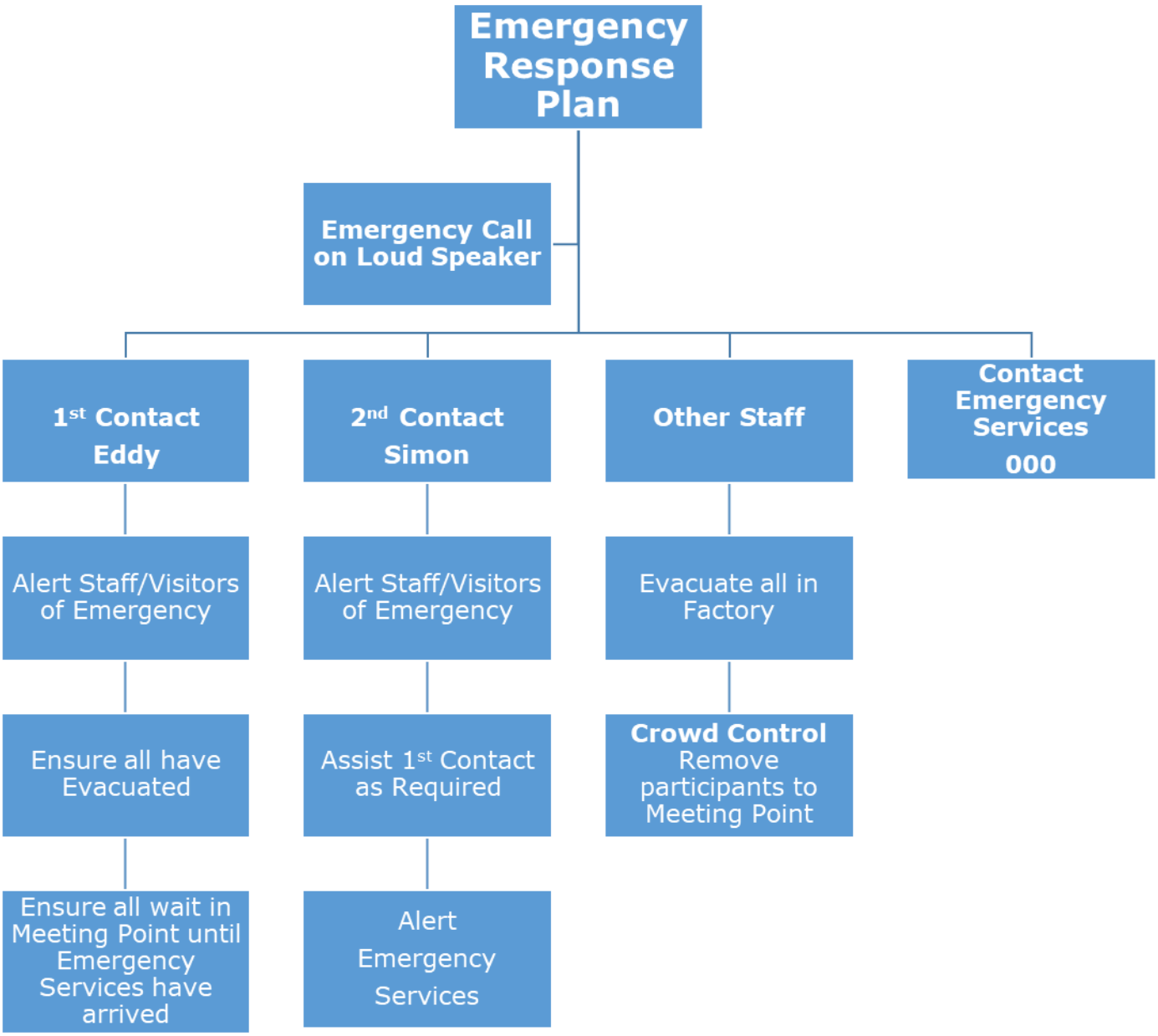
There may be a risk of spills and contamination of surface during transportation of liquid waste.

- All trucks are loaded and unloaded within a bundy area to prevent any spills from spreading.
- If an incident was to occur during the transportation of waste, a spill kit will be used and if necessary, emergency contacts will be notified.

9. Incident Response Plan

This section provides details in which will be used in the event of an incident that has resulted in a material impact to the environment and/or human health.

It will also include communication in which will be used to notify Emergency Services and surrounding neighbours.



10. Managing Response

All incidents are to be reported to the General Manager or Director immediately.

Key Contact	Position	Contact Number
Eddy Hawach	Managing Director	0420 511 727
Simon Saba	General Manager	0467 777 646

11. Details for the appropriate relevant Authorities

The following Agencies will be contacted in the event that an incident may occur:

Ambulance, Fire or Police	000
Guildford Fire Station	9632 6856
Environment Protection Authority	131 555
Work Cover Authority	13 10 50

Information to be notified to the authorities:

- The time, date, nature, duration and location of the incident;
- The location of the place where pollution is occurring or is likely to occur;
- The nature, the estimated quantity or volume and the concentration of any pollutants involved, if known;
- The circumstances in which the incident occurred, including the cause of the incident, if known;
- The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known; and Other information prescribed by the regulations.

12. Details for Surrounding Neighbours

Contact details are as follows:

SBN Building Construction	0425 838 116
Farmlink Engineering	9632 1588
J.B Manufacturing	9632 9158

In the event of an Emergency, our neighbours will be notified immediately via phone and/or message if unable to contact them directly on their site. Enviro Waste Services Group will consult with the above contacts in relation to the incident that has occurred.

13. Maps

A detailed hard copy of the map showing the location of the premises, the surrounding area which is likely to be affected by a pollution incident and the location of potential pollutants on the premises as well as stormwater drains on the premises is available on site (and as an attachment to this document).

14. Staff Training/Awareness

All Enviro Waste Services Group employees will receive explanation on all relevant information contained in our PIRMP. This will be communicated during our regular staff meeting.

For all new employees, the information will also be explained upon induction.

All employees are made aware of the requirements in this plan and are encouraged to enforce all regulations and safety procedures to minimise any incidents that may occur on site at all times.

Details of this plan are also provided to the key contacts on and off site and a hard copy is available in the Main Office upon request.

15. Testing and Review

The testing of our PIRMP will be undertaken to ensure that the information provided is accurate and up to date.

This will take place on a 12-month basis. However, contact details and other such relevant details will be regularly updated when & if required.

Also, a practical exercise will be implemented to ensure all employees understand the nature of PIRMP and to ensure correct procedures are followed.

Records of all training will be kept on file in the main office.

It will detail:

- The procedure in which the test was managed
- Dates in which the test was performed
- The details of the person who carried out the testing
- The details (date, description etc) of any amendments or updates made to our PIRMP

Location and Surrounding Neighbours

14 Kiora Crescent, YENNORA



Emergency Preparedness and Response Procedure

AS/NZS 4801:2001 (Clause 4.4.7) and ISO14001:2016 (Clause 8.2)

1. Purpose

The purpose of this Emergency Plan is to provide a mechanism to contain and control an emergency incident so as to minimise the effects on people and facilities in the built and natural environment.

This procedure provides a methodology for the management of emergency incidents.

The plan will:

a. Control or limit the effect an emergency or potential emergency situation might have on personnel, facilities and the environment

b. Ensure the provision of first aid for injured persons in an effort to conserve human life.

c. Ensure the efficient communication between emergency services and **Enviro Waste Services** Group in an emergency situation.

2. Scope –

Applies to all employees

3. Responsibility - WH&S Manager

4. Definitions –

a. Environmental emergency is the result of spillage or leakage into the storm water or ground soil causing contamination to enter storm water.

b. Other Emergency Scenarios (e.g Fire, Bomb threat, flood, Medical, aggressive or violent behaviour)

5. Procedure "Action"

I. Emergency Response Management Plan conforms to AS 3745-2010 Planning for emergencies in facilities.

II. All emergency scenarios relating to the site will be identified and documented through the emergency response instruction.

III. All significant emergency scenarios will be assessed in consultation with employees in the toolbox meeting and monthly reporting.

IV. Persons that have special responsibility in the Emergency Response Plan will undergo training to equip them to fulfil this role.

V. Exercises to test the Emergency Response Plans will be carried out 12 monthly and reviewed for issues.

VI. All recommendations for safety improvements and changes to the Emergency Response Plan will be actioned via the Corrective Action Procedure

Emergency External Contacts:

Ambulance, Fire or Police	**000**
Guildford Fire Station	9632 6856
Environment Protection Authority	131 555
Safe Work NSW	13 10 50
Poison Information Centre	13 11 26
Guildford Road Medical Centre	9681 5814

End of the procedure

Emergencies & Environmental
Emergency Response Instruction

Refer to AS/NZS 4801:2001 (Clause 4.4.7) and ISO14001:2016 (Clause 8.2)

Emergency Scenarios

1. **Fire:**

Enviro Waste Services Group has fire wardens within the organisation who have been trained in the event of a fire through a third-party training company.

As mentioned above, a fire drill is used to test this procedure and is completed periodically.

Fire Wardens have been trained in:

- What do in an emergency
- How to extinguish a fire
- The different types of fires and how to control various situations
- The different types of fire fighting equipment that can be used during an emergency

General fire precautions:

- Keep access to fire extinguishers and fire hose reels and fire exits clear.
- Fire extinguishers and fire hose reels must not be used for any purpose other than the fighting of fires.
- Report discharged fire extinguishers immediately.

Type of Extinguisher	Colour	Type of Fire
Water	Red	Rubbish
Carbon Dioxide	Red with Black Band	Electrical and Flammable Liquid
Dry Chemical	Red with White Band	
Foam	Blue	Flammable Liquid

Any person discovering a fire must:

- Rescue any person in immediate danger if safe to do so.
- Isolate the fire (close doors).
- Alert other people in the immediate area.
- Activate the nearest fire alarm.
- Contact the Evacuation Controller, advising:
  - Location and extent of fire
  - Details of any injuries sustained
- Attempt to fight the fire if it is safe to do so.

RECORD LOCATIONS: Fire Warden Certificates are located with General Manager and can be assessable when needed.

2. Evacuation Fire Drill

In the case of an emergency evacuation, fire drills are used to alarm all workers.

- Fire Alarms are tested minimum once every calendar year through the following methods:
  - Alarms will sound throughout the site; any employee may sound the alarm if a fire or emergency breaks out.
  - Employees and contractors are to vacate the buildings immediately using the nearest possible exit, and vacate towards **the assembly area located across the road of the building at 14 Kiora Crescent, Yennora**
  - All staff must be accounted for, either by the designated supervisor, or the next responsible person.
  - First Aid officers must also evacuate the area and first aid supplies must be carried when evacuating.
  - An Emergency Response Team has been appointed. In the case of an emergency, any directions given by this team must be followed.
  - If unsafe, Reception must also be evacuated, and any requests for outside assistance made using mobile phones.

RECORD LOCATION: Fire Drill Record Sheet is available on the Internal Drive.

3. Medical Emergencies

This procedure cannot be tested

- Incident/Accident Procedure must be followed.
- Contact the nearest First Aid provider
- Any employee injured at work must report the matter to their designated supervisor immediately.
- If an injured person remains exposed to further danger, move them only if it is safe for them; they must be moved in a manner so as to prevent aggravating existing injuries or causing further injuries. Do **not** move them if doing so will endanger others.
- Accidents must be reported immediately to Work Cover.
- Call the ambulance if required. State the location clearly. Have someone meet the ambulance at the entrance to the site.

RECORD LOCATION: All Injury/ Accident are recorded both electronically and in hard copy and can be accessed on the Internal Drive. Injury Forms are available on the Share drive S:\ and in First Aid box.

4. Environmental Emergency

- **Enviro Waste Services Group** tests for environmental emergency through the use of practice testing on leaks. This is done by:
  - Filling an empty container with water
  - Piercing a small hole to allow the water to flow out slowly
  - Workers are to follow procedure using the appropriate personal protective equipment and clean up the leakage.
  - Record test on Environmental Emergency Record Sheet.

This procedure is tested periodically through the above method or through actual events.

RECORD LOCATION: Environmental Emergency Record Sheet is available on the Internal Drive.

Environmental Emergency Information:

- Any person discovering a spillage or leak must if safe to do so isolate to prevent further loss.
- Use appropriate Personal Protective Equipment.
- Protect site drains by sealing outfall using a suitable bund.
- Use absorbents to contain the spread of spillage.
- Notify your manager of the issue and arrange temporary storage of contaminated clean up material into the spill bins.
- Removal of contamination materials will be done by licence site waste collector.
- Obtain specialised advice for decontamination of surface and drains where required advising the local Authority.

5. Environmental Precautions.

- This procedure cannot be tested but when workers are trained in the nature of their duties and tasks, they are taught when handling chemicals to never dispose liquids or chemicals down the drain.

Additional Information:

- All stored liquids to be bunded.
- Install drain socks in high risk areas.
- Store all materials under cover to prevent leaching of chemical residues from rain fall.
- Do not dispose of any liquids or materials down drains.
- Identify all site drains and place signs to prevent accidental disposal.
- Train and communicate to staff.

6. Aggressive or Violent Behaviour

This procedure cannot be tested however the General Manager deals with all complaints and concerns regarding behavioural matters within the workplace.

Additional Information:

In the event of being confronted by an aggressive or potentially violent person or situation:

- Remain calm.
- Alert the designated supervisor.
- Be firm but polite
- Let the protagonist/s know that the behaviour is not acceptable.
- Do not endanger yourself or others by trying to rectify the situation on your own. If assistance or outside intervention is required, contact the Police.

Abusive phone calls: hang up the phone and notify your designated supervisor. If calls persist, contact the Police.

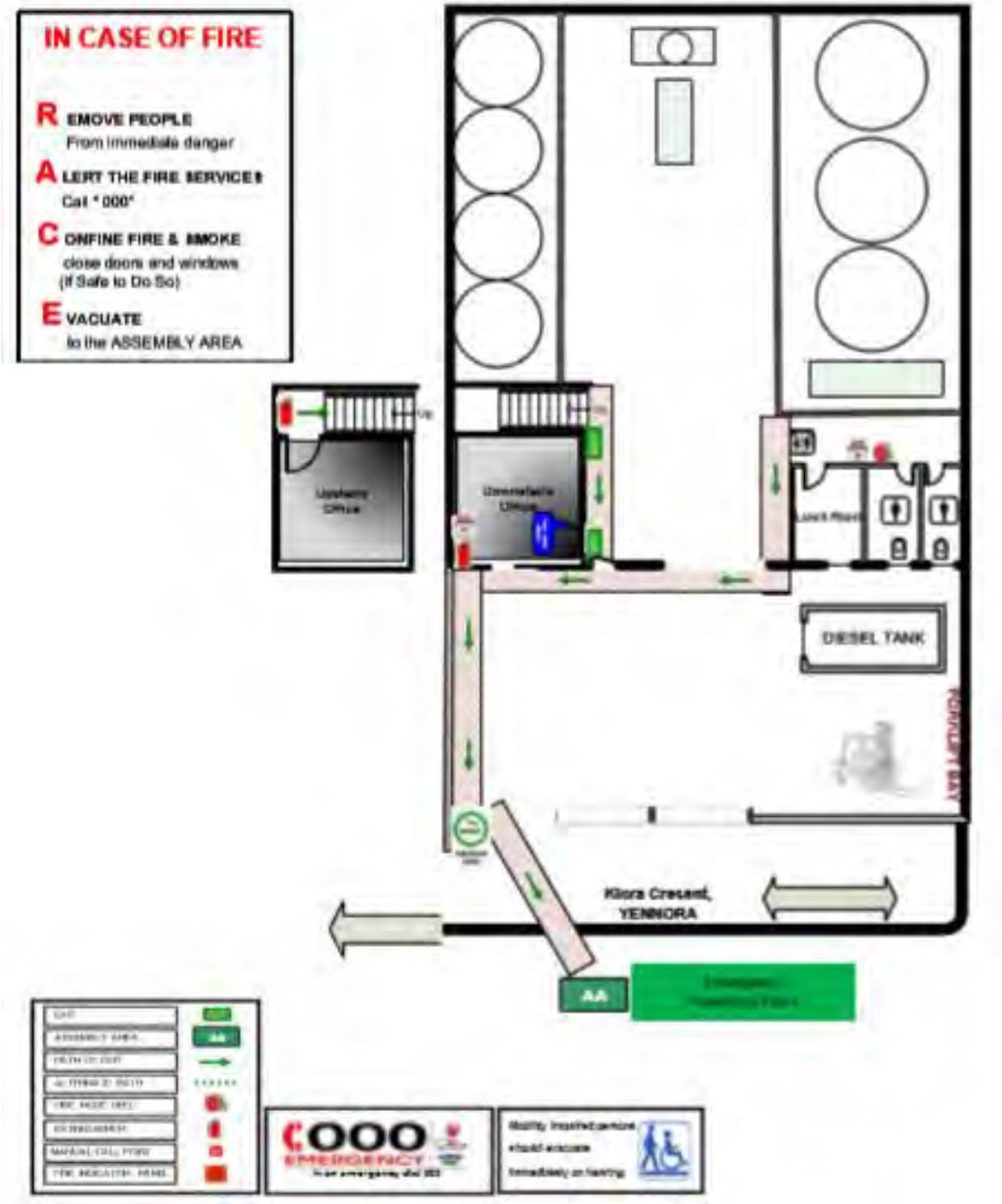
7. Emergencies outside the Building

In the event of an emergency situation adjacent to the ENVIRO WASTE SERVICES GROUP site:

- Contact the relevant Emergency service, advising:
  - Location and extent of fire
  - Details of any injuries sustained.
- Rescue any person in immediate danger if safe to do so.
- Alert other people in the immediate area.

Emergency Assembly Point

EVACUATION SIGN and DIAGRAM
Enviro Waste Services Group Pty Ltd
14 Kiora Crescent, YENNORA NSW



ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER

Area/Activity	Aspect	Environmental Impact	Risk Rating	Significant Impact	Legal Requirement	Objectives and Targets	Controls
• Office Kitchens • Bathrooms • Manufacturing • Kitchens • Testing Products • On site	**Water Usage:**	Reduce Natural Resources	Likelihood: 4 Consequence: 1 (Moderate)	Yes	• EPA • NSW Government office of Water • Protection of Environmental Operations Act 1997	- Reduction of water usage throughout the office and factory. *Refer to Improvement Plan*	
• Office – Computers, office equipment, lighting, air conditioner • Manufacturing Plant/Equipment • On site	**Electricity Usage**	Generates Greenhouse Gases	Likelihood: 4 Consequence: 1/2 (Moderate/High)	Yes	• EPA • Australian Government Department of Resources, Energy and Tourism	- Reduction of electricity used throughout the office and factory. *Refer to improvement Plan*	• Turn off computers daily • Turn off equipment, lights and air conditioners at end of day.
• Washing trucks • Washing out the floor • Washing out the tankers	**Waste:** General Waste/Handling Storm Water	• Waste to Landfill • Use of Recycled Paper: Conservations for Natural Resources	Likelihood: 4 Consequence: 3 (high)	Yes	• National Waste Policy • EPA • Protection of the Environmental Operations Act 1997	-Reduction of waste throughout the office and factory. - *Refer to improvement plan*	• Recycling parts, products and packaging. • Recycling materials – metals, cardboards and timber. • Send containers back once finished using them (where possible)

ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER

• Cleaning Products • All areas of Production	• Chemical Usage	•Pollution of Airways •Soil and Ground Waste Contamination	Likelihood: 3 Consequence: 3 (High)	Yes	• Codes of Practice – Managing Hazardous Chemicals • WHS Act 2011 • WHS Regulation 2011	N/A	• Correct Storage of chemicals • Correct Labelling of chemicals • Providing Safety Data Sheets (SDS)
• Service Technicians – Transport	• Fuel usage for service technicians	Air Pollution	Likelihood: 4 Consequence: 1 /2 (Moderate/High)	Yes	• Australian Government Department of Infrastructure and Transport • EPA	- To ensure engine performance though servicing vehicles.	• Regularly servicing vehicles.
• On Site	• Redundant fuel tanks	Soil and Ground Waste Contamination	Likelihood: 1 Consequence: 1 (Low)	No	• EPA	- Minimise soil contamination	• Fill with water • Remove
• On Site	• Water pit	Soil and Ground Waste Contamination	Likelihood: 1 Consequence: 1 (Low)	No	• EPA • WHS Act 2011 • WHS Regulation 2011	- Minimise soil contamination	• Fill with water • Remove
• On Site	• External drainage system	Soil and Ground Waste Contamination	Likelihood: 2 Consequence: 2 (Low)	Yes	• EPA • WHS Act 2011 • WHS Regulation 2011	- Minimise soil contamination	• Audit through workplace inspections and external provider • Housekeeping

ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER

			Consequences				
			1 – Insignificant	**2 – Minor**	**3 – Moderate**	**4 – Major**	**5 – Catastrophic**
Likelihood	**5-**	**Almost certain to occur in most circumstances**	High (H)	High (H)	Extreme (X)	Extreme (X)	Extreme (X)
	4 -	**Likely to occur frequently**	Moderate (M)	High (H)	High (H)	Extreme (X)	Extreme (X)
	3 -	**Possible and likely to occur at some time**	Low (L)	Moderate(M)	High (H)	Extreme (X)	Extreme (X)
	2 -	**Unlikely to occur but could happen**	Low (L)	Low (L)	Moderate(M)	High (H)	Extreme (X)

ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER

	1 -	**May occur but only in rare and exceptional circumstances**	Low (L)	Low (L)	Moderate (M)	High (H)	High (H)

Extreme (7 or Greater)	Act immediately to mitigate the risk.Either eliminate, substitute or implement engineering control measures. *Long term environmental damage (5+ years)*	Remove the hazard at the source. An identified extreme risk does not allow scope for the use of administrative controls or PPE , even in the short term.

RISK RATING TABLE:

Injury/Environmental Risk Rating:

ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER

High (6 or 7)	Act immediately to mitigate the risk. Either eliminate, substitute or implement engineering control measures. If these controls are not immediately accessible, set a timeframe for their implementation and establish interim risk reduction strategies for the period of the set timeframe. *Medium term environmental damage*	An achievable timeframe must be established to ensure that elimination, substitution or engineering controls are implemented. **NOTE:** Risk (and not cost) must be the primary consideration in determining the timeframe. A timeframe of greater than 6 months would generally not be acceptable for any hazard identified as high risk.
Medium (5)	Take reasonable steps to mitigate the risk. Until elimination, substitution or engineering controls can be implemented, institute administrative or personal protective equipment controls. These "lower level" controls must not be considered permanent solutions. The time for which they are established must be based on risk. At the end of the time, if the risk has not been addressed by elimination, substitution or engineering controls a further risk assessment must be undertaken. *Short Term environmental damage*	**Interim measures until permanent solutions can be implemented:** • Develop administrative controls to limit the use or access. • Provide supervision and specific training related to the issue of concern.
Low (< 5)	Take reasonable steps to mitigate and monitor the risk. Institute permanent controls in the long term. Permanent controls may be administrative in nature if the hazard has low frequency, rare likelihood and insignificant consequence. *Environmental Damage which can be corrected.*	

ATTACHMENTS

EIS Attachment 1: SEARs

Planning Secretary's Environmental Assessment Requirements

Section 4.12(8) of the *Environmental Planning and Assessment Act 1979*
Schedule 2 of the Environmental Planning and Assessment Regulation 2000

Application Number	SSD-10407
Project Name	Yennora Liquid Waste Treatment Plant
Development	Expansion and operation of a liquid waste treatment facility processing up to 110,000 tonnes per annum (tpa) of liquid waste, comprising up to 60,000 tpa of industrial liquid waste, 20,000 tpa of sewage sludge, 20,000 tpa of grease trap waste and 10,000 tpa of out-of-date liquid product/food waste destruction. Maximum storage capacity of up to 477 tonnes of waste at any given time.
Location	14-16 Kiora Crescent, Yennora (Lot 49 in DP18211) in the Cumberland local government area
Applicant	Enviro Waste Services Group Pty Ltd
Date of Issue	04/06/2020
General Requirements	The Environmental Impact Statement (EIS) for the development must meet the form and content requirements in clauses 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (the Regulation). In addition, the EIS must include: · a detailed description of the development, including: - an accurate history of the site, including development consents; - the need for the proposed development; - justification for the proposed development; - likely staging of the development; - likely interactions between the development and existing, approved and proposed operations in the vicinity of the site; - plans of any proposed building works; and - infrastructure upgrades or items required to facilitate the development, including measures to ensure these upgrades are appropriately maintained. · consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments · consideration of issues discussed in Attachment 2 (public authority responses to key issues) · a risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment · a detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: · a description of the existing environment, using sufficient baseline data · an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes and · a description of the measures that would be implemented to avoid, minimise, mitigate and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage significant risks to the environment.

	· a consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS. The EIS must also be accompanied by: · high quality files of maps and figures of the subject site and proposal · a report from a qualified quantity surveyor providing: - a detailed calculation of the capital investment value (CIV) of the proposal (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived. The report shall be prepared on company letterhead and indicate the applicable GST component of the CIV - an estimate of the jobs that will be created by the development during the construction and operational phases of the proposed development and - certification that the information provided is accurate at the date of preparation.
Key issues	The EIS must include an assessment of the potential impacts of the proposal (including cumulative impacts) and develop appropriate measures to avoid, mitigate, manage and/or offset these impacts. The EIS must address the following specific matters: **1. Statutory and strategic context** – including: - 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 - 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. **2. Suitability of the Site** – including: - 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. **3. Community and Stakeholder Engagement** – including: - a detailed community and stakeholder participation strategy which identifies 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. **Waste Management** – including:
   - 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
   - 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.

5. **Air Quality and Odour** – including:
   - 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
   - details of proposed mitigation, management and monitoring measures
6. **Traffic and Transport** – including:
   - 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
   - details of road upgrades, infrastructure works or new roads or access points required for the development if necessary.
7. **Soils and Water** – including:

- 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. **Noise and Vibration** – including:
   - 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
   - details and justification of the proposed noise mitigation, management and monitoring measures.
9. **Urban design and visual** – including:
   - consideration of the layout and design of the development having regard to the surrounding vehicular, pedestrian and cycling networks
   - detailed plans showing suitable landscaping which incorporates endemic species.
10. **Fire and Incident Management** – including:
    - 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).
11. **Hazards and Risk** – including 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).
12. **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* 13. **Greenhouse gas and energy efficiency –** including 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. 14. **Cultural Heritage and Aboriginal Cultural Heritage** – including an assessment of Aboriginal cultural heritage values that satisfies the due diligence requirement of the *National Parks and Wildlife Act 1974*. 15. **Biodiversity** – including 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. 16. **Contamination** – including an assessment of site suitability under the provisions of State Environmental Planning Policy No. 55 – Remediation of Land.
Consultation	During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with: · Cumberland Council · Department of Planning, Industry and Environment, specifically the: - Environment, Energy and Science Group, including the Climate Change and Sustainability Branch - Water Group · Environment Protection Authority · Transport for NSW (including the former Roads and Maritime Services) · NSW Fire & Rescue · AusGrid · Sydney Water · surrounding local landowners and stakeholders The EIS must describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.
Further consultation after 2 years	If you do not lodge a Development Application and EIS for the development within two (2) years of the issue date of these SEARs, you must consult further with the Secretary in relation to the preparation of the EIS.
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, **Attachment 1** contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this proposal.

ATTACHMENT 1
Technical and Policy Guidelines

The following guidelines may assist in the preparation of the environmental impact statement. This list is not exhaustive and not all of these guidelines may be relevant to your proposal.

Many of these documents can be found on the following websites:

http://www.planning.nsw.gov.au
http://www.shop.nsw.gov.au/index.jsp
http://www.australia.gov.au/publications
http://www.epa.nsw.gov.au/
http://www.environment.nsw.gov.au/
http://www.dpi.nsw.gov.au/

Plans and Documents
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents. In addition, the EIS must include the following: 1. An existing site survey plan drawn at an appropriate scale illustrating: · the location of the land, boundary measurements, area (sqm) and north point · the existing levels of the land in relation to buildings and roads · location and height of existing structures on the site · location and height of adjacent buildings and private open space · all levels to be to Australian Height Datum (AHD). 2. Locality/context plan drawn at an appropriate scale should be submitted indicating: · significant local features such as heritage items · the location and uses of existing buildings, shopping and employment areas · traffic and road patterns, pedestrian routes and public transport nodes. 3. Drawings at an appropriate scale illustrating: · detailed plans, sections and elevations of the existing building, which clearly show all proposed buildings · detailed plans of proposed access driveways, internal roads, carparking and external alterations services infrastructure. 4. Schedule of materials, colours and additions. finishes.
Documents to be Submitted
Documents to submit include: · one (1) electronic copy of all the documents and plans for review prior to exhibition · other copies as determined by the Department once the development application is lodged.

Policies, Guidelines & Plans

Aspect	Policy / Methodology
Traffic, Transport and Access	
	Roads Act 1993
	State Environmental Planning Policy (Infrastructure) 2007
	Guide to Traffic Generating Development (RTA, 2002 as updated)
	Road Design Guide (RMS, 2015-2017)
	Guide to Traffic Management – Pt 12: Traffic Impacts of Development (Austroads, 2016)
	Guidelines for Planning and Assessment of Road Freight Access in Industrial Areas (Austroads, 2014)
	Bicycle Parking Facilities: Guidelines for Design and Installation (AS 2890.3:2015)
	Integrated Public Transport Service Planning Guidelines: Sydney Metropolitan Area (TfNSW, 2013)
	Future Transport Strategy 2056 (TfNSW, 2018)
	Greater Sydney Services and Infrastructure Plan (TfNSW, 2018)
	NSW Freight & Ports Plan 2018-2023 (TfNSW, 2018)
Soils and Water	
Erosion and Sediment	Managing Urban Stormwater: Soils & Construction (Landcom, 2004)
	Soil and Landscape Issues in Environmental Impact Assessment (DLWC, 2000)
	Wind Erosion – 2nd Edition (DIPNR, 2003)
Groundwater	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC, 2000)
	NSW State Groundwater Policy Framework Document (DLWC, 1997)
	NSW Aquifer Interference Policy (NOW, 2012)
	Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources (NOW, 2011)
	Storing and Handling Liquids: Environmental Protection (DECC, 2007)
Stormwater	Managing Urban Stormwater: Strategic Framework. Draft (EPA, 1996)
	Managing Urban Stormwater: Council Handbook. Draft (EPA, 1997)
	Managing Urban Stormwater: Treatment Techniques (DEC, 2006)
	Managing Urban Stormwater: Source Control. Draft (EPA, 1998)
	Managing Urban Stormwater: Harvesting and Reuse (DEC, 2006)
Wastewater	National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management (ARMCANZ/ANZECC, 1997)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems - Use of Reclaimed Water (ARMCANZ/ANZECC, 2000)
	National Water Quality Management Strategy – Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) (EPHC, NRMMC & AHMC,

	2006)
	National Water Quality Management Strategy – Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2) (EPHC, NRMMC & AHMC, 2009)
Contamination	State Environmental Planning Policy No. 55 – Remediation of Land
Hazards and Risk	
	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
	Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines (DoP, 2011)
	AS/NZS 4360:2004 Risk Management
	Contaminated Sites – Guidelines on Significant Risk of Harm from Contaminated Land and the Duty to Report (EPA 2003)
	Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning (DUAP)
	Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis
Biodiversity	
	Biodiversity Conservation Act 2016
	Biodiversity Assessment Method (OEH, 2017)
Heritage	
	Heritage Act 1977
	NSW Heritage Manual (HO and DUAP, 1996)
	The Burra Charter (ICOMOS Australia, 2013)
	Statements of Heritage Impact (HO and DUAP, 2002)
	Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)
	Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)
	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010)
Noise and Vibration	
	Assessing Vibration: A Technical Guide (DEC, 2006)
	Noise Policy for Industry (EPA, 2017)
	Environmental Criteria for Road Traffic Noise (EPA, 1999)
	Noise Guide for Local Government (EPA, 2013)
	Interim Construction Noise Guideline (DECC, 2009)
Air Quality	
Air Quality	Protection of the Environment Operations (Clean Air) Regulation 2002
	Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007)

	Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016)
Odour	Assessment and Management of Odour from Stationary Sources in NSW (DEC 2006)
Greenhouse Gas	AGO Factors and Methods Workbook (AGO, 2018)
	Guidelines for Energy Savings Action Plans (DEUS, 2005)
Waste	
	Waste Avoidance and Resource Recovery Strategy 2014-2021 (EPA)
	The National Waste Policy: Less Waste More Resources 2009
	Waste Classification Guidelines (EPA 2008)
	Environmental guidelines: Composting and Related Organics Processing Facilities (DEC 2004)
	Environmental guidelines: Use and Disposal of Biosolid Products (EPA 1997)
	Composts, soil conditioners and mulches (Standards Australia, AS 4454)
	NSW Energy from Waste Policy Statement (EPA 2015)
	Standards for Managing Construction Waste in NSW (EPA 2018)
Visual	
	Control of Obtrusive Effects of Outdoor Lighting (AS 2482)
Social	
	Social Impact Assessment Guideline (DPE, 2017)

ATTACHMENT 2
Government Authority Responses to Request for Key Issues

CUMBERLAND COUNCIL

Dear Sir/Madam,

Re: Major Projects – New Request for Advice - Yennora Liquid Waste Treatment Plant (SSD-10407)

Please find below comments from Cumberland Council below:

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.

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.

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.

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.

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.

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.

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.

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.

Traffic

The applicant is to liaise with RMS in accordance with Schedule 3 – Traffic Generating under the Infrastructure SEPP.

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.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14 Kiora Crescent Yennora NSW 2161 AU
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enviro WASTE SERVICES GROUP PTY. LTD.
Liquid Waste Facility
PH. 9721 2028


14 Kiora Crescent Yennora NSW 2161 AU
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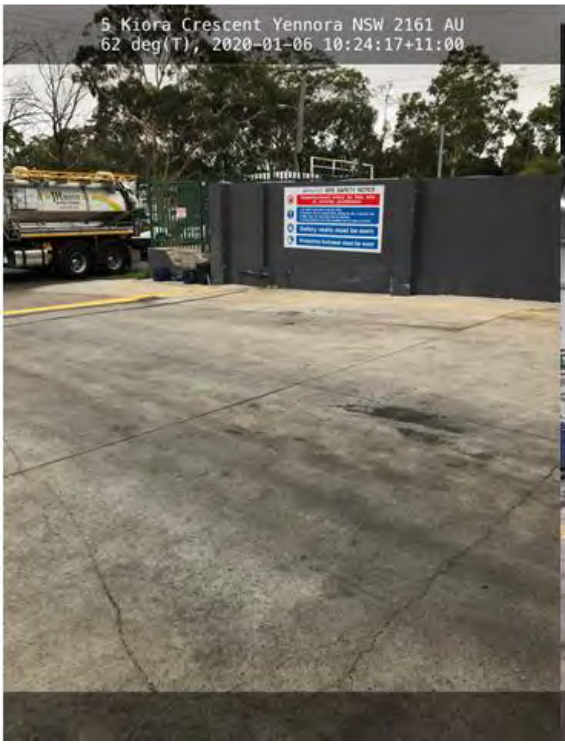
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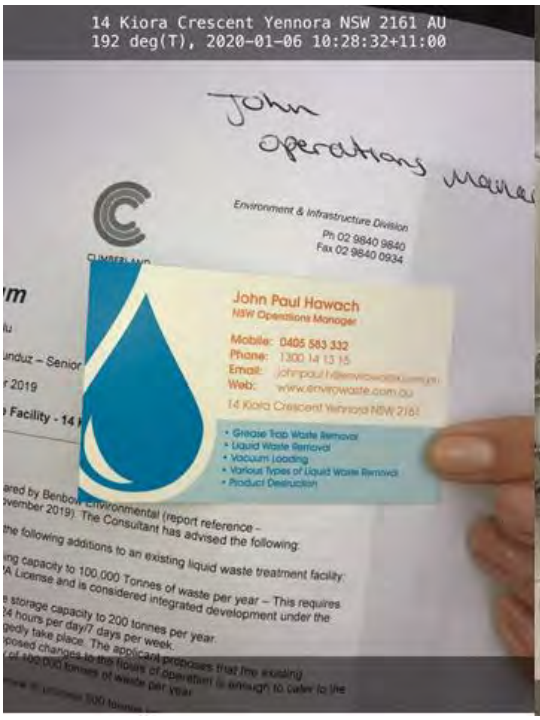
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John
operations
Environment & Infrastructure Division
Ph 02 9840 9840
Fax 02 9840 0934
John Paul Hawach
NSW Operations Manager
Mobile: 0405 583 332
Phone: 1300 14 13 15
Email:
Web: www.envirowaste.com.au
14 Kiora Crescent Yennora NSW 2161
• Grease Trap Waste Removal
• Liquid Waste Removal
• Vacuum Loading
• Various Types of Liquid Waste Removal
• Product Destruction


14 Kiora Crescent Yennora NSW 2161 AU
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Strategic:

The site is identified as having a flood risk (floor level control building requirement). It is also in proximity to an area of stormwater overflow flood risk. This flood risk should be addressed in the EIS including, as appropriate, any measures to manage and mitigate this risk should a flood event occur.
The documentation does not confirm if any additional external lighting, for security or to support safety of operations including vehicle movements, will be required. This should be addressed and, if required, to assess the impact of the external lighting.
There is expected to be a considerable increase in traffic movements for the site (including outside current operational hours), and it is noted there are other transport/logistics businesses nearby and this is a dead-end street having one access point off Norie St. The individual and cumulative traffic & parking impacts of the proposal should be assessed as part of the detailed traffic & parking assessment (noted as to be undertaken in the submitted scoping report).

Background / Proposed development

The subject site is zoned IN1 General Industrial and located on the south of the Yennora Intermodal Terminal, approx. 260m away. An additional permitted use for sex service premises applies to the certain precinct area within this IN1 General Industrial in Yennora. The proposed development consists of increasing a capacity of the waste processing quantity to 100,000 tonnes per annum (from 900 tonnes p.a) and store up to a maximum of 200 tonnes (from 110 tonnes) of liquid at any one time. No construction work is proposed for the expansion of the existing waste management facility. It is proposed to utilise the existing equipment with an increased capacity to the extended operational hours. The facility proposes to operate 24 hours a day, seven days a week. The proposal does not propose a change of use or a rezoning of the land.

Alignment to the strategic planning framework

(Greater Sydney Region Plan, Central City District Plan and Cumberland 2030: Our Local Strategic Planning Statement)

The existing and proposed development (waste management) is generally aligned to region, district plan and Cumberland LSPS. See details below.

- The Greater Sydney Region Plan (p.130) recommends safeguarding industries (such as waste handling facilities and freight activities) from residential encroachment which are impacted by noise, light and odours. Note that there is no residential development adjacent to the site. Its Objective 23 supports retention of local recycling and waste management facilities that are within industrial and urban services land. And at the same time it requires to address ongoing environmental issues such as odour, noise, truck movement and dust. Strategy 35.1 also recommends a protection of existing and identify new locations for waste recycling and management.

- The Central City District Plan encourages initiatives for re-use and recycle to support a circular economy and innovative solutions to reduce the volume of waste and waste transport requirements.

- The draft LSPS (p. 80), the Central City District Plan and the Cumberland Employment and Innovation Lands Strategy (EILS) identify the Yennora Intermodal Terminal as a protected freight corridor, with an opportunity for improved accessibility. Note that a future Western Sydney Freight through this industrial precinct is planned under the Future Transport Strategy, to improve accessibility for freight, warehousing and logistics businesses.

Consistency of the proposed development with SEPP

SEPP No 33 – Hazardous and Offensive Development
Issue – The proposed greater increase in waste management capacity can be considered as a potentially hazardous industry. A preliminary hazard analysis may be required. See comments below.

- The current use of the site is a waste management facility that can process 900 tonnes per annum of waste liquids, with a maximum of 110 tonnes of liquid that can be stored at any one time. The proposal is to increase the processing quantity to 100,000 tonnes per annum and increase the maximum quantity to be stored at any one time to 200 tonnes.

- The proposed increase in capacity of the site can be viewed as a potentially hazardous industry. This greater increase in capacity could potentially pose a significant risk to its locality (to human health, life or property or to the biophysical environment) if such measures are not mitigated or monitored. The preparation of a preliminary hazard analysis is required for site if identified as a potentially hazardous industry.

SEPP No 55 – Remediation of Land
Issue – State 1 Preliminary Investigation may be required. See comments below.

Given the site's existing use as a waste management facility involving a waste treatment and a disposal, and its proposal to increase the capacity, the site can be potentially considered as a contaminated land. Whilst the proposal does not involve a rezoning or a change of use, the proposed greater increase in capacity of waste management, could further impact on the subject land or land immediately adjacent to the site. As per the contaminated land planning guidelines, Stage 1 – Preliminary Investigation may be required to determine whether the proposed greater increase in capacity for the subject site is adequate.

SEPP (Infrastructure) 2007s
Proposal needs to be referred to RMS.
According to this SEPP, Schedule 3 – 'Waste or resource management facility' that involves with any size or capacity increase under the Traffic-generating development, the proposal need to be referred to Roads and Maritime Services.

SEPP (State and Regional Development) 2011
Schedule 1 State significant development – general, Clause 23
According to this SEPP, the proposal is determined as a State significant development (SSD) under Clause 23, Schedule 1.

Development Engineering:

Flooding

Subject site is affected by flooding. In this regard, flood advice letter from Council shall be obtained. Development shall comply with flood advice letter.

Traffic

Submitted information is not adequate for the assessment. It appears proposed modification will have adverse impact on the street traffic and on street parking. Following matters shall be addressed:

Proposed swept path analysis is not acceptable. The swept path analysis shows that the turning path encroaches into Council footpath and nature strip.

Reverse manoeuvring in Council's land is not acceptable. It will compromise the safety. Vehicles should enter and leave the site in a forward direction.

Proposed 4 point turn truck manoeuvring movement is not acceptable. Manoeuvring shall be limited to three point turn.

Truck swept path interferes with the car parking space.

Parking space not available within the site for the delivery trucks to prevent any queuing or on street parking of trucks/delivery vehicles. Increase in traffic movement will have adverse impact on street traffic and the adjoining developments.

Parking and loading design shall comply with Australian standard AS2890.1 and AS2890.2.
Stormwater

Existing and proposed stormwater details have not been submitted for assessment.

Development shall demonstrate compliance with Part a Section 7.0 Stormwater Management of Council DCP 2013.

Should you require any further information on this matter, please contact Sohail Faridy on 8757 9915 or Sohail.faridy@cumberland.nsw.gov.au

Regards,

Sohail Faridy
Coordinator Development Assessment

Our ref: DOC20/385024
Senders ref: SSD 10407 (Cumberland)

Susan Fox
Planning and Assessment Group
Industry Assessments
Department of Planning, Industry and Environment
Locked Bag 5022
Parramatta NSW 2124

Dear Ms Fox,

Request for Modified SEARs for Yennora Liquid Waste Treatment Plant, 14-16 Kiora Crescent, Yennora (SSD 10407) (Cumberland)

Thank you for your letter received on 20 May 2020, requesting input from Environment, Energy and Science Group (EES) in the Department of Planning, Industry and Environment on the request for Modified SEARs for Yennora Liquid Waste Treatment Plant, 14-16 Kiora Crescent, Yennora (SSD 10407) (Cumberland).

The SEARs were previously modified because the facility has approval to process 900 tonnes per annum of waste liquids, with a maximum of 100 tonnes of liquid that can be stored at any one time. The modification will increase the processing quantity to 100,000 tonnes per annum and increase the maximum quantity to be stored at any one time to 200 tonnes. The modification also includes the neighbouring property, 14 Kiora Crescent, Yennora.

However, now the SEARs are being further modified because following the modification above, a Council and Environmental Protection Authority inspection revealed that additional activities being undertaken at 16 Kiora Crescent would also require approval, out-of-date, expired and/or perishable liquid food waste processing.

EES has reviewed the revised scoping report prepared by Benhow Environmental (Revision 6) dated April 2020 and provides the following comments and recommendations at **Attachment A.**

Aboriginal Cultural Heritage

EES recommends the SEARs include the attached Aboriginal cultural heritage requirements.

Biodiversity

EES recommends the SEARs include the attached biodiversity requirements.

Flooding

EES recommends the SEARs include the attached flooding requirements.

Soil and Water

EES recommends the SEARs include the attached water and soils requirements.

Should you have any queries regarding this matter, please contact Bronwyn Smith, Senior Conservation Planning Officer on 9873 8604 or bronwyn.smith@environment.nsw.gov.au

Yours sincerely



20/05/20

Susan Harrison
Senior Team Leader Planning
Greater Sydney Branch
Climate Change and Sustainability

Attachment A – EES Environmental Assessment Requirements – Yennora Liquid Waste Treatment Plant located at 14 - 16 Kiora Crescent, Yennora SSD 10407(Cumberland)

Aboriginal cultural 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.
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.

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

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.

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-and-publications/publications-search/risk-based-framework-for-considering-waterway-health-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. Consistency with any relevant certified Coastal Management Program (or Coastal Zone Management Plan).

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.

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.

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.

(END OF SUBMISSION)

Department of Planning, Industry & Environment

Attention: Susan Fox

Notice Number **1593218**

Date **1 April 2020**

RE: Proposed Expansion of the Enviro Waste Services Group Yennora Liquid Waste Treatment Plant

I refer to your request for the Environment Protection Authority's (EPA) requirements for the environmental assessment (EA) in regard to the above proposal received by EPA on 23 March 2020. The application seeks to increase the processing quantity to 100,000 tonnes per annum and increase the maximum quantity to be stored at any one time to 200 tonnes at 14 Kiora Crescent, Yennora NSW 2161 and use the neighbouring site at 16 Kiora Crescent Yennora NSW 2161 for improved access, truck manoeuvring and parking.

The EPA conducted an inspection of 14 and 16 Kiora Crescent, Yennora to gain a better understanding of the proposal. The inspection found that the scoping report prepared by Benbow Consulting (March 2020) did not accurately reflect existing operations, and was generally, not supportive of additional waste being received and processed at the site, for the following reasons:

- Enviro Waste Services Group Pty Ltd (EWS) was using 16 Kiora Crescent, Yennora as a liquid food waste recovery facility without lawful authority. The scoping report advises that 16 Kiora Crescent, Yennora was being used for office purposes.
- EWS was also using 5 Kiora Crescent, Yennora as a liquid food waste recovery facility without lawful authority. Waste oil/ hydrocarbon mixtures and residual waste in intermediate bulk containers were also stored in containers at 5 Kiora Crescent, Yennora.
- At least 4 waste transport vehicles were parked at 5 Kiora Crescent, Yennora awaiting to drop off their waste loads at 14 Kiora Crescent, Yennora.
- Limited available storage space for containers of waste at 14 Kiora Crescent, Yennora.

The EPA has instructed EWS to immediately cease waste activities at 14 and 5 Kiora Crescent, Yennora.

The EPA advises that the proposal must reflect the true nature and scale of the operations, and if EWS intends to undertake hazardous or liquid waste storage and processing activities at properties other than 14 Kiora Crescent, Yennora, this must be clearly described and assessed in the EA.

The EPA has considered the details of the proposal and has identified the information it requires to issue its general terms of approval in Attachment A. In summary, the EPA's key information requirements for the proposal include:

1. Clarity on the volumes of each waste type, the manner in which each waste type will be received and stored at the premises, and individual storage tank capacities (existing and proposed).

2. Explanation as to how existing equipment onsite would be able to achieve a 111x increase in annual production, noting that this appears extreme even with extended operating hours.

3. A comprehensive air and odour quality impact assessment (AQIA) prepared in accordance with the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW* (EPA, 2016). Modelling must be undertaken for worst case inputs and peak production periods (noting the proposed increase to annual production capacity is substantially greater than existing operations). The AQIA must benchmark the performance of the proposed air pollution technology against best practice technologies.

4. A noise impact assessment undertaken in accordance with the *NSW Noise Policy for Industry* (EPA, 2017).

5. Fire risk assessment.

6. A traffic and parking assessment. The EPA will not be supportive of a proposal that involves waste transport vehicles queuing outside the premises.

In carrying out the assessment, the proponent should refer to the relevant guidelines as listed in Attachment B and any relevant industry codes of practice and best practice management guidelines.

The proponent should be made aware that any commitments made in the EA may be formalised as approval conditions and may also be placed as formal licence conditions

Yours sincerely



Erwin Benker

Manager Hazardous Materials

Environment Protection Authority

(by Delegation)

ATTACHMENT A: EIS REQUIREMENTS

How to use these requirements

The EPA requirements have been structured in accordance with the DIPNR EIS Guidelines, as follows. It is suggested that the EIS follow the same structure:

A. Executive summary

B. The proposal

C. The location

D. Identification and prioritisation of issues

E. The environmental issues

F. List of approvals and licences

G. Compilation of mitigation measures

H. Justification for the proposal

A Executive summary

The executive summary should include a brief discussion of the extent to which the proposal achieves identified environmental outcomes.

B The proposal

1. Objectives of the proposal

- 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.

2. Description of the proposal

General

- Outline the production process including:
  a) the environmental "mass balance" for the process – quantify in-flow and out-flow of materials, any points of discharge to the environment and their respective destinations (sewer, stormwater, atmosphere, recycling, landfill etc)
  b) any life-cycle strategies for the products.
- 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.
- 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.

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.

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.

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.

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.
- 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 material, and if so, measures for the management of any contaminated material
  e) 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) identification of who will bear the environmental costs of the proposal.

3. Rehabilitation

- Outline considerations of site maintenance, and proposed plans for the final condition of the site (ensuring its suitability for future uses).

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) efficient use (including maximising re-use) of land, raw materials, energy and other resources.

C The location

1. 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. 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) air re-circulation.

3. 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.

4. 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.

5. 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.

D Identification 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).

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.

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.

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.
- 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.

4. Air

Describe baseline conditions

- Provide a description of existing air quality and meteorology, using existing information and site representative ambient monitoring data.

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.
- 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.

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*.

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 exclude invalid data and a statement indicating the need for any re-monitoring.

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.
- 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*.

- 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:
  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
  m) 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.
- 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.

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.
- 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

  b) 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.

- 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).*

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.
- 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).

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.

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).*

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).

6. Waste and chemicals

Describe baseline conditions

- Describe any existing waste or chemicals operations related to the proposal.

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)*
- 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.

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).

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).

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.

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.

ATTACHMENT B: GUIDANCE MATERIAL

Title	Web address
Relevant Legislation	
Contaminated Land Management Act 1997	http://www.legislation.nsw.gov.au/#/view/act/1997/140
Environmentally Hazardous Chemicals Act 1985	http://www.legislation.nsw.gov.au/#/view/act/1985/14
Environmental Planning and Assessment Act 1979	http://www.legislation.nsw.gov.au/#/view/act/1979/203
Protection of the Environment Operations Act 1997	http://www.legislation.nsw.gov.au/#/view/act/1997/156
Water Management Act 2000	http://www.legislation.nsw.gov.au/#/view/act/2000/92
Licensing	
Guide to Licensing	www.epa.nsw.gov.au/licensing/licenceguide.htm
Air Issues	
Air Quality	
Approved methods for modelling and assessment of air pollutants in NSW (2016)	http://www.epa.nsw.gov.au/air/appmethods.htm http://www.epa.nsw.gov.au/resources/air/ammodelling05361.pdf
POEO (Clean Air) Regulation 2010	http://www.legislation.nsw.gov.au/#/view/regulation/2010/428
Noise and Vibration	
NSW Noise Policy for Industry	http://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-(2017)
Interim Construction Noise Guideline (DECC, 2009)	http://www.epa.nsw.gov.au/noise/constructnoise.htm
Assessing Vibration: a technical guideline (DEC, 2006)	http://www.epa.nsw.gov.au/noise/vibrationguide.htm
NSW Road Noise Policy (DECCW, 2011)	http://www.epa.nsw.gov.au/your-environment/noise/transport-noise
NSW Rail Infrastructure Noise Guideline (EPA, 2013)	http://www.epa.nsw.gov.au/your-environment/noise/transport-noise
Human Health Risk Assessment	

Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards (enHealth, 2012)	http://www.eh.org.au/documents/item/916
Waste, Chemicals and Hazardous Materials and Radiation	
Waste	http://www.epa.nsw.gov.au/wastestrategy/warr.htm
Environmental Guidelines: Solid Waste Landfills (EPA, 2016)	http://www.epa.nsw.gov.au/waste/landfill-sites.htm
Draft Environmental Guidelines - Industrial Waste Landfilling (April 1998)	http://www.epa.nsw.gov.au/resources/waste/envguidlns/industrialfill.pdf
EPA's Waste Classification Guidelines 2014	http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm
Resource recovery orders and exemptions	http://www.epa.nsw.gov.au/wasteregulation/orders-exemptions.htm
European Unions Waste Incineration Directive 2000	http://ec.europa.eu/environment/archives/air/stationary/wid/legislation.htm
EPA's Energy from Waste Policy Statement	http://www.epa.nsw.gov.au/wastestrategy/energy-from-waste.htm
NSW Waste Avoidance and Resource Recovery Strategy 2014-2021	http://www.epa.nsw.gov.au/wastestrategy/warr.htm
Chemicals subject to Chemical Control Orders	
Chemical Control Orders (regulated through the EHC Act)	http://www.epa.nsw.gov.au/pesticides/CCOs.htm
National Protocol - Approval/Licensing of Trials of Technologies for the Treatment/Disposal of Schedule X Wastes - July 1994	Available in libraries
National Protocol for Approval/Licensing of Commercial Scale Facilities for the Treatment/Disposal of Schedule X Wastes - July 1994	Available in libraries
Water and Soils	
Acid sulphate soils	
Coastal acid sulfate soils guidance material	http://www.environment.nsw.gov.au/acidsulfatesoil/ and http://www.epa.nsw.gov.au/mao/acidsulfatesoils.htm
Acid Sulfate Soils Planning Maps	http://www.environment.nsw.gov.au/acidsulfatesoil/riskmaps.htm
Contaminated Sites Assessment and Remediation	
Managing land contamination: Planning Guidelines – SEPP 55 Remediation of Land	http://www.epa.nsw.gov.au/clm/planning.htm

Guidelines for Consultants Reporting on Contaminated Sites (EPA, 2000)	http://www.epa.nsw.gov.au/resources/clm/20110650consultantsglines.pdf
Guidelines for the NSW Site Auditor Scheme - 2nd edition (DEC, 2006)	http://www.epa.nsw.gov.au/resources/clm/auditorglines06121.pdf
Sampling Design Guidelines (EPA, 1995)	http://www.epa.nsw.gov.au/resources/clm/95059sampgdlne.pdf
National Environment Protection (Assessment of Site Contamination) Measure 1999 (or update)	http://www.scew.gov.au/nepms/assessment-site-contamination
Soils – general	
Managing land and soil	http://www.environment.nsw.gov.au/soils/landandsoil.htm
Managing urban stormwater for the protection of soils	http://www.environment.nsw.gov.au/stormwater/publications.htm
Landslide risk management guidelines	http://australiangeomechanics.org/admin/wp-content/uploads/2010/11/LRM2000-Concepts.pdf http://www.australiangeomechanics.org/resources/downloads/
Site Investigations for Urban Salinity (DLWC, 2002)	http://www.environment.nsw.gov.au/resources/salinity/booklet3siteinvestigationsforurbansalinity.pdf
Local Government Salinity Initiative Booklets	http://www.environment.nsw.gov.au/salinity/solutions/urban.htm
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZG (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality	https://www.waterquality.gov.au/anz-guidelines/about
Applying Goals for Ambient Water Quality Guidance for Operations Officers - Mixing Zones	Contact the EPA on 131555
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

DOC20/370317

Susan Fox
Senior Environmental Assessment Officer
Department of Planning, Industry & Environment
Susan.Fox@planning.nsw.gov.au

Dear Susan

EPA response to request for advice - Enviro Waste Services Group Pty Ltd - 14-16 Kiora Crescent, Yennora (SSD-10407)

I am writing in reply to the Department of Planning, Industry and Environment's (DPIE) request for the NSW Environment Protection Authority (EPA) to provide requirements for the preparation of an Environmental Impact Statement (EIS) for a proposal by Enviro Waste Service Group Pty Ltd (EWS) to increase the liquid waste processing capacity at its existing liquid waste treatment plant at 14 Kiora Crescent, Yennora (SSD-10407).

Secretary Environmental Assessment Requirements (SEARs) were issued for SSD-10407 on 30 January 2020. The EPA understands that the application has been modified as requested by DPIE to include the neighbouring property at 16 Kiora Crescent, Yennora.

The EPA has reviewed the information submitted in the modified application, including the revised Scoping Report prepared by Benbow Environmental dated 24 April 2020, and advises that the EIS requirements it provided to DPIE on 1 April 2020 in response to the previous request for SEARs (Notice No. 1593218) can be applied to this modified application.

If you have any questions regarding the above, please contact Senior Operations Officer, Alexander Spaller on (02) 9995 5894.

William Dove **22.05.2020**

WILLIAM DOVE
Unit Head Regulation - South
Environment Protection Authority

Susan Fox

From: Nathan Everett <Nathan.Everett@fire.nsw.gov.au>
Sent: Tuesday, 7 January 2020 3:39 PM
To: Susan Fox
Cc: Fire Safety; John Hawes
Subject: RE: Request for input to SEARs - Yennora Liquid Waste Treatment Plant (SSD-10407)

Dear Susan,

Request for agency input into SEARs
Yennora Liquid Waste Treatment Plant (SSD 10407)

I refer to the submission of the request for agency input into preparation of the Secretary's Environmental Assessment Requirements (SEARs) for the above facility to Fire & Rescue NSW (FRNSW).

It is understood that Enviro Waste Services Group Pty Ltd (the Applicant) is seeking to increase liquid waste processing and storage quantities to 100,000 and 200 tonnes per annum (tpa) respectively at their treatment facility at Yennora, NSW. A scoping report (the Report) has been prepared and submitted by representatives of the Applicant in support of the expansion.

The following comments and recommendations are provided following a review of relevant parts of the Report.

- 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.

If you have any queries regarding the above please contact the Fire Safety Infrastructure Liaison Unit, referencing FRNSW file number BFS19/4158. Please ensure that all correspondence in relation to this matter is submitted electronically to firesafety@fire.nsw.gov.au.

Regards,
Nathan

QUALIFIED FIREFIGHTER NATHAN EVERETT
FIRE SAFETY OFFICER
FIRE SAFETY INFRASTRUCTURE LIAISON

T: (02) 9742 7533 M: 0436 624 025
1 Amarina Ave, Greenacre, NSW 2190
www.fire.nsw.gov.au

From: Susan Fox <Susan.Fox@planning.nsw.gov.au>
Sent: Thursday, 12 December 2019 10:24 AM
To: Fire Safety <FireSafety@fire.nsw.gov.au>; urbangrowth@sydneywater.com.au; Easements&Development <Easements&Development@transgrid.com.au>
Subject: Request for input to SEARs - Yennora Liquid Waste Treatment Plant (SSD-10407)
Importance: High

Good Morning,

The Department has received a request for the Planning Secretary's Environmental Assessment Requirements (SEARs) for the Yennora Liquid Waste Treatment Plant (SSD-10407) located at 14 Kiora Crescent, Yennora.

The Applicant has indicated the proposal is State significant development (SSD) in accordance with Schedule 1 clause 23(6) of the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP).

I have attached a copy of the Scoping Report to assist with issuing your comments. I would appreciate it if you could review the documentation and send me your Agency's requirements for the preparation of the Environmental Impact Statement by **Friday, 10 January 2020.**

Please contact me if you have any enquiries.

Susan Fox
Senior Environmental Assessment Officer

Industry Assessments | Department of Planning, Industry and Environment
T 02 9274 6466| **E** susan.fox@planning.nsw.gov.au
320 Pitt Street SYDNEY 2000
www.dpie.nsw.gov.au

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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This message has been scanned for viruses.

CUMBERLAND COUNCIL

Dear Sir/Madam,

Re: Major Projects – New Request for Advice - Envirowaste - 14-16 Kiora Crescent, Yennora

Please see below comments in addition to the previous comments provided by Council and shall therefore be read in conjunction with those comments:

Development Engineering 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.

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.

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

Strategic Comments:

No further comments in addition to Council comments regarding the proposal.

Should you require any further information on this matter, please contact Sohail Faridy on 8757 9915 or Sohail.faridy@cumberland.nsw.gov.au

Regards,

Sohail Faridy
Coordinator Development Assessment

Ms Susan Fox
Industry Assessments
Department of Planning, Industry & Environment
GPO Box 39
Sydney NSW 2001

Dear Ms Fox

Request for Advice - Yennora Liquid Waste Treatment Plant (SSD-10407) (Cumberland)

Thank you for your correspondence via ePlanning Portal (ref: PAE-1557) dated 12 December 2019 requesting Transport for NSW (TfNSW) provide input to the Secretary's Environmental Assessment Requirements (SEARs) for the subject proposed State Significant Development.

Legislation came into effect on 1 December 2019 that brings together Roads & Maritime Services (Roads and Maritime), and TfNSW. This response reflects the advice from the new organisation.

The supporting documentation provided in support of the proposed development application has been reviewed, and the following comments are provided for inclusion in the SEARs:

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.

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.

Please note for future reference, any further correspondence concerning this project should be sent to development@transport.nsw.gov.au referencing **CD19/10163** in the subject line.

Thank you again for the opportunity to provide feedback on the above development application. Should you require clarification of any issue raised, please don't hesitate to contact Robert Rutledge, Principal Transport Planner, Land Use Planning and Development at Robert.rutledge@transport.nsw.gov.au.

Yours sincerely



8/1/2019

Mark Ozinga
Principal Manager, Land Use Planning & Development
Customer Strategy and Technology

Proposed Increase in Capacity to a Liquid Waste Recycling Facility, 14-16 Kiora Crescent, Yennora NSW 2161

COMMUNITY INFORMATION SHEET

Enviro Waste Services Group (Enviro Waste) is proposing to increase processing quantities at their liquid waste recycling facility at 14 Kiora Crescent and utilise the neighbouring site at 16 Kiora Crescent for additional waste recycling, offices, truck manoeuvring and car parking. Both properties are located in the suburb of Yennora. An Environmental Impact Statement (EIS) for the proposal is currently being prepared for submission to the Department of Planning and Environment. The EIS will be exhibited for a minimum of 28 days (longer if the exhibition overlaps with the Christmas/New Year period), at which time the community are invited to make submissions.

About Enviro Waste Services Group

Enviro Waste Services Group 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. Enviro Waste provides professional, high quality service that specialises in liquid waste, grease trap waste disposal, hazardous waste removal, oily waste disposal and removal, septic waste removal, septic tank cleaning and product destruction. Enviro Waste services a range of markets to help enable a large region and rapidly developing country centres to function efficiently.

The existing liquid waste recycling facility subject of this proposal is located at 14 Kiora Crescent, Yennora and has been in operation and servicing the community for over the past 6 years. The neighbouring property (16 Kiora Crescent) will be incorporated in this proposal for additional liquid waste recycling and storage, office facilities, truck manoeuvring and car parking.

Project Benefits

The project would provide a number of benefits including improving efficiency, meeting the rising demand for liquid waste recycling around NSW and providing additional local employment opportunities.

The Proposed Site

The site is located at 14-16 Kiora Crescent, Yennora NSW 2161 and is shown in Figure 1. The land is approximately 575 square metres in area and the site is located with frontage to Kiora Crescent, surrounded by other industry.



Figure 1: Site location (Source: Google Maps)

The Proposed Development

Enviro Waste propose to increase their processing quantities at their liquid waste recycling facility from 900 tonnes per year to 110,000 tonnes per year and store up to a maximum of 477 tonnes of liquid at any one time. No construction or modification to plant equipment will be required.

The Manufacturing Process

The operation of the facility involves the following activities to be undertaken across both sites:

14 Kiora Crescent (existing facility)

- Unloading and loading of liquid industrial waste (such as sewage sludge, grease trap waste, oil/water emulsions etc) from tanker trucks;
- Filtration of solid debris;
- Separation of solids;
- Separation of oil and sludge; and
- Separation of oil and water.

16 Kiora Crescent (additional facility)

- Unloading out-of-date liquid perishable waste containers (such as fruit juices, soft drinks, shampoos and soaps);
- Packaging containers shredded and recycled;
- Liquid food wastes collected into intermediate bulk containers (IBCs);
- IBC's transported off site for irrigation application to farmlands; and
- Liquid soap wastes sent to 14 Kiora Crescent for further processing.

All increased quantities and processes would utilise existing equipment on site.

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. Some of the liquids are delivered or picked up by a small truck in 1000 L IBCs.

Liquids are delivered to the recycling facility and unloading takes place inside the factory building. The waste liquids are pumped from the tankers using pumps within the facility through filters to remove any residue fine solids and then into one of the storage tanks.

The waste liquid is pumped from the storage tanks, into the tank adjacent to the DAF (Dissolved Air Flotation) which separates the solid and oil from the water.

Wastewater from the DAF is discharged to the Sydney Water sewer under a Trade Wastewater Agreement.

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

Hours of Operation

The proposed development seeks approval to operate 24 hours, seven days a week.

Environmental Considerations

The environment will be carefully considered at each stage of planning. Key environmental issues that will be addressed in the EIS include:



Figure 1: View of existing Enviro Waste facility (14 Kiora Crescent) from Kiora Crescent

- Waste Management – the facility would receive an increased quantity of liquid wastes that it is already licenced to receive. Measures would be implemented in line with *NSW Waste Avoidance and Resource Recovery Strategy 2014-21.*
- Air Quality – the operations may generate odour emissions. An odour impact assessment is being conducted to NSW EPA Guidelines and mitigation measures would be implemented to minimise emissions of odour.
- Soil and Water – No excavations are required. Stringent environmental safeguards will be put in place to minimise the potential for pollution to waters during operation.
- Noise – a noise impact assessment has been conducted to NSW EPA Guidelines and there are no exceedances of criteria at the nearest receivers during all time periods.
- Traffic and Transport – increased traffic would be associated with the operations. This increase and mitigation measures would be assessed in a traffic assessment in the EIS.
- Hazards and Risk – environmental protection equipment is installed at the premises to minimise the potential risks.

Environmental safeguards and controls would be designed into the facility to ensure impacts on the environment are minimised.

For More Information

For further information contact Benbow Environmental on (02) 9896 0399 or email admin@benbowenviro.com.au

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

Sydney WATER

Consent to discharge industrial trade wastewater

Consent to Discharge Industrial Trade Wastewater

SYDNEY WATER CORPORATION

and

ENVIRO WASTE SERVICES GROUP PTY LTD
A.C.N. 613 987 438

ACTIVITY: GREASE TRAP WASTE DISPOSAL (GE02)

RISK INDEX: 05

CONSENT NO: 36782

CONNECTION NO: 1

PROPERTY NUMBER: 4535938

This **CONSENT** is made on **day:** 20 **month:** 03 **year:** 2019

Executed for and on behalf of Sydney Water Corporation

By

.....
(Signature)

Caleb Furner
Manager Major Customers

In the presence of:

Witness

.....
(Signature)

MATTHEW TRUMAN
.....
(Print name of witness)

Executed for and on behalf of the Customer:

.....
(Signature)

EDWARD HAWICH
.....
(Print name and position of person signing)
who warrants s/he has sufficient authority to execute this consent.

In the presence of:

Witness

Simon Saba
.....
(Signature)

SIMON SABA
.....
(Print name of witness)

This consent must be executed by the Customer prior to execution by Sydney Water and submitted by the Customer to Sydney Water for its consideration. Submission of a consent executed by the Customer under no circumstances obliges Sydney Water to enter into or complete the consent. Submission of an executed consent by the Customer constitutes an application for a consent which Sydney Water may in its reasonable discretion reject, or with the consent of the Customer modify any of the proposed terms thereto.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 1
(SUBJECT TO PUBLIC DISCLOSURE)
TRADE WASTEWATER WHICH MAY BE DISCHARGED

1. Trade wastewater substances

(a) The Customer may discharge trade wastewater into the Sewer in a manner whereby the substance characteristics of the trade wastewater are of a type and discharged at a rate, level or concentration equal to or less than that described in this schedule.

(b) The Customer must not discharge trade wastewater into the Sewer in a manner whereby the trade wastewater discharged;

(i) contains, possesses or produces a substance characteristic not provided in, or which may be determined as being contrary to that described in this schedule.

(ii) is at or of a rate, level, or concentration not provided in, or which may be determined as being contrary to, that described in this schedule.

SUBSTANCE	LTADM (kg/day)	MDM (kg/day)	Standard (mg/L)
AMMONIA (AS N)	5	10	100
BIOCHEMICAL OXYGEN DEMAND	75	150	
SUSPENDED SOLIDS	60	120	600
GREASE	11	22	110
SULPHATE	50	100	2000
COPPER	0.15	0.3	5
IRON	1.5	5	50
SULPHIDE	0.5	1	5
ZINC	0.5	1	5

RECONCILIATION PROCEDURES:

LONG TERM AVERAGE DAILY MASS:

The Long Term Average Daily Mass is a twelve month arithmetic average of ALL daily mass discharges as calculated for each composite sample. The Daily Mass discharged is to be calculated for each of the above substances, and checked against the above Long Term Average Daily Mass (kg/day) on the basis of average concentrations of substances discharged (mg/L) over any 24 hour period as determined from composite samples, obtained by either the Customer (in accordance with Schedule 2) or Sydney Water, or a combination of sample results by both.

This average concentration (mg/L) is to be multiplied by the total discharge (kL) as recorded by the Customer's discharge flow meter over the 24 hour period in order to calculate the Daily Mass of substances discharged (kg). Exceeding the Long Term Average Daily Mass does not constitute a Breach.

ACCEPTANCE STANDARD:

The Composite Sample Concentration is to be determined for each of the above substances, and checked against the above Acceptance Standard (mg/L) for each sample obtained. Exceeding the Acceptance Standard constitutes a Breach and will also incur an increased Quality Charge as detailed in Schedule 3.

The Discrete Sample Concentration is to be determined for each of the substances identified at Schedule 2, 2 (b) and checked against the above Acceptance Standard (mg/L) for each sample obtained. Exceeding the Acceptance Standard constitutes a Breach.

MAXIMUM DAILY MASS:

The Daily Mass discharged is to be calculated for each of the above substances, and checked against the above Maximum Daily Mass (kg/day) on the basis of average concentrations of substances discharged (mg/L) over any 24 hour period as determined from composite samples, obtained by either the Customer (in accordance with Schedule 2) or Sydney Water, or a combination of sample results by both.

This average concentration (mg/L) is to be multiplied by the total discharge (kL) as recorded by the Customer's discharge flow meter over the 24hour period in order to calculate the Daily Mass of substances discharged (kg). Exceeding the Maximum Daily Mass constitutes a Breach.

2. The trade wastewater discharged must at all times have the following properties:

Temperature	-	Not to exceed 38 degrees Celsius.
Colour	-	Determined on a system specific basis
pH	-	Within the range 7.0 to 10.0.
Fibrous material	-	None which could cause an obstruction to Sydney Water's sewerage system.
Gross solids (other than faecal)	-	A maximum linear dimension of less than 20 mm, a maximum cross section dimension of 6 mm, and a quiescent settling velocity of less than 3 m/h.
Flammability	-	Where flammable and/or explosive substances may be present, the Customer must demonstrate to the satisfaction of Sydney Water that there is no possibility of explosions or fires occurring in the sewerage system. The flammability of the discharge must never exceed 5% of the Lower Explosive Limit (LEL) at 25° Celsius.

3. Rate of discharge of waste to sewer:

(a) Instantaneous maximum rate of gravitated discharge 6 litres per second

(b) Maximum daily discharge 200 kilolitres

(c) Average daily discharge 100 kilolitres

RECONCILIATION PROCEDURE:

The data obtained from applying these procedures is to be checked by the interface of a chart recorder to the Customer's flow metering equipment, or by the installation of flow metering equipment by Sydney Water, for a minimum of 7 days.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 2

(SUBJECT TO PUBLIC DISCLOSURE)

SAMPLING, ANALYSIS, FLOW RATES AND VOLUME DETERMINATION

1. The Customer must provide and make available for the purpose of sampling and analysis;
   (a) Sampling point located at pre-treatment discharge excluding domestic sewage prior to the point of connection to the Sewer.
   (b) Equipment necessary to allow collection of composite automatic samples on either a flow proportional or a time basis.

2. The Customer is to undertake collection and analysis of samples in accordance with the schedule detailed below:
   (a) Composite samples are to be obtained:
      (i) over one full production day by combining equal volumes taken at 5 kilolitre intervals. The volumes are to be such that at least 5,000 millilitres are obtained over the full day. The reading of the Flowmeter meter is to be obtained at the commencement and conclusion of the sampling day.
      (ii) on 18 March 2019 and every 22 days thereafter. If trade wastewater is not discharged on this day, then the sample is to be taken on the next day that trade wastewater is discharged. Trade wastewater includes all non-domestic wastewater discharged to sewer from the premises, including cleaning waste.
   (b) Discrete samples are to be obtained as detailed below, and analysed according to the procedures and methods specified in Sydney Water's published analytical methods, to determine the concentrations or levels of the following substance characteristics:

pH	at the start and finish of each sample day
AMMONIA (AS N)	at the finish of each sample day

   (c) Composite samples are to be analysed according to the procedures and methods specified in Sydney Water's published analytical methods, or methods otherwise agreed to and detailed hereunder, to determine the concentrations or levels of the following substance characteristics

      AMMONIA (AS N)
      BIOCHEMICAL OXYGEN DEMAND
      SUSPENDED SOLIDS
      GREASE
      SULPHATE
      COPPER
      IRON
      SULPHIDE
      ZINC

   (d) The Customer, or the laboratory contracted by the customer, is to submit results of analyses to Sydney Water within 21 days from the date the sample was taken. All analysis results are to be submitted on the sample analysis report provided as appendices 1 and 2 to this Consent or in such format as may be specified from time to time by Sydney Water.
   (e) All data requested on the sample analysis report must be provided.
   (f) Sydney Water must be notified in writing within 7 days of;
      (i) any failure to obtain samples in accordance with the provisions of Schedule 2; or
      (ii) any loss of any analytical data.

      Where data is unavailable, lost or not provided, the Quality Charge, as detailed in Schedule 3, will be assessed on the basis of the highest Composite Sample concentration recorded in the 12 months prior to the date of the missing sample data.

3. The volume of wastewater discharged must be obtained from the reading of the total flow on the Customer's flowmetering system.

   The rate of waste discharged is to be obtained by the reading of the instantaneous flow rate indicator on the Customer's flowmetering system, or from any chart recorder interfaced to the Customer's flowmetering system.

   The flowmetering system is to be calibrated at least annually at the Customer's expense, by a person or company approved by Sydney Water and a copy of the calibration certificate supplied to Sydney Water within one month of such certificate being received by the Customer.

   If the Customer's flowmetering system fails to record data for any period, Sydney Water is to be advised in writing by the Customer within 7 days of any such failure becoming known by the Customer. An estimate of any data not recorded is to be made as follows:

   Average of the waste discharged, registered for the four weeks before and/or after the failure to record.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 3
(SUBJECT TO PUBLIC DISCLOSURE)
PAYMENTS

The charges are effective from 1 March 2019 and will continue until otherwise advised by Sydney Water.

All trade waste fees and charges are subject to CPI adjustments from 1 July each year in accordance with Determination No 1, 2012 made by the Independent Pricing and Regulatory Tribunal (IPART) and are detailed in fact sheets on the Sydney Water website.

1. CHARGES FOR TRADE WASTEWATER DISCHARGE

Sydney Water will conduct a reading of the Customer's discharge meter at approximately 90 day intervals. The volume of trade wastewater discharged for the period since the previous reading will be calculated.

Charges are based on the Daily Mass calculated from composite samples and corresponding meter readings for each sampling day in the billing period, and calculated in accord with (c), (d), (e), and (f) below. The charge for each sampling day is then multiplied by a flow weighting factor to give a flow weighted charge. The total charge for each substance for the billing period is equal to the sum of the flow weighted charges for the billing period.

Total Charge = the sum of the flow weighted charges for the billing period

Flow Weighted Charge = (charge for all sample days) x (flow weighting factor) and:

$$\text{Flow Weighting Factor} = \frac{\text{(total volume discharged during billing period)}}{\text{(sum of volumes discharged during all sample days during billing period)}}$$

In this formula volume discharged refers to the volume of trade wastewater discharged.

(a) Mass Discharged:
For each substance, the Mass Discharged is calculated by multiplying the Composite Sample concentration by the Trade Wastewater discharge for that sample day.

(b) Chargeable Trade Waste Mass:

(i) For the following substances, the Chargeable Trade Waste Mass is equal to the Mass Discharged:

SUBSTANCE
COPPER
IRON
SULPHIDE
ZINC

(ii) For the following substances, the Chargeable Trade Waste Mass is calculated by subtracting the Equivalent Domestic Mass from the Mass Discharged. The Equivalent Domestic Mass is defined as the Domestic Concentration multiplied by the Trade Wastewater discharge.

SUBSTANCE	DOMESTIC CONCENTRATION mg/L
AMMONIA (AS N)	35
BIOCHEMICAL OXYGEN DEMAND	230
SUSPENDED SOLIDS	200
GREASE	50
SULPHATE	50

If the resulting Chargeable Trade Waste Mass is zero or negative, then no Quality charges will apply for that substance for that sample day.

(c) Quality Charge:

(i) For the following substances, the Quality Charge is determined by multiplying the Chargeable Trade Waste Mass by the Rate for that substance as detailed in the Industrial Customers Acceptance Standards and charging rates for the applicable financial year fact sheet on the Sydney Water website.

SUBSTANCE
AMMONIA (AS N)
SUSPENDED SOLIDS
GREASE
COPPER
IRON
SULPHIDE
ZINC

(ii) For the following substances, the Quality Charge is determined by multiplying the Chargeable Trade Waste Mass by the Rate, where the Rate is a function of the composite sample concentration recorded for that sample day.

SUBSTANCE
BIOCHEMICAL OXYGEN DEMAND

(d) Concentration Breach Charge:
Where the Composite Sample concentration is greater than the Acceptance Standards specified in Schedule 1 (with the exception of sulphate), any charges calculated in (c) above will be doubled for that sampling day.

(e) Failure to collect required samples:
Where the Customer fails to collect and analyse samples in accord with this consent the above charges will be assessed on the basis of the highest composite concentrations recorded for any billing period within the previous 12 months and the average daily discharge for the current billing period.

(f) pH and Temperature charges:
Sydney Water regularly assesses its wastewater networks to determine if a system is affected by accelerated odour and corrosion. Where Sydney Water declares a wastewater system to be affected by accelerated odour and corrosion, the temperature and pH charge will only apply if the customer is not committed to or not complying with an effluent improvement program.

2. CHARGES FOR INSPECTIONS

(a) If, in the opinion of Sydney Water, it is necessary for a Business Customer Representative to exercise rights under clause 6.1, the Customer will incur no liability for payment for any such exercise unless the Business Customer Representative has already exercised rights under clause 6.1 on 4 occasions within a period of one year.

(b) If it is necessary, in the opinion of Sydney Water, to carry out more than 4 occasions within a period of one year, the additional inspections will be charged at the current inspection rate.

(c) Any inspection required following up an alleged breach or a default notice will result in a fee payable even if the number of inspections nominated in paragraph 2 (a) has not been exceeded.

(d) For the purposes of 2 (a) and 2 (b), above, one year is defined as the period from 1 July to 30 June the following year.

3. CHARGES FOR ADMINISTRATION OF TRADE WASTE CONSENT

A consent fee per quarter is payable from 1 March 2019.

4. CHARGES FOR VARIATION OR RENEWAL OF TRADE WASTE CONSENT

Where a Variation is made to the Consent a fee will be payable. There will be no charge for renewal.

5. CHARGES FOR GREASE TRAPS

Wastesafe administration charges are levied per pit per year.

6. PAYMENT OF FEES AND CHARGES

An account will be issued for all fees and charges. Any fees or charges payable by the Customer must be paid by the Customer within 30 days of the receipt by the Customer of the account detailing those fees and charges.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 4
ADDITIONAL REQUIREMENTS

1. EFFLUENT IMPROVEMENT PROGRAM

N/A

2. WASTE MANAGEMENT PLAN

The existing pre-treatment will result in the generation of 26 tonne per annum of waste substances in the form of a sludge containing generally solids. The waste substances are, and will continue to be disposed of, in compliance with the requirements of The Environment Protection Authority.

3. OTHER REQUIREMENTS

(a) A Backflow Containment Device must be installed and maintained at the water meter outlet/property boundary in line with Sydney Water's Responsibilities Of Connected Customers Policy.

(b) Backflow individual/zone protection is required on any tap located within 5m of the trade waste apparatus.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 5
APPARATUS, PLANT AND EQUIPMENT

EXISTING:
1 X 7,500L screening tank
5 X 20,000L settling tank
1 X SEPA DAF 5 kL/hr
1 X pH correction & control system
1 X Siemens Magflow 5000
1 X sample point
2 X charcoal filters for air scrubbing

PROPOSED: N/A

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 6
SPECIAL CONDITIONS

1. DANGEROUS DISCHARGES

In this Schedule, the term "may pose a danger to the environment, the Sewer or workers at a sewage treatment plant";

(a) means an occurrence whereby matter is discharged to the Sewer which either alone or in conjunction with other matter discharged cannot be adequately treated or may cause corrosion or a blockage, explosion or the production of dangerous gases in the Sewer or may adversely affect the operation of a sewer or sewage treatment plant; and

(b) includes, but not so as to restrict the generality of paragraph (a), matter or substances, which is or are;

(i) toxic or corrosive;
(ii) petroleum hydrocarbons;
(iii) heavy metals;
(iv) volatile solvents;
(v) phenolic compounds;
(vi) organic compounds.

2. UNINTENDED DISCHARGES

(a) For purposes of avoiding unintended discharges to the Sewer or the stormwater drainage system, all matter and substances on the Premises must be processed, handled, moved and stored in a proper and efficient manner.

(b) Any substance on the Premises which, if discharged to the Sewer, may pose a danger to the environment, the Sewer or workers at a sewage treatment plant or may harm any sewage treatment process must be handled, moved and stored in areas where leaks, spillages or overflows cannot drain by gravity or by automated or other mechanical means to the Sewer or the stormwater drainage system

3. NOTIFICATION

In the event of a discharge of matter to the sewer that poses or may pose a danger to the environment, the Sewer or workers at a sewage treatment plant the Customer must immediately notify:

(a) MALABAR STP CONTROL ROOM TEL: (02) 9931 8319 FAX: (02) 9931 8366

(b) BUSINESS CUSTOMER SERVICES (8AM TO 5PM MON TO FRI) TEL: 1300 985 227

(c) BUSINESS CUSTOMER SERVICES EMERGENCY CONTACT (24 HOURS) TEL: (02) 8849 5029

4. PROVISION OF SAFE ACCESS

The Customer shall provide safe access to Sydney Water employees visiting the site. In the event that unsafe conditions are identified the Customer must take reasonable steps to correct unsafe conditions and create safe access.

Sydney Water employees must also comply with the Customer's safety policies and procedures and any directions from the Customer's staff while on the Customer's site.

5. ELECTRONIC REPORTING OF SAMPLE ANALYSIS RESULTS

Sydney Water reserves the right to vary this consent to specify the option of reporting by electronic mail as outlined in Schedule 2, 2 (d).

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 7

1. Premises for which Consent is granted
   14 KIORA CRES, YENNORA NSW 2161

2. Industrial or other commercial activities for which Consent is granted
   GREASE TRAP WASTE DISPOSAL (GE02)

3. Discharge point for which Consent is granted
   JUNCTION IN KIORA CRES

4. The date for purposes of clause 3.1 is 1 March 2019

5. The period for purposes of clause 3.2 is 24 months

6. The receiving Treatment Plant is MALABAR Wastewater Treatment Plant / Water Recycling Plant

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 8
NOTICES AND COMMUNICATION ADDRESSES

SYDNEY WATER	MANAGER MAJOR CUSTOMERS PO Box 399 PARRAMATTA 2150	TEL: 1300 985 227 A.H: (02) 8849 5029
CUSTOMER:	EDWARD HAWACH DIRECTOR ENVIRO WASTE SERVICE GROUP PO BOX 706 PARRAMATTA NSW 2124	TEL: (02) 9721 2028 FAX: (02) 9721 1963

SCHEDULE 9
AUTHORISED OFFICERS

SYDNEY WATER:	MANAGER MAJOR CUSTOMERS PO Box 399 PARRAMATTA 2150	TEL: 1300 985 227 A.H: (02) 8849 5029
Email:	businesscustomers@sydneywater.com.au	
CUSTOMER:	EDWARD HAWACH DIRECTOR ENVIRO WASTE SERVICES GROUP 14 KIORA RD YENNORA NSW 2161	TEL: (02) 9721 2028 FAX: (02) 9721 1963
Email:	info@enviroblasting.com.au	

SCHEDULE 10
NOMINATED REPRESENTATIVES

SYDNEY WATER:	MANAGER MAJOR CUSTOMERS PO Box 399 PARRAMATTA 2150	TEL: 1300 985 227 A.H: (02) 8849 5029
CUSTOMER:	EDWARD HAWACH DIRECTOR ENVIRO WASTE SERVICES GROUP 14 KIORA RD YENNORA NSW 2161	TEL: 0420 511 727 FAX: (02) 9687 8389

Consent to Discharge Industrial Trade Wastewater

APPENDIX 1 (Example)
SAMPLE ANALYSIS REPORT (COMPOSITE) DISCHARGE METER

Consent Number:	36782
Company Name:	ENVIRO WASTE SERVICES GROUP PTY LTD
Company Address:	14 KIORA CRES, YENNORA NSW 2161

Sample Type:

☐ 6 (composite, manual time based)
☐ 7 (composite, manual flow proportional)
☐ 8 (composite, automatic time based)
☐ 9 (composite, automatic flow proportional)

Start date: ___/___/___
Finish date: ___/___/___
Start time: ____:____ am/pm
Finish time: ____:____ am/pm

grabs taken in sample period: _____
sample intervals min/kL _____
mL per grab: _____

Initial meter reading: _____kL
Final Meter reading: _____kL
Volume discharged: _____kL

Laboratory:

Substance	Acceptance Standard (mg/L)	Measured Concentration(mg/L)
AMMONIA (AS N)	100	
BIOCHEMICAL OXYGEN DEMAND		
SUSPENDED SOLIDS	600	
GREASE	110	
SULPHATE	2000	
COPPER	5	
IRON	50	
SULPHIDE	5	
ZINC	5	

COPY OF ORIGINAL ANALYTICAL LABORATORY REPORT TO BE ATTACHED
NOTE: LABORATORY REPORT MUST CERTIFY NATA REGISTRATION FOR EACH ANALYSIS

Comments: _____

Customer Signature: _____ Date: ___/___/___
Designation: _____

OFFICE USE ONLY

Sample No: | | | | | |

EMAIL TO:
matthew.truman@sydneywater.com.au

Consent to Discharge Industrial Trade Wastewater

APPENDIX 2 (Example)
SAMPLE ANALYSIS REPORT (DISCRETE SAMPLE)

Consent Number:	36782
Company Name:	ENVIRO WASTE SERVICES GROUP PTY LTD
Company Address:	14 KIORA CRES, YENNORA NSW 2161

Sample Type: DISCRETE
Start Date: ___/___/_____ Start time: __:__ am/pm
Finish Date: ___/___/_____ Finish Time: __:__ am/pm

Laboratory:

Substance	Acceptance Standard (units or mg/L)	Measured Units or Concentration.
pH at start	7 - 10	
pH at finish	7 - 10	
Ammonia (As N)	100	

COPY OF ORIGINAL ANALYTICAL LABORATORY REPORT TO BE ATTACHED
NOTE: LABORATORY REPORT MUST CERTIFY NATA REGISTRATION FOR EACH ANALYSIS

Comments: _____

Customer Signature: _____ Date: ___/___/___
Designation: _____

OFFICE USE ONLY

Sample No: | | | | | |

EMAIL TO:
matthew.truman@sydneywater.com.au

GENERAL CONDITIONS

Recitals:

A. Under its Operating Licence, Sydney Water provides sewerage services and treats and disposes of trade wastewater. The objectives of Sydney Water include operating as an efficient business, maximising the net worth of the State's investment and exhibiting a sense of social responsibility by having regard to the interests of the community. Sydney Water has special objectives of reducing risks to human health and preventing degradation of the environment.

B. Sydney Water is granted licences by the Environment Protection Authority, which are subject to conditions to discharge pollutants. A change to a licence condition may require that variations be made to a consent granted by Sydney Water.

C. In the conduct of its business operations, Sydney Water must comply with its obligations, duties and responsibilities under the Act and its Operating Licence and the Protection of the Environment Administration Act 1991, the Protection of the Environment Operations Act 1997 and the Protection of the Environment Legislation Amendment Act 2011.

D. The customer requests that Sydney Water grant consent to the customer for purposes of discharge of trade wastewater from the premises to the sewer.

Sydney Water grants to the customer consent to discharge trade wastewater, subject to the terms and conditions specified in this consent. The customer accepts the consent and agrees to be bound by the terms and conditions of this consent:

1. Definitions and interpretation

1.1 In this consent, unless the contrary intention appears;

Acceptance standards means Sydney Water's published concentration limits for certain substances in trade wastewater.

Act means the Sydney Water Act 1994.

Business Customer Representative means an officer of Sydney Water who is authorised to enter land or buildings for purposes of carrying out his or her duties in relation to Sydney Water's trade wastewater service.

Consent means this consent together with its attached schedules and appendices. Any definitions or standards referred to in this consent but not contained in it are deemed to form a part of this consent with necessary changes being made to accommodate their inclusion.

Authorised officer means:

- with respect to Sydney Water, the person from time to time holding the position pertained in schedule 9 or such other person or position as may be nominated by Sydney Water from time to time;
- with respect to the customer, the person identified, and includes the details specified, in schedule 9 or as may be notified to Sydney Water by the customer from time to time.

Breach means any contravention of or non-compliance with a term, condition or provision of this consent or the Act.

Chargeable trade waste mass means the mass of a pollutant subject to quality or critical substance charges.

Composite sample means a sample of trade wastewater obtained by combining equal volumes at either equal time or flow intervals.

Critical mass charge means the charge applied to some critical and over capacity substances as calculated in accordance with the provisions set out in schedule 3.

Critical substance means a substance determined to be critical and notified from time to time by Sydney Water.

Customer means the party or parties (except Sydney Water) who executes or execute this consent.

Daily mass means the mass of a substance discharged during a 24-hour period.

Default notice means a notice issued in accordance with clause 8.1.

Domestic concentration means the concentration of a pollutant deemed by Sydney Water to be equivalent to that found in domestic wastewater.

Domestic wastewater means water which has in it human faecal matter, urine or refuse of any type produced in, and which is permitted to be discharged to a Sydney Water sewer from, any premises used exclusively for residential purposes.

Environment Protection Authority means the statutory authority established under section15 of the Protection of the Environment Administration Act 1991

Equivalent domestic mass means the mass of a substance that would be expected in the trade wastewater if it were at domestic concentration.

Flow weighted charge means the portion of a substance's charge for a billing period that is attributed to any sample collected in accordance with schedule 2 or, if such sample is required but is not collected, then fixed by Sydney Water in accordance with schedule 2.

Flow weighting factor means a factor used to determine charges as described in schedule 3.

Long term average daily mass means, for each pollutant, the figure listed in schedule 1 and used to determine critical mass charges as described in schedule 3.

Lower explosive limit means the minimum concentration of flammable and/or explosive substances that would result in a fire or explosion.

Mass discharged means the mass of a pollutant discharged on a sample day and is measured by

multiplying the composite sample concentration by the trade wastewater discharge for that sample day.

Maximum daily mass means the greatest mass of a substance permitted for discharge within a 24-hour period.

Over capacity means the status of a substance as determined in accordance with Sydney Water's Trade Waste Policy, 2007.

Over capacity substance means a substance determined to be over capacity and notified from time to time by Sydney Water.

Premises means the land, plant and buildings described and specified in paragraph 1 of schedule 7, on or in which the customer carries on industrial or other commercial activities specified in paragraph 2 of schedule 7.

Quality charge means a pollutant charge applied to trade waste discharges based on the mass of each pollutant discharged to sewer.

Regulator means any statutory authority, which may grant permission, authority or licence to Sydney Water to operate the sewer or treat or dispose of sewage treatment by-products.

Residual products means biosolids, re-use water or such other product intended for re-use as may be developed by Sydney Water from time to time.

Risk index means a ranking applied to the consent by Sydney Water to describe the relative risk of accepting the trade wastewater. Determination of the risk index will be based on the methodology determined from time to time by Sydney Water, or as may be necessary in the opinion of Sydney Water to take into account particular circumstances. The risk index is used to determine, among other things, the amount of self-monitoring required, the number of inspections to be performed by Sydney Water, the annual consent fee and the term of the consent.

Sewer means the sewerage service of Sydney Water, including the sewage treatment plant, discharge to which is facilitated by a discharge point situated on the premises and specified in item 3 of schedule 7.

Significant breach means any breach of a nature outlined at clause 15.2. Such breaches may result in immediate suspension or termination of the consent.

Standard mass charging rate means the charge per kilogram for substances as defined in schedule 3.

Sydney Water means Sydney Water Corporation.

Responsibilities of connected customers policy means Sydney Water's policy detailing the conditions under which Sydney Water will agree to accept trade wastewater to sewer.

Trade wastewater means any liquid and any substance in it that is produced in an industrial or commercial activity at the premises and discharged into the sewer, but does not include domestic wastewater.

Trade waste residue means any substance separated and retained, from trade wastewater being discharged into the sewer.

1.2 In this consent, unless the contrary intention appears:

(a) A reference to an Act or any delegated legislation or instrument made under an Act includes any other Act delegated legislation or instrument as may amend or replace any of them.

(b) A reference to a word or expression

(i) in the singular form includes a reference to the word or expression in the plural form; and

(ii) in the plural form includes a reference to the word or expression in the singular form.

(c) A reference to a party or a natural person includes a reference to a corporation.

(d) A word or expression that indicates one or more particular genders is taken to indicate every other gender.

(e) Headings to clauses and paragraphs are included in this consent to assist understanding of its terms and conditions but are not intended to affect the meaning or application of any term or condition.

(f) A reference to a clause, schedule or appendix is a reference to a clause of or schedule or appendix to this consent and any such schedule or appendix is a part of this consent.

1.3 Remedies available to the parties under this consent;

(a) are cumulative; and

(b) do not prejudice or affect any other remedy available to the parties.

1.4 No rule of construction applies to the disadvantage of a party because that party was responsible for the preparation of this consent or any part of it.

2. Application of certain statutes and laws

2.1 This consent is made under and is subject to the provisions of the Act.

2.2 This consent is governed by and will be performed according to the law applicable in the State of New South Wales.

2.3 Subject to the terms and conditions of this consent the customer has lawful authority to dispose of trade wastewater for purposes of;

(i) Section 115 of the Protection of the Environment Operations Act 1997; and

(ii) Section 49 of the Act; and

3. Commencement and term of consent

3.1 This consent commences on the date specified in paragraph 4 of schedule 7.

3.2 This consent will, unless terminated or renewed in accordance with this consent, continue for the period specified in item 5 of schedule 7.

GENERAL CONDITIONS

4. Discharge of trade wastewater into sewer

4.1 The customer may discharge trade wastewater from the premises into the sewer in accordance with the provisions of schedule 1 and schedule 4.

4.2 The customer must not discharge trade wastewater from the premises into the sewer contrary to the provisions of schedule 1 and schedule 4.

4.3 The customer indemnifies Sydney Water against all damages, losses, costs or expenses suffered or incurred by Sydney Water, caused by any unauthorised discharge from the premises in respect of:

(a) injury (including death) or harm to any person; or

(b) damage to property vested in Sydney Water; or

(c) contamination of residual products; or

(d) material harm to any sewage treatment process

provided that the said damages, losses, costs or expenses suffered or incurred by Sydney Water are caused by any unauthorised discharge of trade wastewater or other matter into the sewer by the customer which is in breach of this consent or by any other person from the customer's premises, except to the extent to which the damages, losses, costs or expenses (as the case may be) were caused by either the negligent or wilful act or omission of Sydney Water or a breach of this consent by Sydney Water.

4.4 The customer must take all precautions reasonably practicable to ensure that no person, other than a person acting for or on behalf of or with the consent of the customer, discharges any matter from the premises into the sewer.

4.5 For purposes of this consent, every discharge of matter from the premises into the sewer will be taken to have been a discharge by a person acting for or on behalf of, or with the consent of, the customer.

5. Charges

5.1 The customer must pay Sydney Water charges with respect to trade wastewater discharged to the sewer, the administration of this consent and, when applicable, the processing of grease trap waste determined in accordance with, and within the time and in the manner specified in schedule 3.

5.2 Sydney Water may vary the basis of charges or the charging rates in schedule 3;

(a) as and when determined by the Independent Pricing and Regulatory Tribunal of New South Wales (IPART); or

(b) by written consent with the customer.

6. Inspections

6.1 A Business Customer Representative may enter the premises at any time;

(a) for purposes of inspecting whether the activities of the customer are being conducted in accordance with this consent; or

(b) for the purposes described in Section 38 of the Act or exercising any right or function conferred on Sydney Water under this consent.

This clause does not limit Sydney Water's statutory powers of entry.

6.2 When exercising rights under clause 6.1;

(a) a Business Customer Representative must not cause any delay or inconvenience to the efficient conduct of business activities by the customer which could be reasonably avoided; and

(b) except for any relevant safety precautions, a Business Customer Representative must not be impeded or delayed by any person on the premises.

6.3 If, in the opinion of Sydney Water, it is necessary for a Business Customer Representative to exercise rights under clause 6.1, the customer will make payment in accordance with the provisions of schedule 3.

7. Inquiries

7.1 Sydney Water may convene and determine the terms of reference of a joint inquiry about the circumstances relating to an incident that may have caused a breach.

7.2 An inquiry under clause 7.1 is to be conducted informally and without legal representation for purposes of gathering information about an incident directly from any person who may be expected to know, from his or her own observations, about the circumstances relating to the incident.

7.3 An inquiry under clause 7.1 may be conducted irrespective of whether the incident, the subject of the inquiry, is also the subject of a default notice.

7.4 Before conducting an inquiry under clause 7.1, the customer and Sydney Water may agree about what action, if any (except any action pursuant to a statutory obligation), may be taken with respect to any information that may be gathered during the inquiry.

8. Default procedures

8.1 If, in the opinion of Sydney Water, the customer commits, causes or allows a breach to occur, Sydney Water may issue to the customer a default notice.

8.2 A default notice must;

(a) provide any relevant particular of the breach alleged by Sydney Water, including any particular known to Sydney Water that may assist the customer to ascertain the alleged breach; and

(b) specify that the customer must provide a response in writing to Sydney Water within seven days of receipt of the notice.

8.3 A default notice is not invalid merely because it does not provide a particular that may assist the customer to ascertain the alleged breach.

8.4 Any supply to the customer by Sydney Water of particulars under clause 8.7(a) is taken, for purposes of clause 8.5, to be a default notice under clause 8.1.

8.5 The customer must supply to Sydney Water a written response to a default notice within seven days of receipt of the default notice which must;

(a) request further particulars of the alleged breach; or

(b) describe or explain the circumstances causing;

(i) the event which appeared to Sydney Water to be a breach; or

(ii) the breach to occur; and

(c) describe any action taken with respect to the alleged breach; and

(d) provide a plan of action to be taken by the customer to avoid the occurrence of any incident similar to the alleged breach; or

(e) explain the reasons of the customer for disputing the alleged breach.

8.6 The customer may make one request only for particulars under clause 8.5(a) with respect to a default notice.

8.7 When the customer responds in writing to Sydney Water in accordance with clause 8.5, Sydney Water must within seven days of receipt of that response either;

(a) with respect to clause 8.5(a), provide in writing to the customer any further particulars that it may be able to provide in which case the customer shall be allowed a further seven days from receipt of those particulars to respond as required by clause 8.5(b)

(b) specify to what extent it accepts, rejects or disagrees with the response under 8.5(b) and provide details of any action it proposes to take (including any special requirements it may impose) to deal with the breach.

8.8 The issue by Sydney Water of a default notice is without prejudice to any right or power Sydney Water may have pursuant to this consent or conferred on it by statute or statutory rule.

9. Improvement program

9.1 The customer must, at its own expense, establish and carry out the improvement program specified in, and in accordance with the provisions of, schedule 4.

9.2 If, prior to any failure to comply, the customer notifies Sydney Water that it may not be able to comply with any obligation under clause 9.1, Sydney Water will consider any reasonable proposal of the customer to vary a term or condition of the improvement program.

10. Diligence program

10.1 Within six months of the making of this consent, the customer must give a notice to Sydney Water specifying a current diligence program.

10.2 For purposes of clause 10.1, a diligence program includes a plan, whereby the customer demonstrates that the management of the customer is exercising reasonable care in planning and taking appropriate action, to prevent or minimise the effects of any incident that may constitute a breach.

11. Suspension or termination of consent to discharge trade wastewater

11.1 Sydney Water may suspend the consent granted in clause 4.1 if;

(a) the customer does not comply with clause 8.5, 9.1, 12.1, 12.2 or notice of the suspension is given to the customer; or

(b) Sydney Water is for any reason specified in clause 11.2 unable to accept for treatment trade wastewater that may be discharged by the customer.

11.2 Sydney Water may, by a notice given to the customer, suspend the consent granted in clause 4.1 if, in the reasonable opinion of Sydney Water;

(a) an emergency prevents the sewer from accepting any or certain specified categories of trade wastewater that may be discharged by the customer; or

(b) an event has occurred, which could have an adverse effect on any employee or agent of or contractor to Sydney Water or the sewer, including any biological process.

whether the emergency or event is caused by fire, storm, tempest, flood, malicious damage, act of war, civil disobedience, explosion, earthquake or an act or omission of an employee, or agent of, or contractor to Sydney Water, or an unlawful discharge of matter into the sewer, or some other cause.

11.3 The period of any notice of suspension given under clause 11.2 will be no shorter than any period, which in the opinion of Sydney Water the circumstances dictate.

11.4 The customer must comply with any notice under clause 11.1 or 11.2 subject only to any delay that may be required to safeguard the health or life of any person.

11.5 Any suspension under clause 11.1 or 11.2 must not be for a period longer than, in the opinion of Sydney Water, the circumstances dictate.

11.6 If the customer does not cease discharging trade wastewater in accordance with a notice given under clause 11.1 or 11.2 and Sydney Water is of the opinion that the customer is not taking appropriate measures to stop the discharge, a Business Customer Representative may, with such other persons as he or she may think necessary, enter the premises and take such measures as he or she may think necessary to stop the discharge.

11.7 A suspension under clause 11.1 or 11.2 or any action that may be taken in accordance with clause 11.6 does not give rise to any remedy to the customer against Sydney Water for, or in respect of, the suspension or action.

11.8 Any costs incurred by Sydney Water with regard to taking action under clause 11.6 is a debt payable to

Sydney Water by the customer on demand made by Sydney Water.

11.9 Sydney Water may suspend the consent granted in clause 4.1 if; the discharge of trade wastewater by the customer in accordance with the consent granted under clause 4.1, by itself or in conjunction with the discharges of other persons is likely, in the opinion of Sydney Water, to cause Sydney Water to contravene any legislation, permission, authority or licence granted by a regulator, or any other regulatory authority.

11.10 Any suspension under clause 11.9 must be terminated as soon as Sydney Water is reasonably satisfied that the conditions giving rise to the suspension no longer exist.

11.11 If the customer and Sydney Water cannot agree in accordance with clause 11.10, they will initiate and attend discussions with the regulator to resolve any relevant matter.

11.12 If, after discussions under clause 11.11 the customer and Sydney Water fail to agree in accordance with clause 11.10, the consent granted in clause 4.1 may be terminated by Sydney Water.

11.13 Without limitation of the effect of any other clause in this consent, Sydney Water may terminate or suspend the customer's permission to discharge trade wastewater immediately by written notice to the customer, if in the opinion of Sydney Water the customer's discharge of trade wastewater is in breach of this consent and is likely to cause;

(a) Sydney Water's contravention of the condition of any licence issued to it by the EPA; or

(b) the failure to meet a product specification of

any of Sydney Water's residual products.

(c) Sydney Water to breach or fail to comply with any legislation.

11.14 A suspension under clause 11.9 or 11.13 in accordance with the terms of this consent or a termination under clause 11.12 or 11.13 in accordance with the terms of this consent does not give rise to any remedy to the customer against Sydney Water for or in respect of the suspension or termination.

11.15 Without limitation of the effect on any other clause in this consent, Sydney Water may terminate or suspend the customer's consent to discharge trade wastewater immediately by written notice served on the customer in accordance with Section 100 of the Act, on the occurrence of any one of the following events;

(a) The customer fails to pay to Sydney Water any amount due and payable under this consent within twenty-one days of the due date for payment and such payment is not made within fourteen days of a written request from Sydney Water to do so.

(b) The customer is in breach of the consent and is unable or unwilling to remedy the breach of consent as required by Sydney Water.

The customer acknowledges and agrees that if, following the termination of the consent, it continues to discharge trade wastewater into the sewer, a Business Customer Representative may enter the customer's premises and take all reasonable necessary steps to stop the customer's continued discharge of trade wastewater to the sewer. The right of entry conferred by this clause is in addition to, and not in substitution for, any power of entry conferred on Sydney Water by the Act.

12. Supply of information

12.1 Any information supplied by the customer to Sydney Water for purposes of making this consent or for any purpose of this consent must as far as reasonably possible be a true and complete disclosure by the customer for purposes of enabling Sydney Water to;

(a) determine whether to grant the consent in clause 4.1; and

(b) determine whether there has been any breach of this consent.

12.2 The customer must not, in or in connection with a document supplied to Sydney Water for purposes of making this consent or for any purpose of this consent, furnish information, which is false or misleading in a material particular with regard to the trade wastewater to be discharged to the sewer.

12.3 Sydney Water must not disclose any confidential information obtained in connection with the administration or execution of this consent, unless that disclosure is made;

(a) with the consent in writing of the customer

(b) with other lawful excuse.

13. Sampling

13.1 For purposes of this consent, schedule 2 specifies sampling and analysis criteria, flow rates and volume determinations of trade wastewater to be discharged or discharged under clause 4.1.

13.2 A Business Customer Representative may take as many samples of trade wastewater at any point in any production process or storage facility, or at any other point on the premises, as he or she thinks fit.

13.3 The customer must comply with the provisions of schedule 2.

14. Apparatus, plant and equipment for recording or treating trade wastewater

14.1 The customer must, at its own cost, provide, operate and maintain in an effective and efficient working order, the apparatus, plant and equipment described in schedule 5 for purposes of regulating, treating, determining and measuring the quality, quantity and

rate of discharge of trade wastewater under clause 4.1.

14.2 Sydney Water may require the customer to use its discretion to formulate and take such additional actions as may be appropriate to achieve the objects which, in the opinion of Sydney Water, are necessary for the customer to regulate, treat, determine or measure trade wastewater for purposes of discharge under clause 4.1.

14.3 The customer must, at its own costs, maintain records in such manner as may be required by Sydney Water, of all measurements, sampling and results obtained in the course of treatment and discharge of trade wastewater under clause 4.1.

14.4 The customer must submit to Sydney Water documents containing records of results specified in schedule 2.

14.5 The customer must maintain records of particulars and dates of cleaning and maintaining all apparatus, plant and equipment described in schedule 5 and particulars, dates and method of disposal of trade waste residue from such apparatus, plant and equipment.

14.6 The customer acknowledges that Sydney Water does not approve or warrant that any apparatus, plant or equipment used by the customer is sufficient for purposes of processing or treating trade wastewater for discharge under clause 4.1.

15. Variation and renewal of consent

15.1 Before varying, substituting or adding any process conducted or to be conducted on the premises that may cause the volume, rate or quality of wastewater discharged to change from that agreed under schedule 1 and schedule 4, the customer shall give Sydney Water not less than 14 days written notice of its intention. Any variation, substitution or addition shall only be conducted after receipt of written approval to same and subject to any conditions (including any requirement to vary the terms of this consent) that Sydney Water may impose.

15.2 Sydney Water may vary the terms of this consent where:

(a) Sydney Water alleges a single significant breach or three breaches of the same nature, to have occurred in a six month period; or

(b) in the opinion of Sydney Water, a substantial or material part of any plan of action under clause 8.5(d) may not be completed for a period exceeding 90 days; or

(c) the customer gives Sydney Water notice under clause 15.1.

For the purposes of this clause and without limitation, the following circumstances shall be regarded as being a single significant breach:

(i) an activity or event that could adversely affect; the health and safety of any employee, agent or contractor to Sydney Water, the integrity of Sydney Water assets or the viability of any of Sydney Water's treatment processes or products; or

(ii) failure to achieve effluent improvement program milestone; or

(iii) failure to install pre-treatment; or

(iv) by-pass pre-treatment and/or installation of equipment that facilitates by-pass of pre-treatment; or

(v) flow-meter turned off or bypassed.

15.3 A renewal of this consent may be initiated by the customer:

(a) not less than two months before the date of expiration of this consent, and

(b) not more than six months before the date of expiration of this consent.

15.4 If this consent remains current immediately prior to the expiration of the term detailed in 3.2, or any subsequent terms renewed in accordance with this clause, and:

(a) the customer has not given notice in accordance with clause 20.1 of this consent and;

(b) Sydney Water has not given to the customer at least 30 days' notice prior to the expiration of this consent, of its intention to permit the consent to expire in accordance with clause 3.2

Then this consent shall be deemed to be renewed immediately following its expiration, for a further period of six months.

15.5 Any amended schedules that Sydney Water prepares in response to a variation or renewal will be taken to be incorporated into this consent;

(a) on execution by the customer; or

(b) after 14 days of receipt by the customer of the notice of the variation or renewal.

15.6 The notification of alterations to the critical status of any pollutants does not constitute a variation.

16. Disposal of trade waste residue

The customer must not dispose of any trade waste residue, except in accordance with the requirements of the EPA.

17. Disposal of grease trap wastes

The customer must not dispose of grease trap wastes other than in accordance with Sydney Water's 'Wastesafe' Management System.

18. This consent comprises all applicable terms and conditions

18.1 The provisions of this consent comprise all of the applicable terms and conditions between the parties.

18.2 It is declared by the parties that no further or other promises or provisions are, or will be claimed to be implied, or to arise between the parties by way of collateral or other agreement by reason of any promise, representation, warranty or undertaking given or made by any party (or its agent) to another, on or prior to the

execution of this deed, and the existence of any such implication or collateral or other agreement, is hereby negated by the parties.

18.3 Clauses 18.1 and 18.2 do not prejudice the ability of the parties to vary or amend this consent in accordance with the provisions of this consent or by a further consent in writing.

19. No transfer or assignment

The customer cannot transfer or assign the consent granted in clause 4.1 nor any other right or obligation the customer has or may have under this consent, without the prior consent in writing of Sydney Water.

20. Termination of consent by customer

20.1 Termination of this consent may be effected by the customer upon the giving of at least 30 days' notice in writing to Sydney Water. The notice must state the date on which this consent terminates.

20.2 The customer is bound by the provisions of this consent with regard to any discharge of trade wastewater into the sewer from the premises, including the payment of charges under clause 5.1, from the commencement of this consent until its termination.

20.3 Notwithstanding provisions contained elsewhere in this consent the parties may terminate this consent in writing by mutual agreement provided the parties enter into a further trade waste consent immediately following termination of this consent.

21. Notices and communications

21.1 A notice or communication under this consent must be in writing.

21.2 For purposes of clause 21.1, a notice or communication may;

(a) be left at the address of the addressee; or

(b) be sent by prepaid ordinary post to the address of the addressee; or

(c) sent by facsimile transmission to the facsimile number of the addressee

(d) sent by email to the email address of the addressee

as specified in schedule 8 or such other address as may be notified by the addressee to the other party.

21.3 Unless a later time is specified in it, a notice or communication takes effect from the time it is received.

21.4 Unless the contrary is shown, for purposes of clause 21.3, if a notice or communication is;

(a) a letter sent by pre-paid post, it will be taken to have been received on the third day after posting; or

(b) a facsimile, it will be taken to have been received on receipt by the sender, of the written or oral advice of the addressee that the whole of the facsimile transmission has been received by the addressee in a form that is legible.

22. Miscellaneous

Each party must act in good faith in the implementation of this consent and, without limiting the scope of this obligation, must also seek to resolve any difference or dispute between them as to the consent in good faith.

23. Entire consent

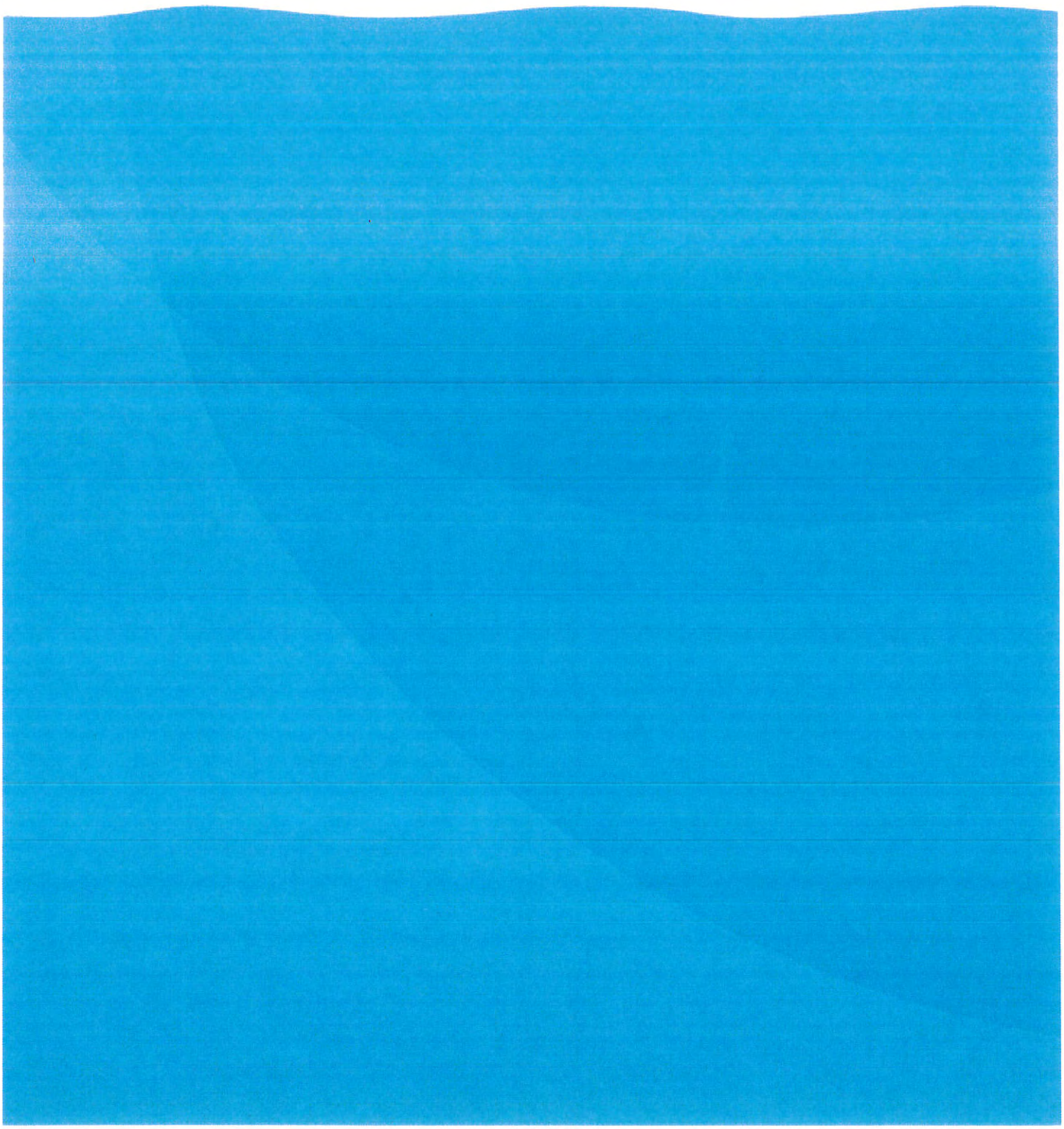
This consent constitutes the entire agreement between the parties in relation to its subject matter. No understanding, arrangement or provision not expressly set out in this consent will bind the parties. Accordingly all correspondence, negotiations and other communications between the parties in relation to the subject matter of this consent that precede this consent are superseded by and merged in it.

Note: This consent has no effect until it is executed for and on behalf of Sydney Water Corporation.

Contact Us
To find out more visit
sydneywater.com.au
or call 13 20 92

Postal address
Sydney Water
PO Box 399
Parramatta NSW 2124

Sydney Water
ABN 49 776 225 038
BCS034



EIS Attachment 4: Council Flood Advice Letter

CUMBERLAND COUNCIL

26 February 2020

Sarah New-Beall c/o Benbow Environmental
25-27 Sherwood Street
NORTHMEAD NSW 2152

Our Reference EC2020/0155
Contact Rolyn Sario
Telephone 8757 9536

Dear Sir/Madam

FLOOD LEVELS AT NO 14 KIORA CRESCENT, YENNORA
BEING LOT 49 DP 18211

Council refers to your request dated 24 February 2020, requesting flood information at the above property.

According to the information available to Council from the "Prospect Creek Overland Flood Study" prepared by Lyall and Associates Consulting Water Engineers in June 2017, the above 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.

The 1% AEP flood level refers to a flood which has a 1% chance of being equalled or exceeded in any one year. It should be noted that a flood could occur that is more severe than the 1% AEP flood at any time.

The maximum 1% AEP flood level relevant to the subject property has been determined (see the attached plan) to Australian Height Datum (AHD) is:

1. At location A - 15.4 mAHD

Minimum habitable floor levels shall be 0.5m above the flood level at the upstream side of the structure. Minimum non-habitable floor levels (garages, laundry, sheds, etc.) shall be 0.15m above the flood level at the upstream side of the structure.

The relationship between these levels and the ground surface may be determined by a survey of the property undertaken by a Registered Surveyor.

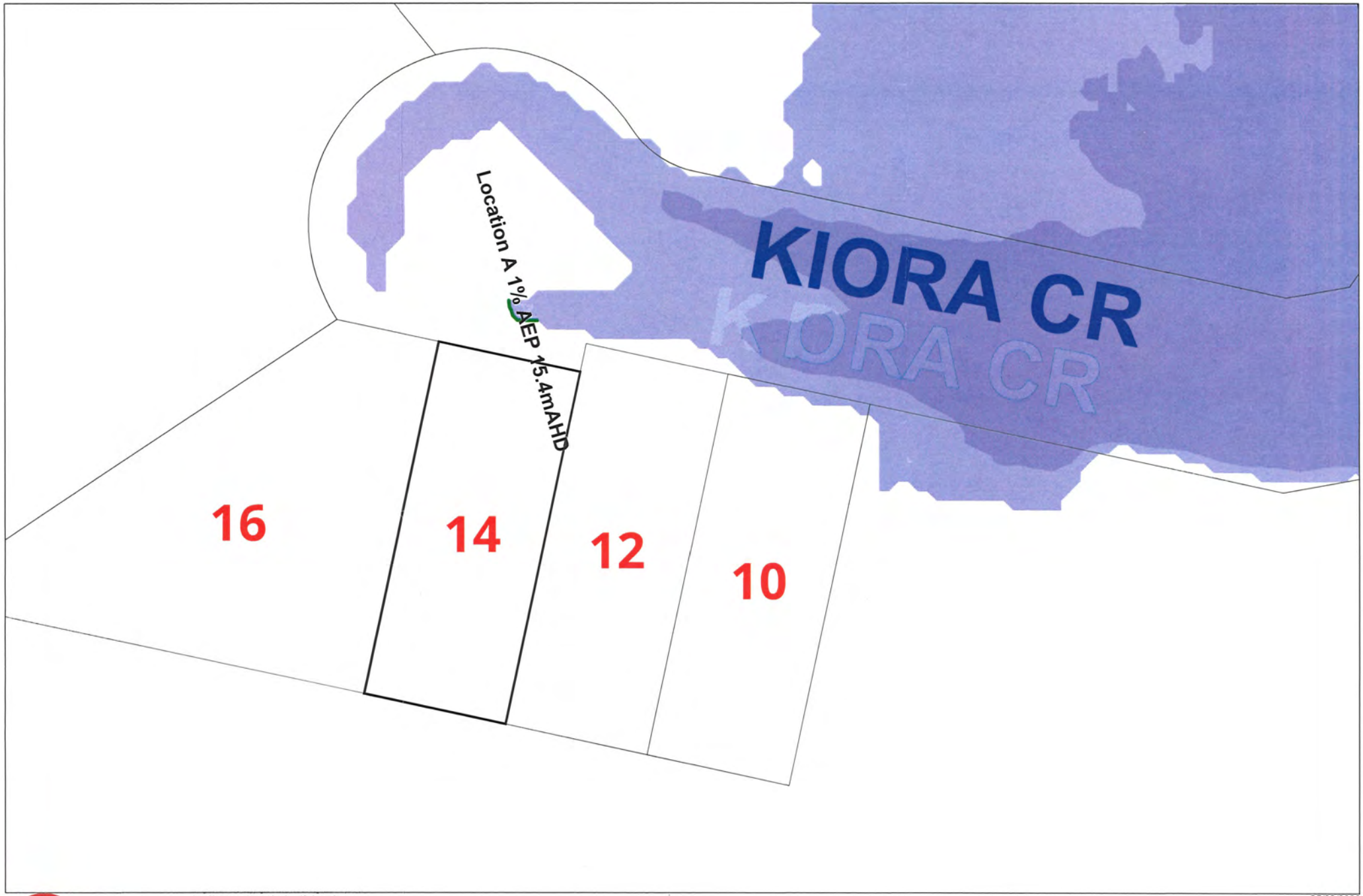
It should be noted that where the development or redevelopment of the property is proposed, reference should be made to the relevant Development Control Plan with regard to flooding and drainage issues. Please include a copy of this letter and map with any Development Application that you may lodge with Council for the subject site.

Flood levels are not static due to changing circumstances (e.g. revision of the flood model) and accordingly the above flood level is only valid for six months from the above date.

If you have any questions please do not hesitate to contact Council's Senior Stormwater Engineer, Mr Mark Evens on 8757 9538 or Council's Drainage Engineer, Mr Rolyn Sario on 02 8757 9536.

Yours sincerely,

SIVA SIVAKUMAR
MANAGER – ENGINEERING & TRAFFIC



CUMBERLAND COUNCIL

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Biodiversity Development Assessment Report Wavier

Liquid waste treatment facility at 14-16 Kiora Crescent Yennora

By Ecological Consultants Australia Pty Ltd TA

Kingfisher Urban Ecology and Wetlands

May 2020

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Statement of Authorship

This study and report was undertaken by Ecological Consultants Australia for the Client. The author of the report is Geraldene Dalby-Ball whose qualifications are BSc. majoring in Ecology and Botany with over 25 years' experience in this field and specialising in projects within Sydney urban areas and Jack Hastings with qualifications B EnvSc.

Limitations Statement

Information presented in this report is based on an objective study undertaken in response to the brief provided by the client. Any opinions expressed in this report are the professional, objective opinions of the authors and are not intended to advocate any particular proposal or pre-determined position.

Document Control Sheet	
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Date:	May 2020
File location:	ECA 4 Projects\2 Projects\2019-2020\BDAR Wavier\14-16 Kiora Crescent Yennora
Distribution:	Emma Hansma Benbow Environmental EHansma@benbowenviro.com.au

Signed: Geraldene Dalby-Ball – Director of Ecological Consultants Australia



All requests for a BDAR waiver are to include the information requirements set out in **Tables 1 and 2** below.

TABLE 1: BDAR WAIVER REQUEST INFORMATION REQUIREMENTS		**RESPONSE**
Admin	• Proponent name and contact details. • Project ID (Information to identify which SSD or SSI project the request relates to and where the project is up to in the assessment process). Name and ecological qualification of person completing Table 2.	**Proponent Name and Contact details** - Enviro Waste Services Group Pty Ltd (Enviro Waste). info@envirowaste.com.au. 1300 141 315 **Project I.D –**

TABLE 1: BDAR WAIVER REQUEST INFORMATION REQUIREMENTS		RESPONSE
Admin	• Proponent name and contact details. • Project ID (Information to identify which SSD or SSI project the request relates to and where the project is up to in the assessment process). Name and ecological qualification of person completing Table 2.	**Ecological qualifications** Geraldene Dalby-Ball Director at Kingfisher Urban Ecology and Wetlands CAREER SUMMARY • Director and Ecologist, Ecological Consultants Australia. 2014- present • Director and Ecologist, Dragonfly Environmental. 1998-present • Manager Natural Resources and Education, Pittwater Council 2002- 2010 • Wetland Ecologist Sainty and Associates 1995-2002 QUALIFICATIONS AND MEMBERSHIPS • Bachelor of Science with 1st Class Honors, Sydney University • WorkCover WHS General Induction of Construction Industry NSW White Card. • Senior First Aid Certificate. • Practicing member and vice president Ecological Consultants Association of NSW With over 20 years wetland and urban ecology experience, a great passion for what she does, and extensive technical and on-ground knowledge make Geraldene a valuable contribution to any project. Geraldene has over 8 years local government experience as manager of environment and education for Pittwater Council. Geraldene presented papers on the topic at the NSW Coastal Conference, Sydney CMA and Hawkesbury Nepean forums. Geraldene is a Technical Advisor Sydney Olympic Park Wetland Education and Training (WET) panel. Geraldene has up to date knowledge of environmental policies and frequently provides input to such works. Geraldene was a key contributor to the recent set of Guidelines commissioned by South East Queensland Healthy Waterways Water Sensitive Urban Design Guidelines. Geraldene's role included significant contributions and review of the Guideline for Maintaining WSUD Assets and the Guideline for Rectifying WSUD Assets.

TABLE 1: BDAR WAIVER REQUEST INFORMATION REQUIREMENTS		RESPONSE
Admin	• Proponent name and contact details. • Project ID (Information to identify which SSD or SSI project the request relates to and where the project is up to in the assessment process). Name and ecological qualification of person completing Table 2.	Jack Hastings Ecologist CAREER SUMMARY • Ecologist, Kingfisher Urban Ecology and Wetlands. *2019-present* • Environmental Consultant, BBN Consulting. *2018-2019* QUALIFICATIONS AND MEMBERSHIPS • Bachelor of Environmental Science, Southern Cross University • Certificate II Agriculture • WHS General Induction of Construction Industry NSW White Card Jack is a passionate ecologist who has worked with various stakeholders across both the public and private sectors to deliver sustainable environmental outcomes. He has worked on projects with major construction contractors and has been able to deliver tailored environmental solutions on time and within budget. Jack is experienced at conducting and delivering a range of ecological assessments including; BDAR, CEMP, PoM, VMP, Flora & Fauna, certification certificates and species monitoring. He has completed a range of significant projects, working as the project ecologist on local developments through to state significant infrastructure. As a result, Jack has valuable on-ground experience to complement his wide-ranging knowledge regarding state and federal legislation. As an undergraduate student, he published a study that examined the cost of revegetation across the Richmond River Catchment in NSW. This study provided Jack with a deep understanding of urban and landscape ecology and the environmental factors associated with habitat restoration

TABLE 1: BDAR WAIVER REQUEST INFORMATION REQUIREMENTS		RESPONSE
Site Details	• Street address, Lot and DP, local government area. • Description of existing development site, ie, the area of land that is subject to the proposed development application. • Location map showing the development site in the context of surrounding areas and landscape features. Satellite image of site in context of adjoining sites. • Site Map (to scale, ideally as a spatial shapefile).	**Street address** - 14-16 Kiora Crescent, Yennora NSW 2161. • Lot 49 / DP18211 (14 Kiora Crescent) • Lot 50 / DP18211 (16 Kiora Crescent) • Local Government area - Cumberland local government area **DESCRIPTION OF EXISTING DEVELOPMENT SITE** The site is currently owned by the proponent, Enviro Waste, and is already 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. **SITE MAP AND LANDSCAPE** The site is located approximately 6.9km south-west of Parramatta CBD. The site is located within an industrial setting. See figures 1-4 below for landscape and site context.

TABLE 1: BDAR WAIVER REQUEST INFORMATION REQUIREMENTS		RESPONSE
Proposed Development	• Project Description providing enough information to enable an understanding of the nature and scale of the proposed development and any associated activities (including construction etc). • Proposed Site Plan.	The proposed development involves increasing processing capabilities of the liquid waste recycling facility located at 14-16 Kiora Crescent, Yennora. The proposed development seeks approval to increase the processing quantities from 900 tonnes per annum to 100,000 tonnes per annum, and increase the maximum quantity to be stored at any one time from 110 tonnes to 200 tonnes. There will be no major changes to the building design and form. Minimal construction works are required for the proposed development. All construction activities will take place within the existing building footprint. **Proposed Site Use** 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). 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.

TABLE 1: BDAR WAIVER REQUEST INFORMATION REQUIREMENTS		RESPONSE
Proposed Development	• Project Description providing enough information to enable an understanding of the nature and scale of the proposed development and any associated activities (including construction etc). Proposed Site Plan.	**Proposed Activities Onsite** 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 on by a licenced waste contractor to be further processed, predominantly as grease trap waste. The processes involved in the site operations are as follows: • 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. Some of the liquids are delivered or picked up by a small truck in IBCs (1000 L containers) • The liquids are delivered to the recycling facility. The unloading area is located inside the factory building. The waste liquids are pumped from the tankers using pumps within the facility (not the tanker pump) through filters to remove any residue fine solids and then into one of the storage tanks. • The waste liquid is pumped from the storage tanks, into the tank adjacent to the DAF (tank 1) and then into the DAF (Dissolved air flotation) which separates the solid and oil from the water. • Waste water from the DAF is discharged to the Sydney Water sewer under a Trade Wastewater Agreement. • Oil and sludge is transferred from the DAF to small storage tanks. This oil and sludge waste is removed from site by a licenced waste contractor to be processed as grease trap waste.

TABLE 1: BDAR WAIVER REQUEST INFORMATION REQUIREMENTS		RESPONSE
Impacts on Biodiversity Values	• Complete TABLE 2 below on Biodiversity Values. • For each biodiversity value, the proponent must either: ► explain why the value is not relevant to the proposed development; or ► where a biodiversity value may be relevant, provide an explanation of how impacts have been avoided and identify the likelihood and extent of any remaining impacts of the proposed development, including impacts prescribed under clause 6.1 of the BC Regulation. • A biodiversity value is not relevant to a proposed development if the value is not present on the development site AND there is no potential for direct or indirect impacts on the biodiversity value if it occurs off-site. • Where one or more biodiversity values may be relevant to the proposed development, TABLE 2 is to be completed by a suitably qualified person with tertiary qualifications in natural sciences including subjects that relate to the observation and description of terrestrial biodiversity and landforms, and at least three years of work experience in environmental assessment including field identification of plant and animal species and habitats The person does not need to be an accredited person under the BC Act. • Attach any additional information required where biodiversity values are relevant to the site. E.g. Vegetation Map (indicating plant community types), Ecology Reports, Water Quality data, BioNet Atlas, Directory of Important Wetlands (DIWA), migratory bird flyway information.	

TABLE 2: IMPACTS OF THE PROPOSED DEVELOPMENT ON BIODIVERSITY VALUES				
Biodiversity Value	**Meaning**	**Relevant (✓ or NA)**	**Explain and document potential impacts including additional impacts prescribed under the BC Regulation (Attach additional supporting documentation where appropriate**	**Response**
Vegetation abundance – 1.4(b) BC Regulation	Occurrence and abundance of vegetation at a particular site	N/A	Where vegetation is present on the development site, provide a map on digital aerial photography or the best available imagery of the development site showing: • native vegetation (including grasslands and other non- woody vegetation types) and non-native vegetation, and • the area of land that is directly impacted by the proposed development, including related infrastructure such as roads, pipelines, access tracks, temporary material stockpiles, asset protection zones and powerlines, if applicable. Describe how the proposed development avoids impacts on native vegetation and identify the likelihood and extent of any remaining impacts including removal of isolated or cultivated native plants.	The proposal will not impact Vegetation abundance and therefore this Biodiversity Value is not relevant for the project. The proposed development will not in remove or modify existing vegetation nor will the proposal change landscaping of the site. The site is currently landscaped with very poor vegetation abundance. Impacts on vegetation onsite will be avoided and there is expected to be no direct or indirect impacts on vegetation abundance onsite. The site is not in close proximity to any critical habitats. The flora and fauna impacts are considered negligible. The site is not assigned a PCT and is located >600m away from the closest identified PCT (see figure three below).

TABLE 2: IMPACTS OF THE PROPOSED DEVELOPMENT ON BIODIVERSITY VALUES				
Vegetation integrity 1.5(2)(a) BC Act	Degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state	N/A	Describe the vegetation integrity and any impacts on vegetation integrity of identified plant communities.	The proposal will not impact Vegetation integrity and therefore this Biodiversity Value is not relevant for the project. The proposal will not result the in removal of existing vegetation or a change to landscaping of the site. Thus, Vegetation integrity will remain unaffected. Furthermore, vegetation integrity onsite is considered very poor. A landscaped garden and turf currently exists onsite. The site currently contains no habitat features. The site is currently significantly altered form its natural state and there will be no direct or indirect impacts to the vegetation integrity onsite.

TABLE 2: IMPACTS OF THE PROPOSED DEVELOPMENT ON BIODIVERSITY VALUES				
Habitat suitability 1.5(2)(b) BC Act	Degree to which the habitat needs of threatened species are present at a particular site	✓	Identify any threatened species or ecological communities or their habitat on the development site. Describe how the proposed development avoids impacts on habitat suitability and identify the likelihood and extent of any remaining impacts including the impacts of development on the following habitat of threatened species or ecological communities: ► karst, caves, crevices, cliffs and other geological features of significance ► rocks ► human made structures ► non-native vegetation (prescribed under clause 6.1(1)(a) of the BC Regulation). Impacts may include the removal or modification (eg. noise, light etc) of the habitat of threatened species or ecological communities.	Habitat suitability is relevant to the due to the presence of human made structures onsite. However, it is unlikely that threatened species (primarily Micro-bats) would use the site as suitable habitat because of its current use (noise, artificial lighting, odours) and industrial setting. Additionally, there are no suitable habitat features for threatened flora or fauna onsite. The likelihood of occurrence for aerial species is very low. Bionet species sighting accessed via the NSW SEED mapping portal has also confirmed that no threatened species or communities are present on site. Assessment of habitat features as prescribed under clause 6.1(1)(a) of the BC Regulation • *Karst, caves, crevices, cliffs and other geological features of significance*. - No features present onsite • *Rocks* - No features present onsite • *Human-made structures* - There will be no major changes to the building design and form. Minimal construction works are required for the proposed development. It is expected not to be used by threatened species (i.e. mircobats) as it is not critical habitat for the species. • *Non-native vegetation (prescribed under clause 6.1(1)(a) of the BC Regulation).* - Non-native vegetation will not be modified during this development. All activities will be confined to the existing building footprint.

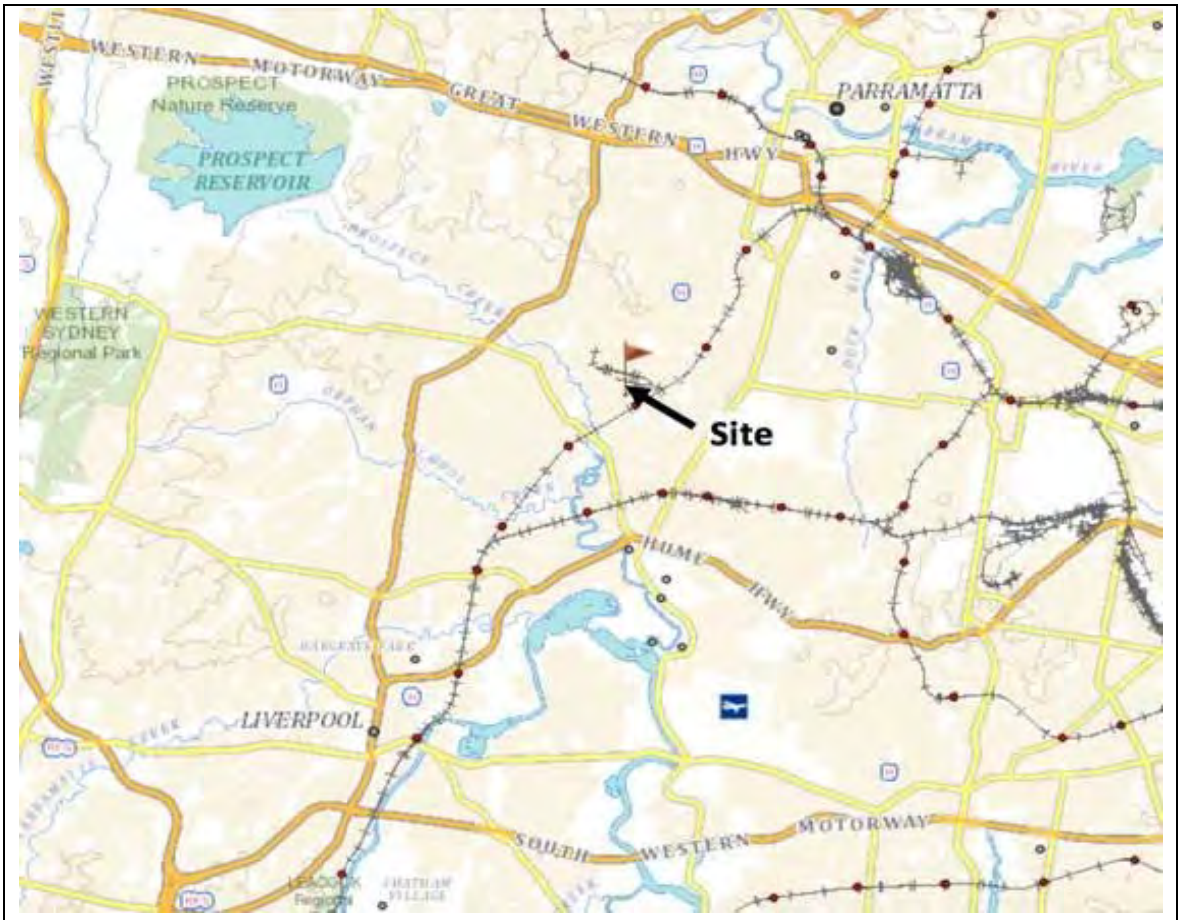
TABLE 2: IMPACTS OF THE PROPOSED DEVELOPMENT ON BIODIVERSITY VALUES				
Threatened species abundance 1.4(a) BC Regulation	Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site	✓	Describe how the proposed development avoids impacts on threatened species abundance and identify the likelihood and extent of any remaining impacts including impacts of vehicle strikes on threatened species of animals or on animals that are part of a threatened ecological community (prescribed under clause 6.1(1)(f) of the BC Regulation).	Threatened species abundance is relevant to the due to the presence of human made structures onsite. However, it is unlikely that threatened species (primarily Micro-bats) would use the site as suitable habitat. The likelihood of occurrence for aerial species is very low. The development will not modify any vegetation or features outside of the existing building footprint. No critical habitat features for threatened flora or fauna will be modified. The existing building will not be demolished, only modified. Therefore, no human-made habitat features will be lost. No waterways will be modified by this development. **Vehicle Impacts** A traffic and parking assessment will be undertaken for the proposed development. It is expected that vehicle strikes on threatened species of animals or on animals that are part of a threatened ecological community would not increase. This conclusion has been drawn as there is a lack of significant habitat features in the immediate vicinity and absence of recordings of threatened species surrounding the site.

TABLE 2: IMPACTS OF THE PROPOSED DEVELOPMENT ON BIODIVERSITY VALUES				
Habitat connectivity 1.4(c) BC Regulation	Degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range	✓	Identify whether the development site contributes to habitat connectivity. Describe how the proposed development avoids impacts on habitat connectivity and identify the likelihood and extent of any remaining impacts of development on the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range (prescribed under clause 6.1(1)(b) of the BC Regulation).	There are expected to be negligible impacts on Habitat connectivity. The proposed modifications will not result in removal of existing vegetation or a change to landscaping of the site. The site does not connect different areas of habitat within the landscape nor are there optimal connectivity features currently onsite which would facilitate this behaviour. The surrounding landscape is also highly modified. The closest identified PCT is >600m away. It is acknowledged that human made structures onsite could be considered opportunistic habitat. Only aerial species which are highly mobile would be expected to access the site due to poor landscape connectivity for other terrestrial species. However, the likelihood of occurrence for aerial species is also very low due to the lack of optimal habitat features, both onsite and in the surrounding landscape. Current use of the site and the industrial setting (noise, artificial lighting, odour) is also expected to reduce the likelihood of aerial species occupying the site. Thus the development will not significantly impact landscape connectivity. No external construction activities are taking place that will affect habitat connectivity. There will be no major changes to the building design and form. Minimal construction works are required for the proposed development. Figure 3 shows the site is in an industrial area, isolated from areas of vegetation and is unlikely to provide any contribution towards connectivity.

TABLE 2: IMPACTS OF THE PROPOSED DEVELOPMENT ON BIODIVERSITY VALUES				
Threatened species movement 1.4(d) BC Regulation	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	✓	Describe how the proposed development avoids impacts on threatened species movement and identify the likelihood and extent of any remaining impacts of development on movement of threatened species that maintains their lifecycle (prescribed under clause 6.1(1)(c) BC Regulation).	There are expected to be negligible impacts on Threatened species movement. It is acknowledged that human made structures onsite could be considered opportunistic habitat. Only aerial species which are highly mobile would be expected to access the site due to poor landscape connectivity for other terrestrial species. However, the likelihood of occurrence for aerial species is also very low due to the lack of optimal habitat features, both onsite and in the surrounding landscape. Current use of the site and the industrial setting is also expected to reduce the likelihood of aerial species occupying the site. Impacts upon the movement of threatened species across the landscape will be negligible. There will be no external construction activities are taking place that will affect habitat connectivity. There will be no major changes to the building design and form. Minimal construction works are required for the proposed development. The site is in an industrial area, isolated from areas of vegetation and is unlikely to provide any contribution towards habitat connectivity. The development and actions involved will not interrupt the lifecycle of threatened species, especially as the site is developed and the proposed modification will not decrease vegetation abundance or any habitat. Figure 3 also shows that the site is at least 600 m away from any mapped PCTs and vegetation cover in the middle of an industrial area where threatened species are unlikely to persist or forage. Therefore, it is unlikely that the site contributes to the movement of threatened species, such that it maintains their respective lifecycles.

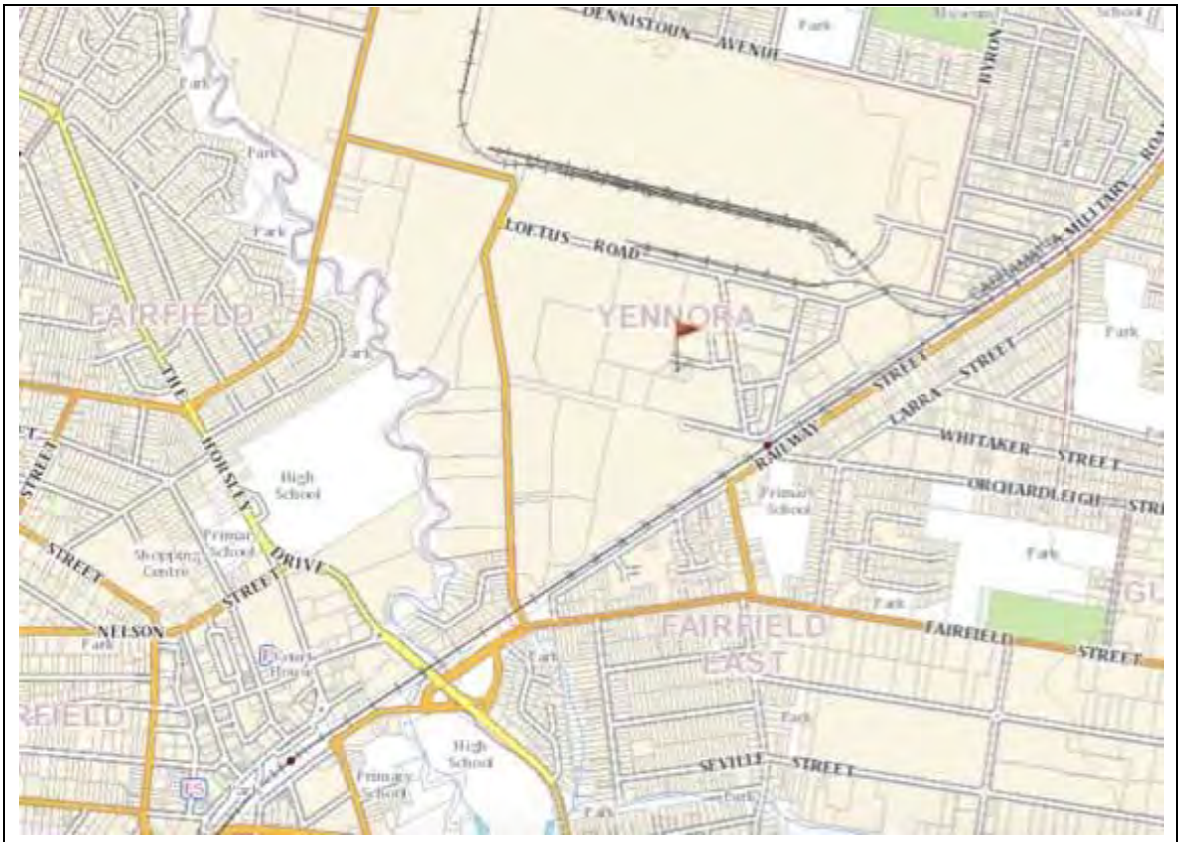
TABLE 2: IMPACTS OF THE PROPOSED DEVELOPMENT ON BIODIVERSITY VALUES				
Flight path integrity 1.4(e) BC Regulation	Degree to which the flight paths of protected animals over a particular site are free from interference	N/A	Identify whether flight paths of protected animals occur over the development site. Protected animals are animals of a species listed or referred to in Schedule 5 of the BC Act. They include any species of birds, mammals, amphibians or reptiles that are native to Australia or that periodically or occasionally migrate to Australia. Describe how the proposed development avoids impacts on flight path integrity and identify the likelihood and extent of any remaining impacts. **Note:** The impacts of wind turbine strikes on protected animals are prescribed under clause 6.1(1)(e) of the BC Regulation. It is, therefore, unlikely that a BDAR waiver would be issued for a proposed wind farm.	The proposal will not impact Flight path integrity and therefore this Biodiversity Value is not relevant for the project. The development will not impact flight paths of threatened fauna. The development will not exceed the height of the existing building and all modification activities will take place within the existing building footprint. There will be no external construction activities are taking place that will affect Flight path integrity. There will be no major changes to the building design and form. Minimal construction works are required for the proposed development. There is a lack of habitat features in the immediate surrounds that protected fauna would access.
Water sustainability 1.4(f) BC Regulation	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.	N/A	Describe how the proposed development avoids impacts on water sustainability and identify the likelihood and extent of any remaining impacts of development on water quality, water bodies and hydrological processes that sustain threatened species and threatened ecological communities (including from subsidence or upsidence resulting from underground mining or other development) (prescribed under clause 6.1(1)(d) of the BC Regulation).	The proposal will not impact water quality, water bodies and hydrological processes and therefore this Biodiversity Value is not relevant for the project. The development will not impact any waterbodies. There are no waterbodies or aquatic features onsite. Site runoff or other associated impacts arising from modification activities will be contained and managed onsite.

Figure 1: Location of the site, landscape perspective.



N Not to scale	Ecological Consultants Australia	**Source:** NSW Six Maps

Figure 2 Error! No text of specified style in document.**: Location of the site, local perspective.**



N Not to scale	Ecological Consultants Australia	**Source:** NSW Six Maps

Figure 3: A landscape perspective of vegetation cover and mapped PCTs. Site does not impact any PCT.



↑N Not to scale	Ecological Consultants Australia	**Source:** NSW Six Maps

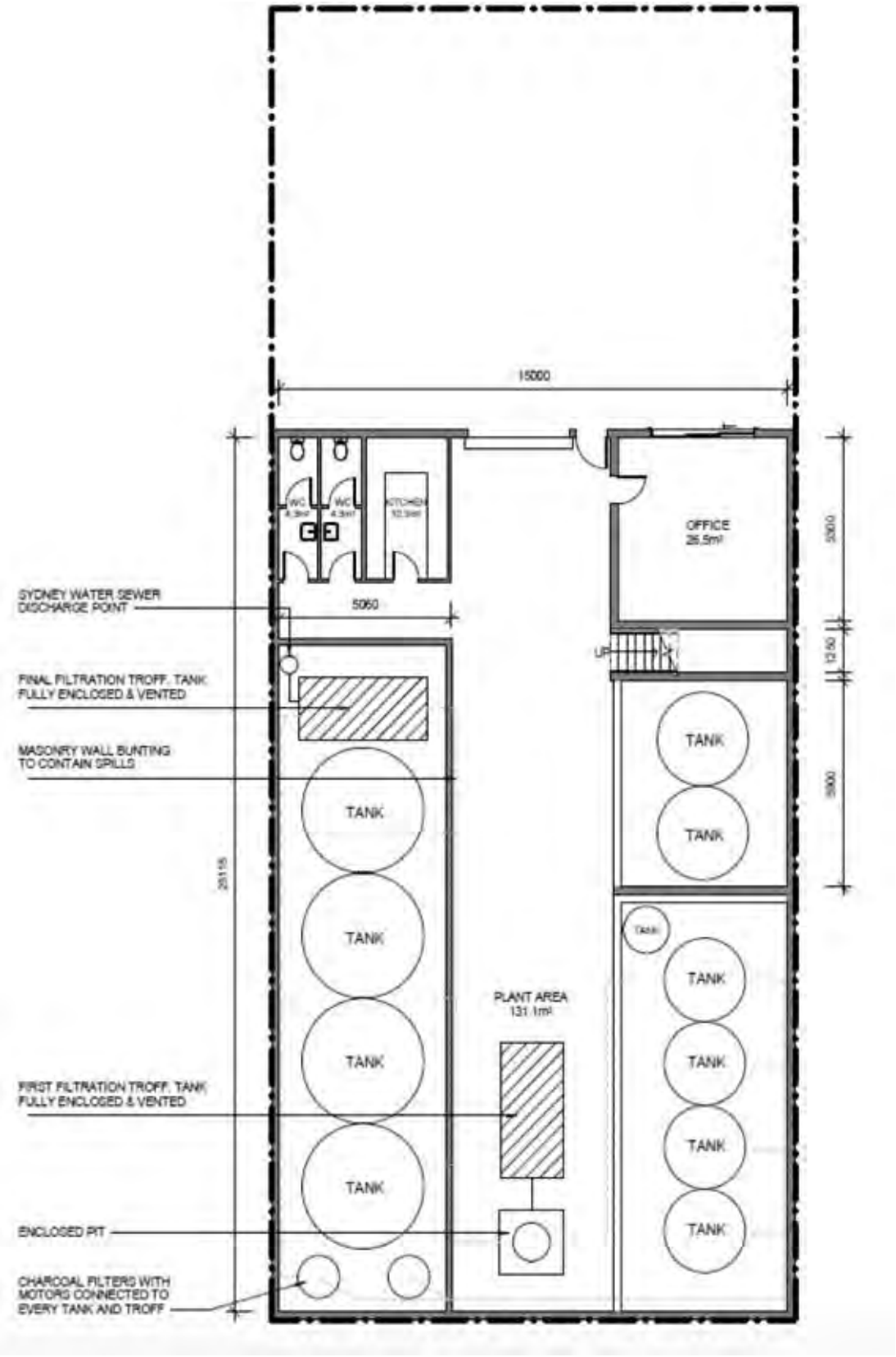
Figure 4: A local perspective of the site, landscaped vegetation in the immediate surrounding area.



↑N Not to scale	Ecological Consultants Australia	**Source:** NSW Six Maps

FLOOR PLAN

Figure 5: Floor Plan for the proposed development at 14 Kiora Crescent, Yennora



SWEPT PATHS FOR HEAVY VEHICLES ACCESSING THE SITE

Figure 6: Swept paths for heavy vehicles accessing the site at 14-16 Kiora Crescent, Yennora

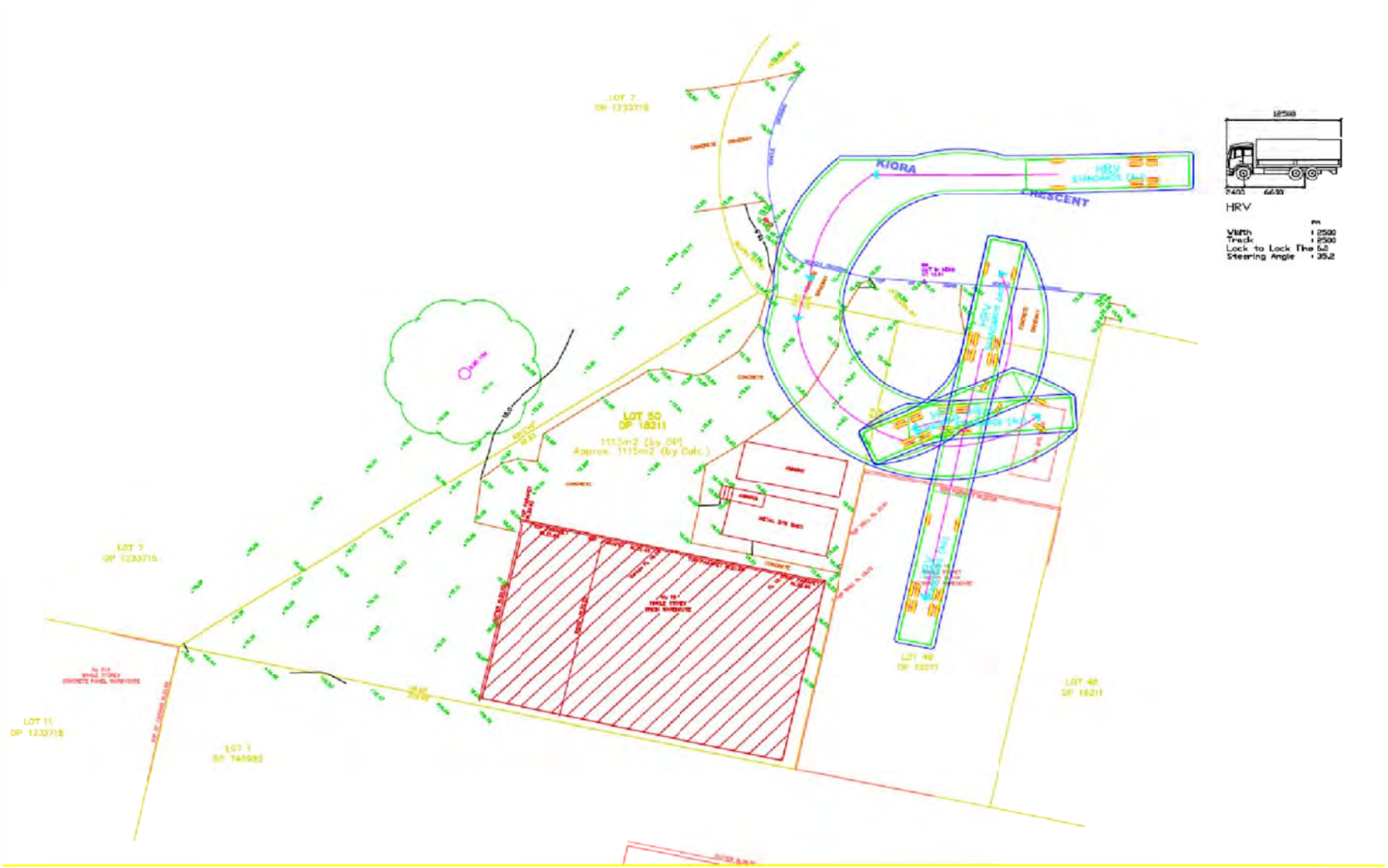
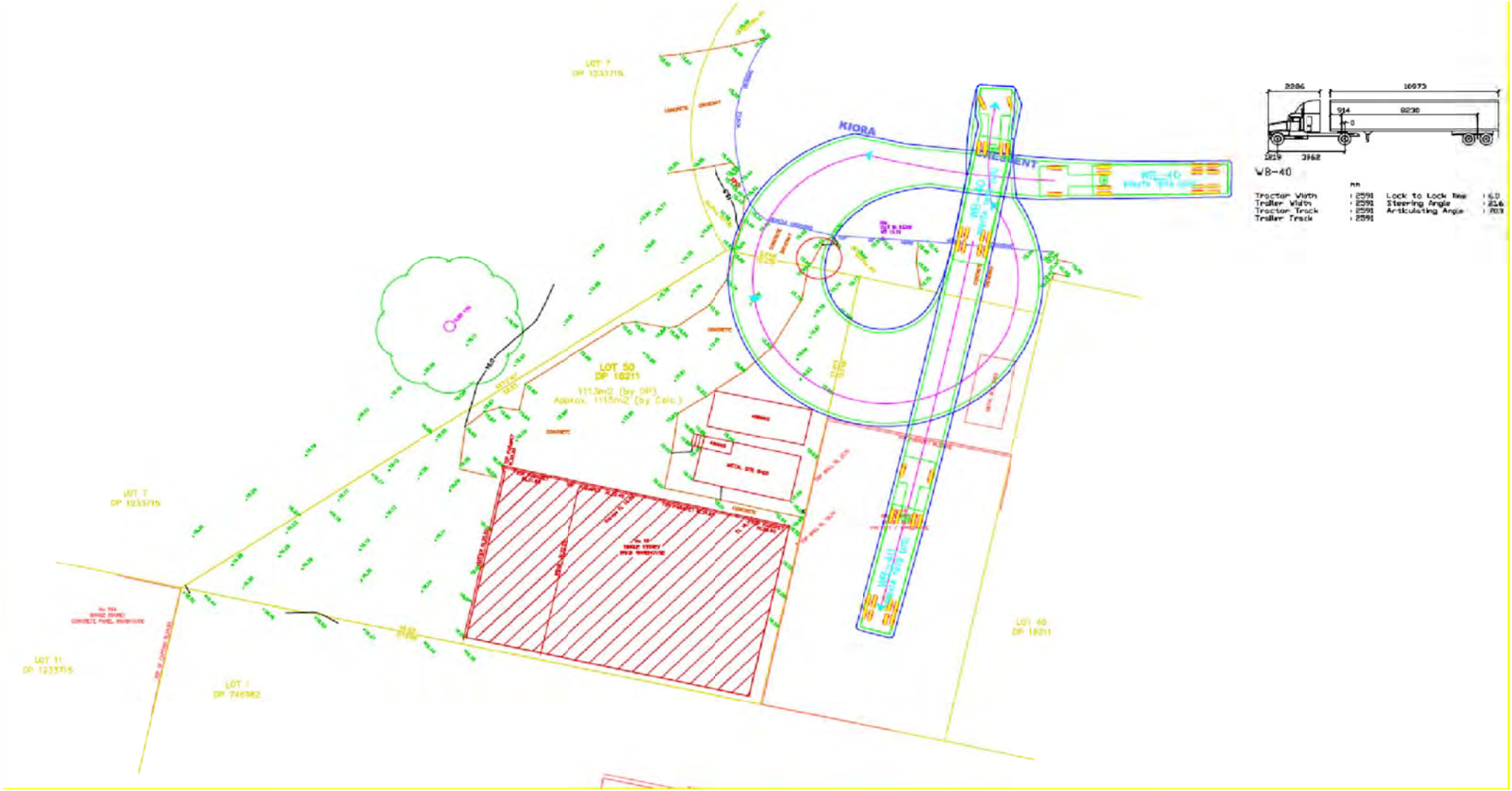


Figure 7: Swept paths for heavy vehicles accessing the site at 14-16 Kiora Crescent, Yennora



Determination under section 7.9(2) of the Biodiversity Conservation Act 2016

I, Chris Ritchie, Director Industry Assessment, Planning and Assessment, of the Department of Planning, Industry and Environment, under section 7.9(2) of the *Biodiversity Conservation Act 2016*, determine that the proposed development is not likely to have any significant impact on biodiversity values and therefore a Biodiversity Development Assessment Report is not required

Proposed development means the expansion of an existing Liquid Waste Treatment Plant and as detailed in "the BDAR waiver application dated 18 May 2020". If the proposed development changes so that it is no longer consistent with this description, a further waiver request is required.

If you do not lodge the development application related to this determination for the proposed development within 2 years of the issue date of this determination, you must either prepare a BDAR or lodge a new request to have the BDAR requirement waived.



15 June 2020

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Chris Ritchie **Date**
Director
Industry Assessments
Planning and Assessment
Department of Planning, Industry and Environment
(as delegate of the Planning Secretary)

Determination under clause 7.9(2) of the Biodiversity Conservation Act 2016

I, Daylan Cameron, Acting/Director Greater Sydney, of the Department of Planning, Industry and Environment, under clause 7.9(2) of the *Biodiversity Conservation Act 2016*, determine that the proposed development is not likely to have any significant impact on biodiversity values and therefore a Biodiversity Development Assessment Report is not required.

Proposed development means the development as described in DOC20/285539 and Schedule 1. If the proposed development changes so that it is no longer consistent with this description, a further waiver request is required.



04/06/2020

Daylan Cameron
A/Director
Greater Sydney
Environment, Energy & Science Group

Date

SCHEDULE 1 – Description of the proposed development

The proposed development involves increasing processing capabilities of the liquid waste recycling facility located at 14-16 Kiora Crescent, Yennora. The proposed development seeks approval to increase the processing quantities from 900 tonnes per annum to 100,000 tonnes per annum and increase the maximum quantity to be stored at any one time from 110 tonnes to 200 tonnes. There will be no major changes to the building design and form. Minimal construction works are required for the proposed development. All construction activities will take place within the existing building footprint.



Mr Simon Saba
General Manager
Enviro Waste Services Group Pty Ltd
14 Kiora Crescent
YENNORA NSW 2161

Our ref: EF19/30576
Your ref: SSD-10407

Attention: Emma Hansma
Via email: ehansma@benbowenviro.com.au

Dear Mr Saba

Subject: Request to waive requirement to prepare a Biodiversity Development Assessment Report

I refer to your correspondence received on 18 May 2020 seeking to waive the requirement to prepare a biodiversity development assessment report (BDAR) to be submitted with the State significant development application for the Yenorra Liquid Waste Treatment Plant at 14-16 Kiora Crescent, Yennora (Lot 49 DP 18211).

Description of proposed development

The expansion and operation of a liquid waste treatment facility processing up to 110,000 tonnes per annum (tpa) of liquid waste comprising up to 60,000 tpa of industrial liquid waste, 20,000 tpa of sewage sludge, 20,000 tpa of grease trap waste and 10,000 tpa of out-of-date liquid product/food waste, with a maximum storage capacity of up to 477 tonnes at any given time.

Under section 7.9(2) of the *Biodiversity Conservation Act 2016* (BC Act):

"Any such application is to be accompanied by a biodiversity assessment report unless the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on the biodiversity values".

This letter is to confirm that the Delegate of the Secretary of the Department of Planning, Industry and Environment has determined that the proposed development as described above is not likely to have any significant impact on biodiversity values and that a BDAR is therefore not required to accompany any application for development consent for the proposed development.

Evidence that the Delegate of the Secretary within the Environment, Energy and Science Division has made the determination is also attached (dated 4 June 2020).

If there are any amendments to the proposed development, a fresh request for a BDAR waiver determination will be required or a BDAR may need to be prepared. Should you have any further enquiries, please contact Susan Fox, Industry Assessments, at the Department on 9274 6466.

Yours sincerely,



15 June 2020

Chris Ritchie
Director
Industry Assessments
As delegate of the Planning Secretary

EIS Attachment 6: Development Consents and Approved Plans

16 Memorial Avenue
PO Box 42
Merrylands NSW 2160

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E hcc@holroyd.nsw.gov.au
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DX 25408 Merrylands
TTY 02 9840 9988
ABN 20 661 226 966

Environmental & Planning Services Department

Our Reference:	2013/351
Contact:	Ms Roopali Pandey
Phone:	9840 9659

ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
NOTICE OF DETERMINATION OF APPLICATION

DEFERRED COMMENCEMENT

12 February 2014

Stimson Consultant Services
PO Box 4308
WINMALEE NSW 2777

Dear Sir/Madam

Pursuant to Section 81 of the Act, Council has granted "deferred commencement" to your Development Application described as follows:

PROPERTY:	**Lot 49, DP 18211**
STREET ADDRESS:	**14 Kiora Crescent, Yennora**
DEVELOPMENT CONSENT NO:	**2013/351/1**
DECISION:	**Delegated Authority**
DATE FROM WHICH CONSENT OPERATES:	**TO BE ADVISED UPON SATISFACTORY COMPLETION OF SCHEDULE 'A'**
DATE OF EXPIRY OF CONSENT:	**12 February 2017**
PROPOSED DEVELOPMENT:	**ALTERATIONS TO AN EXISTING INDUSTRIAL PREMISES AND FIT OUT FOR A LIQUID WASTE FACILITY**

This Development Application is APPROVED in accordance with the Environmental Planning & Assessment Act 1979 and is subject to compliance with the requirements of Holroyd City Council, the Building Code of Australia, the Local Government Act 1993, and the following conditions as set out hereunder and/or endorsed upon the attached plans.

PURSUANT TO SECTION 80(3) OF THE ACT, THIS CONSENT IS NOT TO OPERATE UNTIL COUNCIL IS SATISFIED THAT ALL SCHEDULE 'A' CONDITIONS HAVE BEEN SATISFIED.

IMPORTANT *English*

This letter contains important information. If you do not understand it please ask a relative or friend to translate it or come to Council and discuss this letter with Council's staff using the Telephone Interpreter Service.

IMPORTANTE *Italian*

Questa lettera contiene informazioni importanti. Se non la comprende chieda ad un parente od amico di tradurgliela, o venga al Municipio a discuterla col personale del Comune con l'aiuto del Servizio Telefonico Interpreti.

IMPORTANTE *Spanish*

Esta correspondencia contiene información importante. Si no la entiende, por favor solicite a un familiar o alguna amistad que se la traduzca, o concurra al Municipio e infórmese de su contenido con funcionarios municipales, utilizando el Servicio Telefónico de Intérpretes.

ΣΗΜΑΝΤΙΚΟ *Greek*

Αυτή η επιστολή περιέχει ενδιαφέρουσες πληροφορίες. Αν δεν τις καταλαβαίνετε ζητήστε από κάποιο συγγενή ή φίλο να τις μεταφράσει ή ελάτε στη Δημαρχία να μιλήσετε στο προσωπικό σχετικά μ' αυτή την επιστολή χρησιμοποιώντας την Τηλεφωνική Υπηρεσία Διερμηνέων.

IMPORTANTI *Maltese*

Din l-ittra fiha taghrif importanti. Jekk ma tifimhiex, jekk joghgbok staqsi lil qarib jew habib biex jittraducihielek jew ejja sal-Kunsill u ddiskuti din l-ittra ma' l-istaff tal-Kunsill billi tuza s-Servizz Telefoniku tal-Interpreti.

重要的信息 *Chinese*

此信含有重要的信息。如果你看不懂，你可請親戚或朋友譯成中文或前往市府並通過電話傳譯服務與市府的工作人員討論此信。

TIN QUAN TRỌNG *Vietnamese*

Tin tức trong thư này rất quan trọng. Nếu quí vị không hiểu rõ, xin hỏi những người thân hoặc bạn bè phiên dịch cho quí vị hoặc đến hỏi nhân viên Tòa Hành Chánh, tại đây có phương tiện Thông Ngôn Qua Điện Thoại.

هام *Arabic*

تحتوي هذه الرسالة على معلومات هامة . إذا لم تكن تفهمها يُرجى طلب ترجمتها من قريب أو صديق أو إحضر إلى المجلس وناقش هذه الرسالة مع موظفي المجلس عن طريق الاستعانة بخدمة الترجمة الهاتفية .

SCHEDULE "A"

Consent to the alterations to an existing industrial premises and fit-out for a liquid waste facility shall not operate until all of the following Schedule "A" conditions have been complied with to Council's satisfaction.

Please note that this consent shall lapse if the approved development is not physically commenced by the "date of expiry of consent" shown on the front page of this document. It is therefore in your interest to attend to the following matters as soon as possible. When Council is satisfied that Schedule "A" has been complied with, a letter will be issued advising of the "date from which Consent operates".

Swept Path Analysis

1. Swept path analysis for the largest vehicle (i.e. Small Rigid Vehicle) shall be provided to Council that will demonstrate that the vehicle can enter and exit the site in a forward direction.

* * * * * * * * * * * * * * * * *

SCHEDULE "B"

This consent cannot operate until such time as Council is satisfied with the evidence produced in response to Schedule "A" and has notified the applicant in writing of the date from which the consent operates.

PRELIMINARY

1. This consent shall lapse if the above development is not physically commenced by the date of expiry shown on the front page of this Consent. Any person entitled to act on the consent may apply to Council at least 30 days before this three year period expires, for an extension of one year (in accordance with Section 95A of the Environmental Planning & Assessment Act 1979), provided that good cause is shown. **Note: Failure to lodge an application for extension of consent will mean the consent lapses and a fresh application will be required that will be assessed in accordance with current controls.**

2. Development shall take place in accordance with the attached endorsed plans:

   - Architectural prepared by Morson Group Pty Ltd, Drawing Number DA01, Issue A, dated 7 December 2013; as amended to satisfy Conditions 13 and 14;
   - General Terms of Approval letter issued by NSW Environmental Protection Authority, dated 17 October 2013;
   - Odour Impact Assessment Report prepared by Benbow Environmental, dated 21 January 2014;
   - Amended Waste Management Plan to satisfy Condition 12;

   a) As amended in red by Council. All amendments are to be incorporated in the Construction Certificate plans.

3. All building work shall be carried out in accordance with the requirements of the Building Code of Australia. Fully detailed plans including fire safety details shall be submitted with the Construction Certificate application. No work is to commence until such time as a Construction Certificate is obtained for the work/building permitted by this Consent.

Appointment of Council or a Private Certifier as the Principal Certifying Authority (PCA)

4. Either Council or a Private Certifier is to be appointed as the Principal Certifying Authority (PCA) for the development in accordance with Section 109E of the Act.

   Accordingly, wherever reference is made to the Principal Certifying Authority in this Consent, it refers to Council or the Private Certifier as chosen by you.

   Note: Once you have chosen either Council or a Private Certifier as the PCA, you cannot change from one to the other, or from one Private Certifier or another, without the approval of Department of Planning & Infrastructure.

5. The applicant shall consult with, as required:
   (a) Sydney Water Corporation Limited
   (b) Integral Energy
   (c) Natural Gas Company
   (d) A local telecommunications carrier

   regarding their requirements for the provision of services to the development and the location of existing services that may be affected by proposed works, either on site or on the adjacent public road(s).

6. Building materials, builders sheds, waste bins, site fencing, gates or any material of any description shall not be left or placed on any footway, road or nature strip. Footways and nature strips shall be maintained, including the cutting of vegetation, so as not to become unsightly or a hazard for pedestrians. Offenders will be prosecuted.

NOTE: FEES, BONDS & CONTRIBUTIONS INDICATED IN CONDITIONS OF THIS CONSENT MAY VARY IN ACCORDANCE WITH THOSE ADOPTED BY COUNCIL AT SUBSEQUENT ANNUAL REVIEWS OF ITS "FEES AND CHARGES" AND SUBSEQUENT CHANGES TO THE BUILDING PRICE INDEX. FEES CHARGED WILL BE THOSE CURRENT AT THE TIME OF PAYMENT.

PRIOR TO ISSUE/RELEASE OF CONSTRUCTION CERTIFICATE

The following conditions must be complied with prior to the issue of a Construction Certificate. In many cases the conditions require certain details to be included with or incorporated in the detailed plans and specifications which accompany the Construction Certificate:-

Payment of Bonds, Fees and Long Service Levy

7. The Principal Certifying Authority is to ensure and obtain written proof that all bonds, fees and contributions as required by this consent have been paid to the applicable authority. This includes all Long Service Levy payments to be made to the Long Service Payments Corporation.

Consistency with Endorsed Development Consent Plans

8. The Principal Certifying Authority must ensure that any certified plans forming part of the Construction Certificate, are in accordance with the Development Consent plans.

Damage Deposit

9. A cash bond/bank guarantee of **$782.00** must be paid/lodged with Council to cover making good any damage caused to the property of Council, during the course of construction associated with the development. This will be held for 'six (6) months after the completion of works' or six (6) months after the issue of 'Final Occupation Certificate' (whichever occurs last) to remedy any defects that may arise within this time.

Note:- The applicant/owner shall be held responsible for and may be required to pay the full reinstatement costs for damage caused to Council's property unless the applicant/owner notifies Council in writing and provides photographic proof of any existing damage to Council's property. Such notification shall occur prior to works/demolition commencing. However, if in the opinion of Council, during the course of construction existing damage has worsened, Council may require full reinstatement. If damage does occur during the course of construction, prior to reinstating any damage to Council's property, the applicant/owner shall obtain design specifications of all proposed restoration works. Restoration/construction works within the road reserve shall be carried out by a licensed construction contractor at the applicant/owners expense and shall be inspected by Council prior to placement of concrete and/or asphalt.

Fire Safety Upgrading & Essential Services

10. The applicant/owner is to give written notice to the Certifying Authority of the measures that are currently implemented in the building or premises to ensure the safety of persons in the building in the event of fire. The schedule of measures must be provided with the Construction Certificate application.

11. Prior to the issue of a Construction Certificate, the applicant / owner must submit plans to the Accredited Certifier or Council, confirming that the fire safety measures contained within the subject building have been upgraded under the provisions of Clause 94 of the Environmental Planning & Assessment Regulations 2000, into total conformity with the Building Code of Australia and are adequate:

(i) to protect persons using the building, and to facilitate their egress from the building, in the event of fire, or

(ii) to restrict the spread of fire from the building to other buildings nearby.

Required Submissions to Certifying Authority

12. A Waste Management Plan shall be submitted to the Principal Certifying Authority, prior to the issue of a Construction Certificate, providing the details of the recycling and waste disposal facilities that are to be used.

13. Amended architectural plans shall be submitted to the Principal Certifying Authority, prior to the issue of a Construction Certificate, designating the two tandem carspaces within the building on the ground floor as unloading area.

Accessibility

14. Prior to the issue of a Construction Certificate, amended plans must be submitted to the Accredited Certifier or Council, indicating that the new development (and any affected part of the existing building) has been upgraded to comply with the requirements of the Disability (Access to Premises – Building) Standards 2010.

PRIOR TO WORKS COMMENCING

The following conditions are to be complied with prior to any works commencing on the site:

Appointment of Principal Certifying Authority and Notification of Commencement of Work

15. The person having the benefit of the development consent, not the principal contractor (builder), must: -

a) Appoint a Principal Certifying Authority in accordance with Section 81A(2)(b) of the Act.

b) Have the Principal Certifying Authority complete the 'Accredited Certifier Details' on the approved form provided by Council for this purpose, an original of which is attached to this Development Consent.

c) Notify Council of the appointment of the Principal Certifying Authority and of the intention to commence building work, such notification is to be given to Council at least two (2) working days prior to the proposed commencement date, and be on the approved form provided by Council for this purpose, an original of which is attached to this Development Consent.

If nominated, Council can provide this service for you and act as the Principal Certifying Authority.

N.B. The Principal Certifying Authority must also notify the person having the benefit of the Development Consent of any mandatory critical stage inspections and other inspections that are to be carried out in respect of the building work such notification must comply with Clause 103A of the Regulations.

Notification of Principal Contractor (Builder)/Owner-Builder

16. The person having the benefit of the Development Consent must:-

(a) Notify the Principal Certifying Authority that the person will carry out the work as an owner-builder, if that is the case;

OR

(b) Appoint a Principal Contractor for the building work (who must be the holder of a contractor licence if any residential building work is involved), and notify the Principal Contractor of any mandatory critical stage inspections and other inspections that are to be carried out in respect of the building work.

(c) Notify the Principal Certifying Authority of any such appointment.

Where Council is the Principal Certifying Authority, such notification is to be on the approved form provided by Council for this purpose, an original of which is attached to this Development Consent.

Signs to be Erected on Sites

17. A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:

(a) showing the name, address and telephone number of the Principal Certifying Authority for the work, and

(b) showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted **outside working hours and at any time for business purposes**, and

(c) stating that unauthorised entry to the work site is prohibited.

The sign must be rigid and durable and be read easily by anyone in any public road or other public place adjacent to the site.

Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

This clause does not apply in relation to building work, subdivision work or demolition work that is carried out inside an existing building that does not affect the external walls of the building.

Note: Principal Certifying Authorities and Principal Contractors must also ensure that signs required by this clause are erected and maintained (clause 227A of the Regulations currently imposes a maximum penalty of $1,100).

DURING CONSTRUCTION

The following conditions are applicable during construction:-

Endorsed Plans & Specifications

18. A copy of the endorsed stamped plans and specifications, together with a copy of the Development Consent, Construction Certificate and approved Traffic Management Plan are to be retained on site at all times.

Hours of Work & Display of Council Supplied Sign

19. For the purpose of preserving the amenity of neighbouring occupations building work including the delivery of materials to and from the site is to be restricted to the hours of 7.00am to 6.00pm Mondays to Fridays and 8.00am to 4.00pm Saturdays. Work on the site on Sundays and Public Holidays is prohibited. **Note: Demolition work is not permitted on weekends or Public Holidays - refer to specific demolition condition for approved hours.**

The yellow "Hours of Building Work" sign (supplied by Council with the approval), is to be displayed in a prominent position at the front of the site for the duration of the work.

20. Builder's refuse disposal and storage facilities are to be provided on the development site for the duration of construction works and all rubbish shall be removed from the site upon completion of the project.

21. The approved Waste Management Plan must be implemented and complied with during all stages of works on site.

Compliance with Critical Stage Inspections and other Inspections nominated by the Principal Certifying Authority

22. Section 109E(3)(d) of the Act requires certain specific inspections (prescribed by clause 162A of the Regulations) and known as 'Critical Stage Inspections' to be carried out for building work. Prior to permitting commencement of the work your Principal Certifying Authority is required to give notice of these inspections pursuant to clause 103A of the Regulations.

N.B. An Occupation Certificate cannot be issued and the building may not be able to be used or occupied where any mandatory critical stage inspections or other inspections required by the Principal Certifying Authority are not carried out.

Where Council is nominated as Principal Certifying Authority, notification of all inspections required is provided with the Construction Certificate approval.

PRIOR TO ISSUE OF FINAL OCCUPATION CERTIFICATE

The following conditions are to be complied with prior to the issue of a final occupation certificate:-

Trafficable Bund

23. All service entries to workshop areas shall be provided with a trafficable bund with a minimum height of 100mm to prevent any spillage exiting the workshop area and entering the stormwater system.

Emergency Spill Response Management Plan

24. A policy on 'spill procedures' is to be developed and implemented to ensure that all staff are aware of what to do in the event of a spill. A copy of this policy is to be submitted to Council.

Removal of Signage on Change of Occupation

25. All signage associated with the previous use is to be removed from the premises.

Fire Safety Upgrading & Essential Services

26. Prior to the issue of an Occupation Certificate, the Principal Certifying Authority must ensure the fire safety measures contained within the subject building have been upgraded under the provisions of Clause 94 of the Environmental Planning & Assessment Regulations 2000, into total conformity with the Building Code of Australia and are adequate:
    i. to protect persons using the building, and to facilitate their egress from the building, in the event of fire, or
    ii. to restrict the spread of fire from the building to other buildings nearby.

Incident Management

27. A Draft Incident Management Plan shall be submitted to Council and the NSW Environmental Planning Authority prior to the issue of an Occupation Certificate.

Trade Waste Licence

28. A Trade Waste Dischargers' Licence is to be obtained from Sydney Water prior to the issue of an Occupation Certificate.

CONDITIONS RELATING TO USE

The following conditions are applicable to the use of the development:-

Safety & Amenity

29. No signs or goods are to be displayed or trading of any description is to be carried out on the public road, public footpath, utility service land, customer and/or employee parking area, the driveways or pedestrian walkways outside or in the immediate vicinity of the premises.

30. For the purposes of preserving the amenity of neighbouring occupations and residents, hours of operation are to be restricted to between:-

- 7.00am and 7.00pm Monday to Friday;
- 7.00am and 12.00noon Saturdays

31. All industrial activities are to be confined within the building and no such activity shall occur externally to the building and this shall include loading and unloading, also storage of new and used materials.

32. Business is to be conducted and patrons are to be controlled at all times so that no interference occurs to the amenity of the adjoining occupations.

33. The operation of the premises shall be conducted in such a manner as not to interfere with or materially affect the amenity of the neighbourhood by reason of noise, vibration, odour, fumes, vapour, steam, soot, ash, dust, particulate matter, waste water, waste products or other impurities which are a nuisance or injurious to health.

34. All industrial activity is to be conducted so that it causes no unreasonable interference to adjoining industrial occupations.

Alarms

35. Where an intruder alarm is installed on the premises it shall be fitted with a timing device in accordance with the requirements of the Protection of the Environment Operations Act 1997.

Disposal of waste and Spills

36. The business is to be operated in a manner so that no contaminants from the workshop are permitted to enter the stormwater drainage system by the washing down of work areas or the disposal of waste and spills.

37. Sufficient supplies of appropriate absorbent materials shall be kept on site to recover any liquid spillage. Liquid spills shall be cleaned up using dry methods, by placing absorbent material on the spill and sweeping or shovelling the material into a secure bin. Absorbent materials used to clean up must be disposed of to an appropriately licensed waste facility.

38. Disposal of liquid waste via the sewer shall only be carried out after approval from Sydney Water via a Trade Waste Agreement. Alternatively, liquid waste shall be removed by a licensed liquid waste contractor.

Traffic / Parking

39. The car parking spaces, driveways and manoeuvring areas are to be used for employees and visitors vehicles only and not for the storage of new or used materials, finished goods or commercial vehicles.

40. All vehicles shall enter / exit the site in a forward direction.

41. The size of delivery vehicles shall be restricted to a small rigid truck.

42. Service vehicles shall not load / unload on or from the street.

Air Emissions

43. The use of the premises shall not give rise to air impurities in contravention of the *Protection of the Environment Operations Act 1997* and shall be controlled in accordance with the requirements of such Act.

44. In the event of Council receiving complaints regarding air pollution or odour from the premises, the person(s) in control of the premises shall at their own cost arrange for an environmental investigation to be carried out (by a suitably qualified person) and submit a report to Council specifying the proposed methods for the control of odour exiting the premises.

45. Any discharge to the atmosphere must not result in any odour or other air impurity detectable outside the boundaries of the property.

46. In the event of Council receiving complaints regarding excessive odour from the garbage bay area, the person(s) in control of the premises shall at their own cost arrange for an environmental investigation to be carried out (by a suitably qualified person) and submit a report to Council specifying the proposed methods for the control of odour emanating from the garbage bay area.

Noise

47. The operation of all plant and equipment shall not give rise to an equivalent continuous (LA_{eq}) sound pressure level at any point on any residential property greater than 5dB(A) above the existing background L_{A90} level (in the absence of the noise under consideration).

48. In the event of Council receiving complaints regarding excessive noise, the person(s) in control of the premises shall at their own cost arrange for an acoustic investigation to be carried out (by a suitably qualified person) and submit a report to Council specifying the proposed methods for the control of noise emanating from the premises.

Clean Water Discharge

49. The operation of the premises shall be conducted in a manner, which does not pollute waters as defined by the *Protection of the Environment Operations Act 1997*.

Signage on Stormwater Drains (Commercial/Industrial)

50. Signs shall be displayed adjacent to all stormwater drains on the premises indicating that only clean water is allowed to enter these drains. Examples of possible signage include: 'Clean Rainwater Only', 'Clean water only - NO waste' or 'H_2O only'.

Waste Collection

51. Liquid and solid wastes generated on the site shall be collected, transported and disposed of in accordance with the *Protection of the Environment Operation Act 1997*. Records shall be kept of all liquid and solid waste disposal from the site, and be made available to Council Officers on request.

Maintenance of Bunded Area

52. Bunded areas shall be properly maintained and all spillages and/or wastes within the bunded areas cleaned up as soon as practicable and disposed of in a manner that does not pollute waters.

Amount of Liquid

53. The amount of liquid/sludge/effluent to be processed shall not exceed 900 tonnes per year.

Number of Employees

54. The maximum number of employees who work at the waste processing site shall be two (2).

ADVISORY NOTES

Other Necessary Approvals

A. The applicant's attention is drawn to the need to obtain Council's separate approval for any ancillary activity not approved by this consent, including:
   (a) Works, including the pruning or removal of any tree(s) not authorised in the preceding conditions or on the approved plans. Council's Tree Preservation Order protects trees by definition taller than 3.5m or having a trunk circumference exceeding 500mm measured one metre above ground level. If in doubt contact Council's Tree Management Officer.
   (b) Any fencing located forward of the proposed building and exceeding the limitations specified in Local Environmental Plan 2013, Part 3 *"Exempt and Complying Development"*.
   (c) The erection of any advertising sign, not being exempt from the need to obtain approval.
   (d) The installation of any furnace, kilns, steam boiler, chemical plant, sand blast, spray painting booth or the like.

   NOTE: * If you carry out building work as an owner builder and sell your home within seven (7) years from the date of completion (date of final occupation certificate), then a Certificate of Insurance must be attached to your Contract of Sale.

B. Section 97 of the Act provides that an applicant who is dissatisfied with the Council's determination of the Development Application may appeal to the Land and Environment Court within 6 months of the date of determination, or as otherwise prescribed.

C. Section 82A of the Act provides that an applicant may request, within 6 months of the date of determination of the Development Application, that the Council review its determination (this does not apply to integrated or designated development). A fee is required for this review.

   It should also be noted that an application under Section 82A of the Act cannot be reviewed/determined after 6 months of the date of determination. Therefore, the submission of a Section 82A Application must allow sufficient time for Council to complete its review within the prescribed time frame, including the statutory requirement for public notification.

D. The applicant and Owner are advised that the Commonwealth Disability Discrimination Act 1992 may apply to this particular proposal. Approval of this application does not imply or confer compliance with this Act. Applicants and owners should satisfy themselves as to compliance and make their own enquiries to the Australian Human Rights Commission. Attention is also drawn to the provisions of Parts 2, 3 and 4 of Australian Standard 1428 - Design for Access and Mobility.

E. A Construction Certificate shall be obtained in accordance with Section 81A (2)(a)of the Act, prior to the commencement of any work on site. Council can provide this service for you.

F. An Occupation Certificate is to be issued by the Principal Certifying Authority prior to the occupation of the building.

G. CONSTRUCTION/OCCUPATION CERTIFICATE FEES

An administration fee of $36.00 per certificate is payable to Council on lodgement of Construction and Occupation Certificates from Principal Certifying Authorities.

Yours faithfully

Merv Ismay
GENERAL MANAGER

Per:
MANAGER DEVELOPMENT

SECTION 79C ASSESSMENT

DEVELOPMENT APPLICATION NO: 2013/351/1

SITE: Lot: 49 DP: 18211,

PROPERTY ADDRESS: 14 KIORA CRESCENT YENNORA

PROPOSAL/ACTIVITY: INTEGRATED PROPOSAL FOR FIT OUT AND USE OF PREMISES FOR A LIQUID WASTE FACILITY

APPLICANT'S NAME: STIMSON CONSULTANT SERVICES

ADDRESS: PO Box 4308 WINMALEE NSW 2777

OWNER: MRS L K DOWNS ☑ owners consent provided (YES)

ZONING: IN1 - General Industrial

☑ under: Holroyd L.E.P. 1991 2013 ☐ Amendment No. ..... to H.L.E.P. 1991

☐ 1. Heritage Listing

☐ 2. Tree Preservation

☐ 3. Flood listing map/computer

☐ 4. Easements – Drainage

☐ 5. Drainage, ventilation, lighting and Healthiness of the building.

☐ 6. Design, materials, stability, building line and height.

☐ 7. Size, height and lighting of rooms

☐ 8. Site coverage and provision of open spaces and light areas

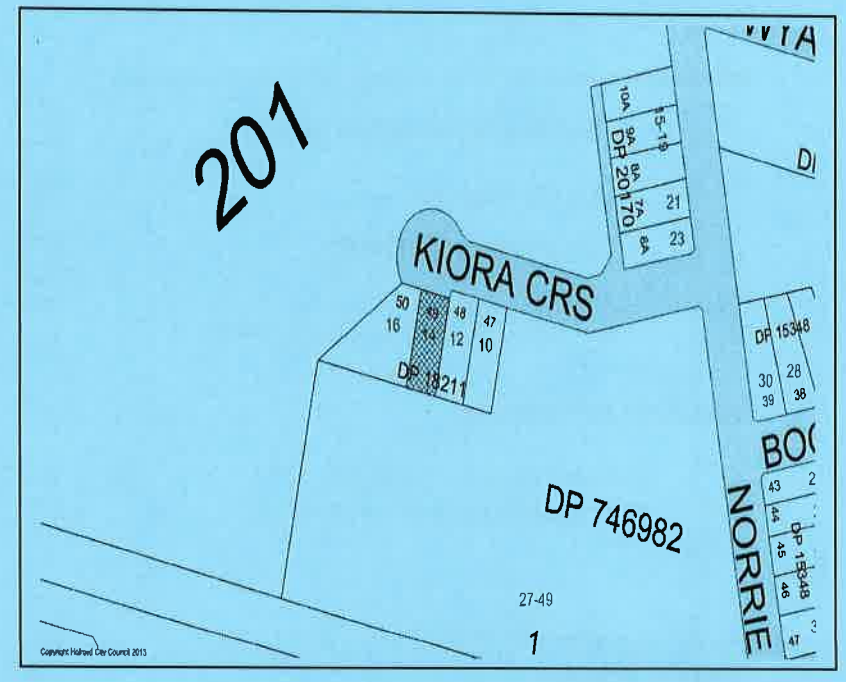
☐ 9. The position of the building in relation to other buildings or to the boundaries of the site.

☐ 10. Fences – height, materials, stability, design and position.

SITE INVESTIGATION

- Trees affected
- Stormwater drainage
- Adjoining premises
- Kerb and gutter
- Fall of land
- Specific Conditions
- Plan accuracy
- Dwelling erected
- Existing Structures
- Aspect/Location

SITE DIAGRAM



STREET

FEES: estimated cost realistic ☑ YES ☐ NO (To be resolved within 14 days of submission of application)

⇩ our estimate

$ → $ Additional fee to be paid

Long Service Levy Paid ☐ N/A ☐ YES ☐ NO Must be paid prior to issue of D.C. for any work $25,000 or more

STATUTORY POSITION:

Check land use table under Holroyd LEP 1991 2013

☑ Permitted with consent

☐ Prohibited

☑ Integrated Development

☐ Advertised Development

☐ Notified Development under Holroyd notification Policy

☐ Designated Development

Approvals required under Section 68 of Local Government Act 1993

☑ NO

☐ YES: Refer to appropriate officer for assessment and conditions

- ☐ Place of Public Entertainment
- ☐ Amusement Devices
- ☐ Other

Construction Certificate applied for

☑ NO

☐ YES: Complete BCA assessment required

Internal Comments to be incorporated in Conditions:

- ☑ Building Services/Fire Safety
- ☑ Traffic Engineer
- ☐ Development Engineer
- ☐ WASTE ..... (other)
- ☐ Community Services
- ☑ Environmental Health
- ☐ Strategic Planning
- ☐ Nil

Integrated Development

☐ General Terms of Approval to be incorporated in conditions:

OR

☐ Refusal recommended by Approved Body

- ☐ Not applicable
- ☑ EPA
- ☐ RTA
- ☐ Department of Land & Water Conservation
- ☐ Heritage Council
- ☐ National Parks & Wildlife

MATTERS FOR CONSIDERATION

(a) the provisions of:

(i) any environmental planning instrument, and

.....

.....

(ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority, and

.....

.....

(iii) any development control plan, and

.....

.....

(iv) any matters prescribed by the regulations,

.....

.....

that apply to the land to which the development application relates.

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

.....

.....

(c) the suitability of the site for the development,

.....

.....

(d) any submissions made in accordance with this Act or the regulations,

.....

.....

(e) the public interest.

.....

.....

SUMMARY: DA lodged (date) 5/8/2013 TO DCU (date) .....

Assessment/Conditions: Refer to attached assessment -

The proposal has been assessed taking into consideration the relevant matters listed under Section 79C of the Environmental Planning & Assessment Amendment Act 1997 and it is recommended that the application be

☑ Approved - DC

☐ Refused

Consent Granted/
Refused under delegation

Assessing Officer — Date: 6/2/2014

Manager Development — Date: 7/2/14

INDUSTRIAL CHANGE OF USE DAs LODGED FROM 5/8/13

DA NUMBER:	**2013/351/1**
PROPERTY:	**14 Kiora Crescent, Yennora**
PROPOSAL:	**Integrated proposal for the fit out and use of premises for a liquid waste facility**

PROPOSAL

The application has proposed the removal of existing internal equipment and the installation of a new storage and processing plant consisting of

- Four (4) 25,000L treatment and settling tanks,
- Sorting and screening equipment including one (1) 18,000L sludge separator tank, and
- Use of exiting office space.

The hours of operation is listed as being from 7am to 7pm Monday to Friday, 7am to 12pm on Saturday with no work on Sunday.

The amount of sludge of effluent that will be processed will be 900 tonnes per year, which falls below the threshold for Designated Development under the EP&A Regulations. However it has been stated in the SEE provided that the applicants have the intention of increasing the capacity of the facility to a level that exceeds the threshold of Designated Development. When that level is exceeded the applicants have advised that they would seek a separate application of approval from Council and obtain an EIS from the Director General.

Therefore with the above information provided by the applicants it is recommended that the following condition be imposed;

Condition *"The amount of liquid/sludge/effluent to be processed is not to exceed 900 tonnes per year".*

STATE ENVIRONMENTAL PLANNING POLICY NO.33 – HAZARDOUS AND OFFENSIVE DEVELOPMENT

3	**DEFINITIONS OF POTENTIALLY HAZARDOUS INDUSTRY AND POTENTIALLY OFFENSIVE INDUSTRY**
	"potentially hazardous industry" means a development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality: (a) to human health, life or property, or (b) to the biophysical environment, and includes a hazardous industry and a hazardous storage establishment. "potentially offensive industry" means a development for the purposes of an industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge (including for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land, and includes an offensive industry and an offensive storage establishment.
4	**OTHER DEFINITIONS**
	"hazardous industry" means a development for the purposes of an industry which, when the development is in operation and when all measures proposed to reduce or minimise its impact on the locality have been employed (including, for example, measures to isolate the development from existing or likely future development on other land in the locality), would

	pose a significant risk in relation to the locality: (a) to human health, life or property, or (b) to the biophysical environment. "hazardous storage establishment" means any establishment where goods, materials or products are stored which, when in operation and when all measures proposed to reduce or minimise its impact on the locality have been employed (including, for example, measures to isolate the establishment from existing or likely future development on the other land in the locality), would pose a significant risk in relation to the locality: (a) to human health, life or property, or (b) to the biophysical environment. "offensive industry" means a development for the purposes of an industry which, when the development is in operation and when all measures proposed to reduce or minimise its impact on the locality have been employed (including, for example, measures to isolate the development from existing or likely future development on other land in the locality), would emit a polluting discharge (including, for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land in the locality. "offensive storage establishment" means any establishment where goods, materials or products are stored which, when in operation and when all measures proposed to reduce or minimise its impact on the locality have been employed (including, for example, measures to isolate the establishment from existing or likely future development on other land in the locality), would emit a polluting discharge (including, for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land in the locality. "the Act" means the *Environmental Planning and Assessment Act 1979*.
Response in SEE	**Comment:** The following has been provided within the provided Statement of Environmental Effects:- *"State Environmental Planning Policy No 33 – Hazardous and Offensive Development (SEPP 33) has as general aims:* *(a) To amend the definition of hazardous and offensive industries where used in environmental planning instruments, and* *(b) To render ineffective a provision of any environmental planning instrument that prohibits development for the purpose of a storage facility on the ground that facility is hazardous or offensive if it is not a hazardous or offensive storage establishment as defined in this policy, and* *(c) To require development consent for hazardous or offensive development proposed to be carried out in the Western Division and* *(d) To ensure that in determining whether a development is a hazardous or offensive industry, any measures proposed to be employed to reduce the impact of the development are taken into account, and* *(e) To ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimize any adverse impact, and* *(f) To require the advertising of applications to carry out any such development* SEPP 33 provides a number of definitions at Cls 3 and 4 of:

	1. Potentially hazardous industry (Cl 3) 2. Potentially offensive industry (CL 3) 3. Hazardous industry (Cl 4) 4. Hazardous storage establishment (Cl 4) 5. Offensive industry (Cl 4) 6. Offensive storage establishment (Cl 4) The proposed project is not identified as any of these definitions. Definitions 1, 3 and 4 all require that the project: *"…. Would pose a significant risk in relation to the locality:* *(a) To human health, life or property, or* *(b) To the biophysical environment,* *and includes a hazardous industry and a hazardous storage establishment".* The proposed development would not present a significant risk to human health, life or property, or to the biophysical environment. This is due to the measurements put in place to minimise spills and risks in general. Definitions 2, 5 and 6 all rely on a project having: *"… a polluting discharge (including, for example, noise) in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land in the locality".* The proposed development is located within an industrial zoning and it is considered unlikely that the proposed development would have a "significant adverse impact" on either the immediate surroundings or the future land use likely to occur within the area. Therefore the proposed development is not identified as a project to which SEPP 33 applies as a hazardous or offensive development".
Comment	SEPP 33 is only applicable when Council is not satisfied that the proposal has initiated suitable safeguards that will alleviate any potential offence that could be created by the use on the locality and surrounding zones. The proposed use has been reviewed and it is considers that appropriate safeguards have been put in place or can be imposed as a condition of a consent that will alleviate any potential offence on the future character and amenity of the locality. The EPA has also reviewed the application and considers the proposal to be satisfactory and have provided the applicants with the opportunity to apply for a license from the EPA for the proposed use. The EPA have also provided conditions of consent to be imposed that will provide further safeguards that will prevent any detrimental impacts on the locality. These conditions will be imposed on the final consent. The proposal is being undertaken within an industrial unit that is located on a site within the IN1 General Industrial zone. The site is surrounded by other sites that are zoned the same. Therefore it is considered that the proposed use is consistent with any existing or proposed future use that could be permitted on surrounding sites. Therefore it is considered the potential amenity impact on the locality to be fairly minimal. Councils Environmental Health team has reviewed the application and it has been concluded the type of use proposed would not qualify as potentially offensive industry and therefore SEPP 33 will not apply.

STATE ENVIRONMENTAL PLANNING POLICY 55 - REMEDIATION OF LAND

Comment: Council's records do not contain any information that would indicate the site may be contaminated. No construction is being undertaken for the proposal as the application is only for the fit out and use of the warehouse.

GREATER METROPOLITAN REGIONAL ENVIRONMENTAL PLAN No.2 – GEORGES RIVER CATCHMENT

1	AIMS AND OBJECTIVES
	(1) The general aims and objectives of this plan are as follows: (a) to maintain and improve the water quality and river flows of the Georges River and its tributaries and ensure that development is managed in a manner that is in keeping with the national, State, regional and local significance of the Catchment, (b) to protect and enhance the environmental quality of the Catchment for the benefit of all users through the management and use of the resources in the Catchment in an ecologically sustainable manner, (c) to ensure consistency with local environmental plans and also in the delivery of the principles of ecologically sustainable development in the assessment of development within the Catchment where there is potential to impact adversely on groundwater and on the water quality and river flows within the Georges River or its tributaries, (d) to establish a consistent and coordinated approach to environmental planning and assessment for land along the Georges River and its tributaries and to promote integrated catchment management policies and programs in the planning and management of the Catchment, (e) to provide a mechanism that assists in achieving the water quality objectives and river flow objectives agreed under the Water Reform Package.
Response in SEE	**Comment:** The following has been noted within the provided Statement of Environmental Effects:- "The proposed development is located within the area of the *Greater Metropolitan Regional Environmental Plan No.2 – Georges River Catchment (GMREP No.2)* GMREP No.2 has the following specific planning objectives, each of which is directly addressed in relation to the proposed development: ***Acid Sulfate Soils*** The proposed development is not located in an area identified as being subject to acid sulphate soils ***Bank Disturbance*** The proposed development is not located on or near to a river or stream bank and will not disturb any embankment. ***Flooding*** The proposed development is not located in flood liable land, nor is it likely to affect the existing flooding regime, as there is to be no change to the impermeable surface cover as a result of the proposed development. ***Industrial Discharge*** The proposed development will be discharging to the existing Sydney Water sewer system and will have a license from Sydney Water to that effect. It will not discharge into the Georges River or any tributary creeks. ***Land Degradation*** The proposed development does not include any physical changes to the land surface and would not contribute to land degradation. ***On-site Sewer Management*** The proposed development is connected to the existing Sydney Water sewer system and will not have any on-site sewer management. ***River-related Uses'*** The proposed development is not related to any river uses. ***Sewer Overflows*** The proposed development is unlikely to cause any additional sewer overflows. The disposal of liquid

	wastes to the sewer system will occur with a Sydney Water license and any conditions which are imposed by Sydney Water will be adhered to. ***Urban/Stormwater Runoff*** The proposed development will not alter the existing urban runoff environment. There will be no changes to the existing hard/impermeable surfaces at the site. ***Urban Development Areas*** The proposed development is located within an area which has already been developed, not a new development area. ***Vegetated Buffer Areas*** The proposed development will not impact on any vegetated buffer areas. ***Water Quality and River Flows*** The proposed development will not impact on water quality and river flows. ***Wetlands*** The proposed development will not impact on wetlands. In summary, the proposal will not impact the provisions of this policy".
Comment	The proposal is satisfactory in this regard, subject to conditions of consent and agreement from Sydney Water for a trade waste agreement which can form as a condition of consent.

STATE ENVIRONMENTAL PLANNING POLICY (SEPP) (INFRASTRUCTURE) 2007

The applicants have sought approval under the provisions of the SEPP (Infrastructure) 2007 as the proposed use is not listed as permitted or prohibited use under the IN1 General Industrial zone under the HLEP 2013.

Under the SEPP (Infrastructure) 2007 the proposed use is best defined as a *"waste or resource management facility"*. A waste or resource management facility under the SEPP is defined as;

***"waste or resource management facility** means any of the following:*
(a) a resource recovery facility,
(b) a waste disposal facility,
(c) a waste or resource transfer station,
(d) a building or place that is a combination of any of the things referred to in paragraphs (a) (c)".

Under the SEPP a waste or resource management facility is permitted with consent within the following land use zones;

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

As the site on which the proposed use is to take place is zoned IN1 General Industrial, the use is permitted with consent.

The waste or resource management facility term refers to three (3) separate uses which could qualify as a waste or resource management facility and they are a resource recovery facility, a waste disposal facility and a waste or resource transfer station. From the above three uses the proposal is best defined as a *"waste disposal facility"*. A waste disposal facility under the SEPP is defined as;

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

As the proposal involves the processing of liquid waste including the separation of solid waste and sludge from the liquid waste using machinery and then disposing the solid waste via an external source, it is concluded that the proposed use best fits the definition of waste disposal facility.

HOLROYD LOCAL ENVIRONMENTAL PLAN 2013

2 LAND USE TABLE

Zone IN1 General Industrial

Objectives of zone:

- To provide a wide range of industrial, warehouse and related 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.

Comment: The proposed development is an industrial activity which is permissible within the zone and satisfies the zone objectives of the IN1 General Industrial Zone.

4 PRINCIPAL DEVELOPMENT STANDARDS

4.3 Height of buildings: N/A

Comment: Existing industrial building. Proposal is use only with no change to building height.

4.4 Floor space ratio: N/A

Comment: Existing industrial building. Proposal is use only no change to building FSR.

5.6 Architectural roof features

Comment: Existing building with no change to architectural roof features proposed.

5.9 Preservation of Trees or Vegetation

Comment: N/A

5.10 Heritage

Comment: The site is not listed as a heritage item and is not in the vicinity of a heritage item.

6.1 Acid sulfate soils

Comment: Site is not affected by Acid sulfate soils.

6.4/6.7 Flood Planning & Stormwater Management

Comment: Site is not flood affected.

6.8 Salinity

Comment: Moderate salinity no impact.

HOLROYD DEVELOPMENT CONTROL PLAN 2013

Part A – General Controls

2.4 Access: Vehicular Crossings, Splay Corners, Kerb & Guttering

Controls	Complies (Yes/No)
VC to be reconstructed if in poor condition, damaged or design doesn't comply (check on site)	Existing VC

Avoid services/facilities in road reserve, existing trees, pedestrian crossing, pram ramps etc or condition their relocation (check on site and survey plan)	Existing
Corner sites VC to be min. 6m from the tangent point	N/A
Corner sites require 3m x 3m splay corner to be dedicated	N/A

2.7 **Road Widening:** check maps in Appendix K

Comment: N/A

3.3 **Car Parking, Dimensions & Gradient for Factory/Industrial Unit**

Controls	Complies (Yes/No)
Min.1 space/70m² of Factory/Industrial Unit GFA and 1 space/40m² of Office GFA	Existing to comply
Min. clear length 5.5m	Existing to comply
Min. clear width 2.4m for open space; 3m for garage and between walls/fence (or 3.6m if for bin access); 5.5m for double garage (or 6.1m if for bin access)	Existing to comply
Max. 1:6 (17%)	Existing to comply

The site is currently used for industrial purposes (printing press). The site is proposed to be used for industrial purposes. Therefore, there is no intensification in the use of the site. There is no increase in gross floor area. Therefore, existing parking credit must be given to the site and the use does not generate any additional parking. Existing to comply.

4 **Tree & Landscape Works**

Comment: N/A

5 **Biodiversity**

Comment: N/A

6.1 **Retaining Walls:** max. 1m (if >1m need engineering detail)

Comment: None proposed

6.4 **Erosion and Sediment Control Plan**

Comment: Accurate

7/8 **Stormwater Management & Flood Prone Land**

Comment: Site is not flood affected.

9 **External Noise & Vibration**

Comment: N/A

11 **Site Waste Minimisation and Management Plan (SWMMP)**

Controls	Complies (Yes/No)
Check the SWMMP	NO
Bin storage area to be in rear yard; unobstructed access to collection point or if in garage/carport must be screened from the street	Yes

The proposal was referred to Council's Environmental Health Unit and was not considered acceptable. A condition shall be imposed requiring an amended WMP with details of the recycling / disposal facility to be used.

Part D – Industrial

1 Subdivision

Comment: Use application only no subdivision proposed

2.1 Site area, Frontage and Gross Floor Area

Comment: Application is for change of use, there is no change to site area, frontage or GFA.

2.2 Site Layout

Comment: No change to site layout.

2.3 Amenity Impacts on Nearby and Adjoining zones

Comment: Subject site does not adjoin another zone and is completely surrounded by IN1 General Industrial zoning.

2.4 Building Design and Appearance

Comment: Existing no change

2.5 Setbacks

Required:

- Front setback not to be used for storage or display of goods
- Min 1m setback to at least one side boundary
- Building setbacks must provide fire resistance and stability

Comment: Existing building to be retained, therefore setbacks remain the same.

2.6 Parking and Vehicular Access

Comment: Existing to comply. **Condition:** The two tandem carspaces within the building shall be deleted from the ground floor plan.

2.7 Road Design and Construction within Industrial Zones

Comment: N/A

2.8 Fences

Comment: No fence proposed

3 Landscaping of Industrial Sites

Comment: Landscaping of site does not change

4 Retail & Commercial uses in Industrial Zones

Comment: No commercial or retail component is proposed as part of the industrial unit.

C4 The Council under normal circumstances restricts the hours of industrial operations to the hours of 7.00am to 7.00pm, Monday to Friday; 7:00am to 12 noon, Saturday and no work on Sunday.

Comment: 7.00am to 7.00pm, Monday to Friday; 7:00am to 12 noon, Saturday and no work on Sunday.

5 **Pollution Control**

Comment: Can be addressed through conditions of consent.

6 **Factory Units**

Comment: Existing factory unit no change proposed to floor layout.

7 **Prospect Creek**

Comment: N/A

8 **Planning Controls for Sex Services Premises**

Comment: N/A

PART E

1.2 **PUBLIC PARTICIPATION**

Comment: Application was notified for a month from 18 September 2013 to 18 October 2013 and no objections were received.

PART J

1 – 8 **SITE SPECIFIC GUIDELINES**

Comment: Not applicable.

REFERRALS

The subject Development Application has been referred to the following departments for comments: -

- **Traffic**

  Schedule A conditions:

  1. The applicant shall provide swept path analysis for the largest vehicle (i.e. Small Rigid Vehicle) that will enter and exit the site in a forward direction.

  Other conditions:

  1. All vehicles shall enter / exit the site in a forward direction.
  2. Size of delivery vehicle shall be restricted to Small Rigid Vehicle.
  3. Service vehicles not to load / unload on the street.

- **Building Services**

Application has been reviewed by Councils Building Services department and no concerns were raised.

- **Environmental Health**

  The proposal was considered satisfactory subject to conditions in addition to the following condition (refer comments):

  1. The recommendations provided in the report: *Proposed Residential Development at 14 Kiora Crescent, Yennora Prepared by Benbow Environmental* Dated 21 January 2014 shall be implemented.

- **Waste Management**

  No objections subject to conditions (refer comments).

- **EPA**

  The EPA has granted concurrence to the proposed use. Include EPA conditions in any consent given and advise them of any determination granted.

RECOMMENDATION

The application be approved (Deferred Commencement) subject to the following conditions in addition to conditions from Traffic, EHU, Waste, EPA and Building services.

1. The amount of liquid/sludge/effluent to be processed is not to exceed 900 tonnes per year.
2. The two tandem carspaces within the building shall be amended to loading/unloading area.
3. The hours of operation shall be restricted to be within 7.00am to 7.00pm, Monday to Friday, 7:00am to 12 noon, Saturday and no work on Sunday.
4. The maximum numbers of employees who work at the waste processing site shall be two (2).

Environmental & Planning Services Department

Our Reference: 2013/351
Contact: William Attard
Phone: 9840 9835

30 October 2013

Stimson Consultant Services
PO Box 4308
WINMALEE NSW 2777

Dear Sir/Madam

DEVELOPMENT APPLICATION: 2013/351/1
SITE: 14 KIORA CRESCENT, YENNORA
PROPOSAL: INTEGRATED PROPOSAL FOR FIT OUT AND USE OF PREMISES FOR A LIQUID WASTE FACILITY

DEFERRAL OF DETERMINATION

I refer to the abovementioned Development Application and advise that further consideration of the proposal cannot be given until the following issues have been addressed:-

Development Services Unit

1. Council's Development Services Unit advise of the following issues with regard to abovementioned application:-

   i) The Statement of Environmental Effects (SEE) provided with the application has indicated that eight (8) car spaces have been provided, six (6) being external spaces and two (2) internal spaces for vehicles to pump liquid waste into the sludge separator. There is also a proposed truck wash-down facility. These spaces have not been shown on the plans provided and therefore amended plans are required that clearly indicate the location of all external and internal vehicles spaces and the truck-was down facility.

   ii) All tanks and processing equipment are to be clearly indicated on the amended plans provided.

   iii) The amended plans are to clearly indicate the Gross Floor Area (GFA) of the industrial unit.

   iv) The proposed hours of operation fail to comply with the hours of operation permitted on Saturdays, which is only permitted until noon. Therefore, an amended SEE is required that limits the hours of operation on Saturdays to 12 noon.

   Moreover, it has been stated that the facility has been designed to operate 24hrs a day in the event of emergencies. Therefore, Council requires an acoustic report to be submitted that details all noise emitters from the facility over a 24hr period and their potential noise impacts on the locality in the hours that exceed the hours of operation permitted in Council's Development Control Plan.

Traffic Engineering Department

2. Councils Traffic Engineering Department has advised of the following issues with regard to abovementioned application:-

   i) The applicant shall provide a loading / unloading area in accordance with Australian Standards.

   ii) All parking spaces shall be shown on the plans.

   iii) The applicant shall provide a swept path analysis for the largest vehicle entering and exiting the site in a forward direction.

   iv) The applicant shall provide further information regarding the number of deliveries and the size of vehicles.

Environmental Health Unit

3. Councils Environmental Health Unit has advised of the following issues with regard to abovementioned application:-

   i) No details have been provided as part of the application that addresses any issues associated with odour. Solid waste receptacles shall be contained within the building to avoid the generation of unnecessary odours from solid waste being stored outside.

   There has been no odour impact assessment undertaken as part of this Development Application. The Council requires an odour impact assessment to be prepared by a suitably qualified person. The report is required to be prepared in accordance with the EPA "Assessment and Management of Odour from Stationary Sources in NSW". A copy of this report will need to be submitted to both Council and the EPA for assessment and comment. Details of any ventilation will need to be addresses as part of the application process.

   ii) Council notes that 24 hour operation for the proposal has been outlined in the application. There has been no acoustical assessment provided for the proposal. Council requires that an acoustical report be prepared in accordance with the EPA Industrial Noise Policy. A copy of the acoustical report is required to be submitted to Council for assessment and comment.

   iii) No details have been provided regarding Incident Management. Council requires a Draft Incident Management Plan to be submitted to Council and the EPA for assessment and comment. Part 5.7 of the NSW Protection of the Environment Operations Act, 1997 outlines the "Duty to Notify" requirements.

   iv) Approval from Sydney Water Trade Waste Unit is required as part of this application. A copy of the Trade Waste agreement needs to be provided.

Waste Management Plan

4. Councils Waste Management Plan has advised of the following issues with regard to abovementioned application:-

   i) An amended waste management plan is to be provided that provides the name and address of the recycling and waste disposal facilities that are to be used.

You are requested to lodge **four (4) hardcopies** of additional information and/or amended plans (including A4 reduced plans) within **fourteen (14) days** hereof. If amended plans are submitted, you are to ensure that architectural, landscaping and engineering plans correspond. Failing this, Council may determine the application on the basis of available information, in which case it is likely to be refused.

If you have any further enquiries please contact William Attard of Council's Environmental and Planning Services Department on 9840 9835, Monday to Friday.

Yours faithfully,

Merv Ismay
GENERAL MANAGER

Per:
MANAGER, DEVELOPMENT

CC: Mrs M Hawach
PO Box 706
PARRAMATTA NSW 2124

Cumberland Council
16 Memorial Avenue (PO Box 42)
MERRYLANDS NSW 2160
T 02 9840 9840 | F 02 9840 9734
www.cumberland.nsw.gov.au
DX 25408 MERRYLANDS
TTY 02 9840 9988
ABN 22 798 563 329

Development, Environment & Infrastructure

Our Reference: 25/2016/10/1
Contact: Mr A J McDermott
Phone: 02 9840 9817

4 August 2016

Mr W Chen
16 Kiora Crescent
YENNORA NSW 2161

Dear Sir/Madam

BUILDING CERTIFICATE
PREMISES: 16 KIORA CRESCENT YENNORA

I refer to your application received at Council on 17 February 2016 and enclose herewith Certificate No. 2016/10/1.

Yours faithfully,

Malcolm Ryan
INTERIM GENERAL MANAGER

Per:
MANAGER DEVELOPMENT

Cumberland Council
16 Memorial Avenue (PO Box 42)
MERRYLANDS NSW 2160
T 02 9840 9840 | F 02 9840 9734
www.cumberland.nsw.gov.au
DX 25408 MERRYLANDS
TTY 02 9840 9988
ABN 22 798 563 329

BUILDING CERTIFICATE
ISSUED UNDER THE
Environmental Planning & Assessment Act, 1979
SECTION 149D

Certificate No: 2016/10/1
Your Reference:

Cumberland Council certifies that, in relation to the building or part of the building identified below:

(a) there is no matter discernible by the exercise of reasonable care and skill that would entitle the Council, under the *Environmental Planning and Assessment Act 1979* or the *Local Government Act 1993:*

(i) to order the building to be demolished, altered, added to or rebuilt, or

(ii) to take proceedings for an order or injunction requiring the building to be demolished, altered, added to or rebuilt, or

(iii) to take proceedings in relation to any encroachment by the building onto land vested in or under the control of the council, or

(iv) there is such a matter but, in the circumstances, the Council does not propose to make any such order or take any such proceedings.

- Refer Notes on Page 4

IDENTIFICATION OF BUILDING

LOCATION

Address:	16 KIORA CRESCENT YENNORA

PARTICULARS

Classification of building:	Class 10a
Description of part (if applicable):	Unauthorised development consisting of a 32m2 pre-fabricated and non-habitable Class 10 "display" unit/cabin
Owner:	Mr W Chen
Date of Inspection of building or part:	25 February 2016

DESCRIPTION OF LAND

Lot: 50 DP: 18211,

Lease No. and type of Holding (if Crown land): -

District, town or village: Yennora

County Cumberland Parish: St John

SCHEDULE

The following written information has been used by the Council in deciding to issue this Certificate -2016/10/1.

1. Email from Farmlink Engineering dated Tuesday, 31 May 2016 11:15AM, which addresses all outstanding Building Certificate requirements for a non-habitable Class 10a "display" unit / cabin;

2. Statutory declaration from Wei Chen, the business owner at 16 Kiora Crescent, Yennora, declaring that "no persons will be living in the display unit", and that the unit is for display only and will never be used for living or any other purposes, at 12:01pm on 30 May 2016;

3. Sydney Water " Building Plan Assessment " approval of "Structure 1 of 1: display unit only", which is located at 16 Kiora Cres, Yennora 2161 that is dated 30 May 2016;

4. Annual Fire Safety Statement from Fairdeal Fire Protection for Portable Fire Extinguisher (AS2444), which includes Date of Assessment dated 17 February 2016;

5. Architectural Site plan , that shows the "display room only" in relation to the allotment boundaries and existing factory building at the subject premises, which is dated 8 February 2016;

6. Glazing certificate from Michael Khazma on behalf of Khazma Aluminium Windows and Doors Pty Ltd for the glazing installed at 16 Kiora Crescent, Yennora NSW 2161 nominating compliance with AS1288-2006, which is dated 30 May 2016;

7. Builders licence from Christopher Tomasich (Contractor Licence No.191272C);

8. Mecano Transportable Building (Non-habitable Class 10 Display Unit / Cabin) document;

9. Form 15 - Compliance Certificate for Building Design or Specification from Vic Bacud (Licence No: RPEQ 3647) for the Standard Mecano Wall Frames, Trusses, Steel Floor System dated 23 October 2014;

NOTE: This Building Certificate excludes all development that fails to comply with the Building Code of Australia and Cumberland Council's Development requirements.

Dated this 4th day of August 2016

Yours faithfully,

Malcolm Ryan
INTERIM GENERAL MANAGER

Per:
MANAGER DEVELOPMENT

Fee:	-$1,359.70
Receipt Number:	1474879

Applicant's Name and Address:

Mr W Chen
16 Kiora Crescent
YENNORA NSW 2161

NOTES

This certificate operates to prevent the Council:

(a) From making an order (or take proceedings for the making of an order or injunction) under the *Environmental Planning and Assessment Act 1979* or the *Local Government Act 1993* requiring the building to be repaired, demolished, altered, added to or rebuilt, and

(b) From taking proceedings in relation to any encroachment by the building onto land vested in or under the control of the council,

in relation to matters existing or occurring before the date of issue of this certificate.

This certificate operates to prevent the council, for a period of seven (7) years from the date of issue of this certificate:

(a) from making an order (or taking proceedings for the making of an order or injunction) under the *Environmental Planning and Assessment Act 1979* or the *Local Government Act 1993* requiring the building to be repaired, demolished, altered, added to or rebuilt, and

(b) from taking proceedings in relation to any encroachment by the building onto land vested in or under the control of the council,

in relation to matters arising only from the deterioration of the building as a result solely of fair wear and tear.

However, this certificate does not operate to prevent the council:

(a) from making Order No. 6 in the Table to Section 121B of the *Environmental Planning and Assessment Act 1979,* or

(b) From taking proceedings against any person under Section 125 of the *Environmental Planning and Assessment Act 1979 with respect to that person's failure:*

(i) To obtain a development consent with respect to the erection or use of the building, or

(ii) To comply with the conditions of a development consent.

AR BUILDING CERTIFIERS
Building Certifiers and Building Regulation and Fire safety Consultants

23rd September 2014

The General Manager
Holroyd City Council
Po Box 42
Merrylands NSW 2160

Attention: Planning Department

Dear Sir/Madam,

RE: 14 Kiora Crescent, Yennora NSW 2161

Occupation Certificate – 14/821 – Alterations to an Existing Industrial Premises and Fit out for a Liquid Waste Facility

Please find attached a copy of the Occupation Certificate for the above development that has been granted by the Principal Certifying Authority.

The certificate relates to proposed alterations to an existing industrial premises and fit out for a liquid waste facility at the above address.

Together with the Certificate, we have enclosed the following for Council's record:

1. Occupation Certificate Application Form
2. Other documents relied upon

We have attached a cheque for the registration of this certificate. In forwarding the receipt for this payment it is requested that reference be made to the address of the premises.

If you have any queries regarding the above please do not hesitate to contact Omar Zaher on 0411653613.

Yours faithfully,

Ramanathan Shanmuganathan
Accredited Certifier

Suite 104, 25 Solent Circuit
Baulkham Hills NSW 2153
ABN: 25145101140
Tel: (02) 8014 4036
Email: arbcertifiers@gmail.com

Parramatta CBD BC
PO Box 604
Parramatta NSW 2124
Fax: (02) 8008 1523
http://www.arbuildingcertifiers.com.au

OCCUPATION CERTIFICATE

Issued under the Environmental Planning and Assessment Act 1979
Sections 109C (1) (c) and 109H

Certificate No.:	**14/821**
Subject Land:	14 Kiora Crescent, Yennora NSW 2161
Applicant:	Melissa Hawach
Address:	20 Coronet Court, North Rocks NSW 2151
Owner:	Melissa Hawach
Address:	20 Coronet Court, North Rocks NSW 2151
Type of Certificate:	Final
Determination:	Approved
Date of Determination:	23/09/2014
Attachments:	• Occupation Certificate Application Form • Other documentation relied upon
Whole/Part of building works:	Whole
Description of part (if applicable):	Alterations to an existing industrial premises and fit out for a liquid waste facility
BCA Classification:	Class 7
CC No.:	14/821
Issued by:	AR Building Certifiers Pty Ltd
DA No.:	DA-2013/351/1
Consent Authority:	Holroyd City Council
Accreditation Level:	Building Surveyor Grade A1
Registration No.:	BPB 0371
Accreditation Body:	Building Professionals Board

I certify that:

- the health and safety of the occupants of the building have been taken into consideration where an interim occupation certificate is being issued, and
- a current development consent or complying development certificate is in force for the building, and
- if any building work has been carried out, a current construction certificate (or complying development certificate) has been issued with respect to the plans and specifications for the building, and
- the building is suitable for occupation or use in accordance with its classification under the Building Code of Australia, and
- a fire safety certificate has been issued for the building, and

Signed: _____ **Date: 23rd September 2014**

Ramanathan Shanmugananthan
Principal Certifying Authority

Suite 104, 25 Solent Circuit
Baulkham Hills NSW 2153
ABN: 25145101140
Tel: (02) 8014 4036
Email: arbcertifiers@gmail.com

Parramatta CBD BC
PO Box 604
Parramatta NSW 2124
Fax: (02) 8008 1523
http://www.arbuildingcertifiers.com.au

AR BUILDING CERTIFIERS

RECEIVED 20/5/2014

Building Certifiers Building Regulations & Fire Safety Consultants

☐ Interim ☑ Final

OCCUPATION CERTIFICATE APPLICATION FORM

Environmental Planning & Assessment Act 1979, s.109C
Environmental Planning & Assessment Regulation 2000, cl.126 or 139

APPLICANT

Name: Melissa Haweth

Address: 20 Coronet Court, North Rocks

Signature & Date: [signature] 20/5/2014

Email & Mobile: info@Lwaste.com.au 0450257827

OWNER

Name:

Address: AS ABOVE

Signature & Date: _____

SUBJECT LAND

Address: 14 Kiora Crescent, Tennora

Lot & DP: Lot 49, DP 18211

PROPOSAL

Description: Change of use to Liquid Waste Facility

Part or Whole of Building:

DEVELOPMENT CONSENT

Not applicable for applications for CDC

DA No.: 2013/351/1 Date of Determination: 12/2/2014

CONSTRUCTION/COMPLYING DEVELOPMENT CERTIFICATE

Construction or Complying Development Certificate No.: _____ Date: _____

24 Mackillop Drive
Baulkham Hills NSW 2153
ABN: 49766176577
Tel: (02) 8014 4036
Email: arbcertifiers@gmail.com

Parramatta CBD BC
PO Box 604
Parramatta NSW 2124
Fax: (02) 8008 1523
http://www.arbuildingcertifiers.com.au

Final/Interim Fire Safety Certificate

issued under the Environmental Planning and Assessment Regulation 2000.

CERTIFICATE

Type of certificate
see note 1

☐ interim ☐ final

Certificate
name owner/agent
address

I, MELISSA HAWACH
of 14 KIORA CRES YENNORA NSW 2161
certify that:

(a) each of the essential fire measures listed below:

see note 2 assessment requirements

- has been assessed by a person (chosen by me) who was properly qualified to do so, and
- was found, when it was assessed, to have been properly implemented and to be capable of performing to a standard not less than that required by the most recent fire safety schedule (copy attached) for the building for which the certificate is issued.

see note 3 relevant fire safety schedule

Essential Fire and Other Safety Measures	Standard of Performance
Emergency Lighting	BCA Clause E4.2 & E4.4 AS 2293.1 – 2005
Exit Signs	BCA Clause E4.5, BCA Clause (NSW) E4.6, E4.8, AS 2293.1 – 2005
Hose Reel Systems	BCA E1.4, AS 2441 – 2005, AS 1851 – 2005
Portable Fire Extinguishers	BCA E1.6, AS 2444 – 2001, AS 1851 – 2005

(b) the information contained in this certificate is, to the best of my knowledge and belief, true and accurate.

Identification of building

Particulars of building whole/~~part~~: Part _____

Date of assessment 9th April 2014

Owner's details
name Melissa Hawach

address

Date of certificate

Signature

owner/agent

- *A copy of this certificate together with the relevant fire safety schedule must be forwarded to the Council and the Commissioner of the New South Wales Fire Brigades.*

FIRE SAFETY SCHEDULE

(Clause 168 of the Environmental Planning and Assessment Regulation 2000)

Premises: 14 Kiora Crescent, Yennora NSW 2161

Construction Certificate: 14/821

SCHEDULE

Essential Fire and Other Safety Measures	**Standard of Performance**	**Existing**	**Proposed**
Emergency Lighting	BCA Clause E4.2 and E4.4 & AS 2293.1 - 2005		x
Exit Signs	BCA Clause E4.5 NSW E4.6, E4.7 and E4.8, AS 2293.1 - 2005		x
Fire Hose Reels	BCA Clause E1.4, AS 1851 – 2005, AS 2444 – 2001		x
Portable Fire Extinguishers	BCA Clause E1.6, AS 1851 – 2005, AS 2444 – 2001		x

ATTACHMENT SHEET

2013/351.

TO (Top copy to Records, carbon copy to Development Services)
(delete whichever is **not** applicable)

RECORDS – (1 x set plans/documents + cover letter)

DEVELOPMENT SERVICES – (All other plans/documents + cover letter)

Received by (CSU Officer Name) BELINDA Date 12.3.14

DA NUMBER 2013 / 351

PROPERTY ADDRESS: 14 KIORA CRESCENT YENNORA
APPLICANT NAME: EDDY HANNA
TELEPHONE #: 0430257827

Referred to Development Officer: Roopali Pandey

SCHEDULE A

OFFICE USE ONLY

1. ☐ One set of documentation/plans and this cover sheet to Records
2. ☐ All other documentation/plans referred to D/O with Carbon copy attachment sheet

RECEIVED
14 MAR 2014
HOLROYD CITY COUNCIL

Roopali. P.

enviro
services group pty ltd

Lic# 13039 - ABN 42 154 428 010
PO Box 706 Parramatta NSW 2124
Phone/Fax: 9687 8389
Mobile: 0420 511 727
Email: info@enviroblasting.com.au
www.enviroblasting.com.au

To whom it may concern,

I Melissa Hawach owner of 14 Kiora Cres Yennora N.S.W

Allow Eddy Hawach to engage all correspondence for DA Application 2013/351.

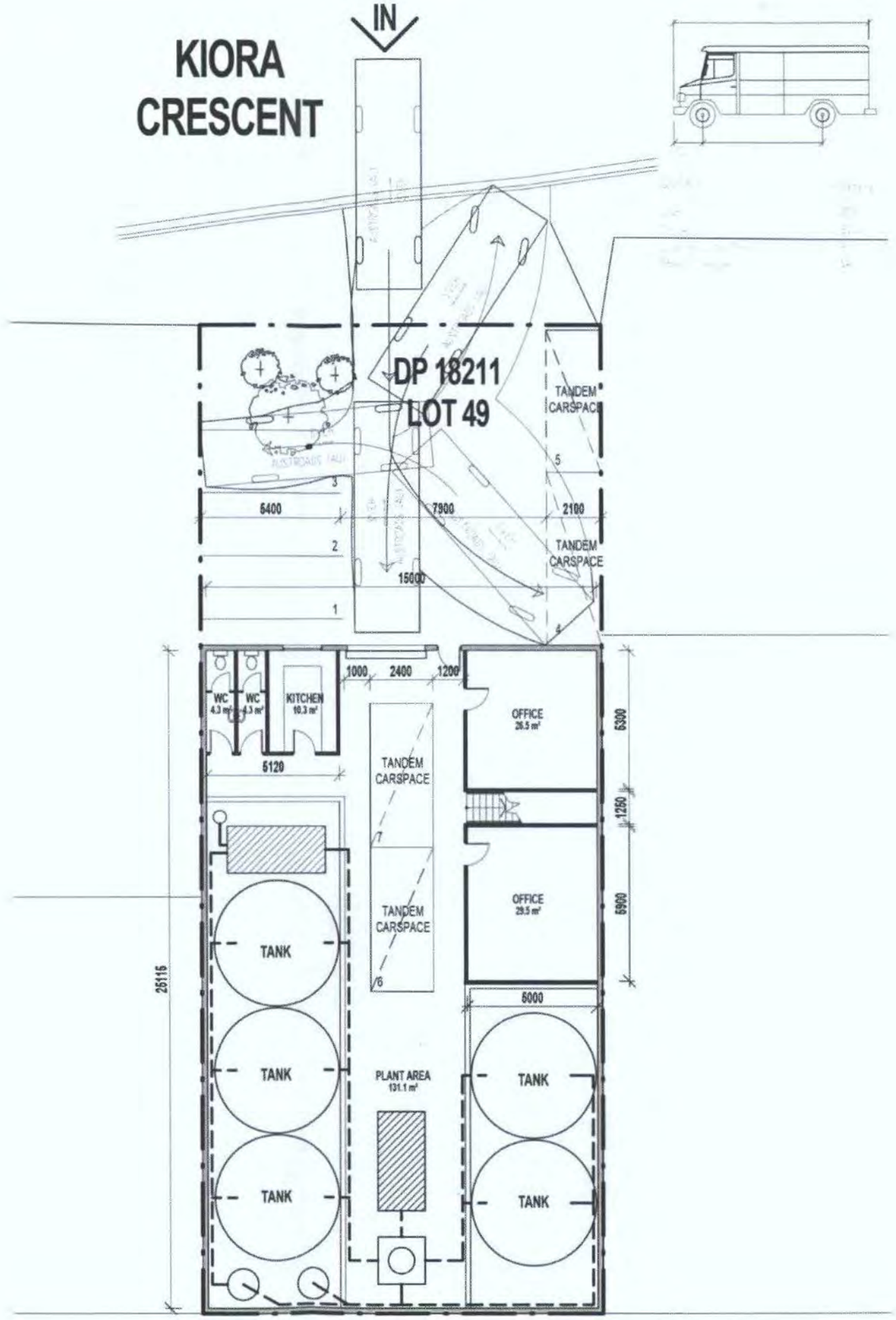
All documents regarding DA can be posted to PO Box 706 Parramatta, NSW 2124

If you have any questions please contact me on 0450257827.

Thank you

Melissa Hawach

enviro
waste solutions


IN
KIORA
CRESCENT
DP 18211
LOT 49
TANDEM
CARSPACE
5
3
6400
7900
2100
2
TANDEM
CARSPACE
15000
1
4
1000
2400
1200
WC
4.3 m²
WC
4.3 m²
KITCHEN
10.3 m²
OFFICE
26.5 m²
6300
5120
TANDEM
CARSPACE
7
1250
OFFICE
29.5 m²
6900
TANK
25115
TANDEM
CARSPACE
6
5000
TANK
PLANT AREA
131.1 m²
TANK
TANK
TANK

ISSUE	DATE	AMENDMENT
A	04/03/201	ISSUE FOR

PROJEC
PROPOSED WASTE TRANSFER
ADDRES
1 KIORA CRESCENT, YENNORA, 2161

CLIEN
STIMSON CONSULTING

Morson Grouppty ltd
NOMINATED ARCHITECT - P F MORSON
REGISTRATION NUMBER 6100
ACN 159 480 056, ABN 41 159 480 056
E: peter@morsonassociates.com
M: 0439 477 181
PO Box 170, Potts Point, NSW 1335

SCAL
1 :

DAT
JULY

NORTH

SHEE NAM
SWEPT PATH ANALYSIS - LIGHT

DRAWIN NUMBE
DA02

B
ISSUE

2013/351

CS

CERTIFICATES RECEIVED FROM PRIVATE CERTIFIERS CHECKLIST

☐ **D/A NO.** 2013/351 **ADDRESS** 14 KIORA CL YENNORA

☒ **CONSTRUCTION CERTIFICATE** ☐ **INTERIM OCCUPATION CERTIFICATE**

☐ **OCCUPATION CERTIFICATE** **Date Received** 26/6/14

CSU - Customer Service Unit

☒ Entered into Authority

☒ Payment received

Amount: 36.00 Date: 26/6/14 Receipt No: 1153125

☒ Long Service Levy - LSL - raised and paid

☒ Fees and Bonds paid

Development Clerk

☐ Details checked in Authority

☐ Photocopy certificate on green for Consent Register

☐ Waste Management Plan to Waste Officer

RECEIVED
26 JUN 2014
HOLROYD CITY COUNCIL

Tracking

☐ Send to Records to attached to D file

☐ Send to: Landscape/Land Use Section

☐ Send to: Engineers - OSD inspection
- Bond refund

Lillian W.

AR BUILDING CERTIFIERS

Building Certifiers and Building Regulation and Fire safety Consultants

18th June 2014

The General Manager
Holroyd City Council
PO Box 42
Merrylands NSW 2160

Attention: Planning Department

Dear Sir/Madam,

RE: 14 Kiora Crescent, Yennora NSW 2161
Construction Certificate – 14/821 – Alterations to an Existing Industrial Premises and Fit out for a liquid waste facility

Please find attached the Construction Certificate for the proposed development that has been granted by the Accredited Certifier.

The certificate relates to the proposed alterations to existing industrial premises and fit out for a liquid waste facility at the above address.

Together with the certificate, we have enclosed the following for Council's record:

1. Application Forms
2. Approved Plans
3. Other Documentations relied upon

We have attached a cheque for the registration of this certificate. In forwarding the receipt for this cheque it is requested that reference be made to the address of the premises.

If you have any queries regarding the above please do not hesitate to call Omar Zaher on 0411653613 during business hours.

Yours faithfully,

Ramanathan Shanmugananthan
Accredited Certifier

Suite 104, 25 Solent Circuit
Baulkham Hills NSW 2153
ABN: 25145101140
Tel: (02) 8014 4036
Email: arbcertifiers@gmail.com

Parramatta CBD BC
PO Box 604
Parramatta NSW 2124
Fax: (02) 8008 1523
http://www.arbuildingcertifiers.com.au

AR BUILDING CERTIFIERS

Building Certifiers and Building Regulation and Fire safety Consultants

CONSTRUCTION CERTIFICATE

Issued under the Environmental Planning and Assessment Act 1979

Certificate No.:	**14/821**
Subject Land:	14 Kiora Crescent, Yennora NSW 2161
Lot & DP:	Lot 49, DP 18211
Applicant:	Melissa Hawach
Address:	20 Coronet Court, North Rocks NSW 2151
Mobile:	0450257827
Owner:	Melissa Hawach
Address:	20 Coronet Court, North Rocks NSW 2151
Description of Building Works:	Alterations to an existing industrial premises and fit out for a liquid waste facility
BCA Classification:	Class 7b
Cost of Building Works:	$50,000.00
Builder:	Michael Zahra Lic # 5904C
DA No.:	DA-2013/351/1
Determination Date:	12/02/2014
Consent Authority:	Holroyd City Council
Date of Receipt of CC application:	20/05/2014
Determination:	Approved
Date of Determination:	18/06/2014
Approved Plans:	DA01
Attachments:	• Application Forms • Approved Plans • Other Documentations relied upon
Accreditation Level:	Building Surveyor Grade A1
Registration No.:	BPB 0371
Accreditation Body:	Building Professionals Board

I certify that:

- the work, if completed in accordance with documentation accompanying the application for the certificate (with such modifications verified by the certifying authority as may be shown on that documentation), will comply with the requirements of *Environmental Planning & Assessment (EP&A) Regulation 2000* as are referred to in sec. 81A (5) of the *EP&A Act 1979*.

Signed: _____ **Date: 18th June 2014**

Ramanathan Shanmugananthan

Accredited Certifier

Suite 104, 25 Solent Circuit
Baulkham Hills NSW 2153
ABN: 25145101140
Tel: (02) 8014 4036
Email: arbcertifiers@gmail.com

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RECEIVED 20/05/2014

APPLICATION FORM

Environmental Planning & Assessment Act 1979, s.109C
Environmental Planning & Assessment Regulation 2000, cl.126 or 139

☑ Construction Certificate (CC) ☐ Complying Development Certificate (CDC)

APPLICANT

Name: Melissa Hawach

Address: 20 Coronet Court, North Rocks

Signature & Date: 20/5/2014

Email & Mobile: info@cwaste.com.au 0450257827

OWNER

Name:

Address: As Above.

As the owner/s of the subject property, I/we hereby consent to this Application of the Certificate for the proposed development described below.

Signature & Date: _____

SUBJECT LAND

Address: 14 Kiora Crescent, Yennora

Lot & DP: Lot 49, DP 8211

PROPOSAL

Description: Change of use to Liquid Waste Facility

DEVELOPMENT CONSENT *NOT APPLICABLE FOR APPLICATIONS FOR CDC*

DA Number: 2013/351/1

Date of Lodgement:

Date of Determination: 12/2/2014

VALUE OF WORKS

Estimated Cost of Works: $ 50'000

24 Mackillop Drive
Baulkham Hills NSW 2153
ABN: 49766176577
Tel: (02) 8014 4036
Email: arbcertifiers@gmail.com

Parramatta CBD BC
PO Box 604
Parramatta NSW 2124
Fax: (02) 8008 1523
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ABS Schedule to Construct Certificate Application

particulars of the proposal

What is the area of the land (m²) ..... 456.7 m²
Gross floor area of existing building (m²) ..... 392.9 m²
What are the current uses of all or parts of the building(s)/land?
(if vacant state vacant) ..... Vacant.

Location	Use

Does the site contain a dual occupancy? ..... NO
What is the gross floor area of the proposed addition or new building (m²) ..... N.A.
What are the proposed uses of all parts of the building(s)/land?

Location	Use
Liquid Waste	Facility

Number of pre-existing dwellings 1
Number of dwellings to be demolished ..... N/A.
How many dwellings are proposed? ..... N/A
How many storeys will the building consist of? ..... N/A

materials to be used

Place a tick ( ) in the box which best describes the materials the new work will be constructed of:

walls	code	roof	code
brick veneer	12	aluminium	70
full brick	11	concrete	20
single brick	11	concrete tile	10
concrete block	11	fibrous cement	30
concrete/masonry	20	fibreglass	80
concrete	20	masonry/terracotta shingle tiles	10
steel	60	slate	20
fibrous cement	30	steel	60
hardiplank	30	terracotta tile	10
cladding - aluminium	70	other	80
curtain glass	50	unknown	90
other	80		
unknown	90		

floor		frame	
concrete	20	timber	40
timber	10	steel	60
other	80	other	80
unknown	90	unknown	90

N/A
N/A

AR BUILDING CERTIFIERS

Building Certifiers Building Regulations & Fire Safety Consultants

Notification of Mandatory Inspections

Environmental Planning and Assessment Act 1979 Sections 81A & 86 and Regulation 2000 Clauses 103A & 135A

SUBJECT LAND

Address: 14 Kiora Crescent, Tennora

Description of Works: Change of use to Liquid Waste Facility

CONSENT

DA/CDC No.: 2013/351/1 CC No.: _____

PRINCIPAL CERTIFYING AUTHORITY

Name: Ramanathan Shanmugananthan Accreditation no.: BPB0371

THE FOLLOWING ARE CRITICAL STAGE MANDATORY INSPECTIONS

They are required pursuant to Section 109E (3) (d) of the Act & Clause 162A of the Regs

(1) In the case of a class 1 or 10 building,

a) after excavation for, and prior to the placement of, any footings, and
b) prior to pouring any in-situ reinforced concrete building element, and
c) prior to covering of the framework for any floor, wall, roof or other building element, and
d) prior to covering waterproofing in any wet areas, and
e) prior to covering any storm water drainage connections, and
f) after the building work has been completed and prior to any occupation certificate

In the case of swimming pool:

g) after the construction of the swimming pool is completed and the barrier (if one is required under the Swimming Pools Act 1992) has been erected and before the pool is filled with water

(2) In the case of a class 2, 3 or 4 building,

a) after excavation for, and before the placement of any footings, and
b) waterproofing in any wet areas, for a minimum of 10% of rooms with wet areas, and
c) prior to covering any storm water drainage connections, and
d) after the building work has been completed and prior to any occupation certificate

(3) In the case of a class 5, 6, 7, 8 or 9 building,

a) after excavation for, and before the placement of, any footing, and
b) prior to covering any storm water drainage connections, and
c) after the building work has been completed and prior to any occupation certificate

PERSON WITH THE BENEFIT OF THE DEVELOPMENT CONSENT/CDC

Name Melissa Haward Signature _____ Date 20/5/2014

Please Note: If a builder is appointed the legislation requires you to notify them of these inspections. A missed inspection may result in the PCA being prohibited from issuing an Occupation Certificate.

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AR BUILDING CERTIFIERS

Building Certifiers Building Regulations & Fire Safety Consultants

Notice of Commencement of Building Work and Appointment of Principal Certifying Authority

Environmental Planning and Assessment Act 1979
Sections 81A (2) (b) (ii) or (c), or (4) (b) (ii) or (c), 86 (1) and (2)

SUBJECT LAND

Address: 14 Kiora Crescent, Yennora

OWNER

Name: Melissa Hawach
Address: 20 Coronet court, North Rocks

PROPOSAL

Description: Change of use for Liquid waste Facility

CONSENT

DA/CDC No.: 2013/351/1
Date of Determination: 12/2/2014

PRINCIPAL CERTIFYING AUTHORITY

Name:	Ramanathan Shanmugananthan
Accreditation no.:	BPB0371
Accreditation grade:	Grade 1
Accreditation body:	Building Professionals Board

COMPLIANCE WITH CONDITIONS & H.O.W. INSURANCE

Address: 24 Mackillop Drive, Baulkham Hills NSW 2153

- Have relevant conditions of development consent/CDC been complied with? ☑ Yes ☐ No
- Have the requirements under the Home Building Act 1989 been complied with? ☑ Yes ☐ No

DATE WORK IS TO COMMENCE

- After 48 hours from the date of lodgement of this form with the consent authority
- The owner agrees to this appointment

Owner's signature: _____ **PCA signature:** _____
Date: 20/5/2014 Date: 18/6/2014

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ABN #:20661226966
Holroyd City Council
PO Box 42
MERRYLANDS NSW 2160
Ph 9840 9914 Fax
Email: hcc@holroyd.nsw.gov.au
Website: www.holroyd.nsw.gov.au

Date 13/05/2014 12:27
Receipt 01123306:0001 Terminal 2:3209
Enviro Services Group
PO Box 706
PARRAMATTA NSW 2124

Details	Amount
Long Service Levy	210.00
DA 2013/351	
- Bond - K&G over $	782.00
Merchant Service Fee	6.55
Total Value:	998.55
Tendered	
Credit	998.55
Change	0.00

INFINITYFIRE PROTECTION

FIRE PROTECTION ASSOCIATION AUSTRALIA
CODE OF PRACTICE COMPLIANT

Certificate of Compliance

BUILDING NAME:

BUILDING ADDRESS: 14 Kiora Crescent

Building description: whole / ~~part~~
Description of part:

Essential Fire Safety Measure	Standard of Performance	Date of Assessment
Fire Hose Reels	AS 1851 – 2005 Section 17	9th April 2014
Portable Fire Extinguishers & Fire Blankets	AS 1851 – 2005 Section 14	9th April 2014

I, Boyd Chatillon of **INFINITY FIRE PROTECTION**

Certify that the Essential Fire Safety Measures specified above have been assessed, inspected, tested and maintained by a properly qualified person and was found, when it was assessed, to be capable of performing to the Standard of Performance for that Fire Safety Measure.

The information contained in this certificate is to the best of my knowledge and belief, true and accurate.

Signed: 

Date: 27/5/2014

Infinity Fire Protection Pty Ltd A.B.N. 57 067 135 246
U33, 1a Coulson St, ERSKINEVILLE NSW 2043 Phone: 1300 787 622 Fax: (02) 8594 3444
E-mail: info@infinityfire.com.au

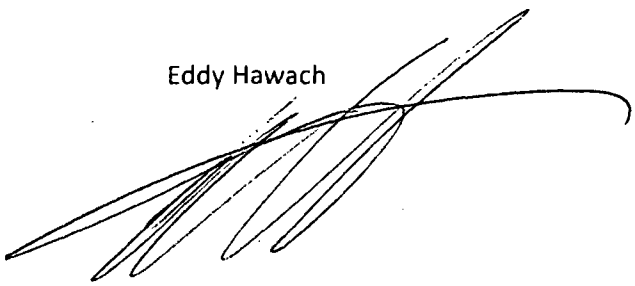
27/05/14

To whom it may concern,

- I Eddy Hawach Intent to Comply with Conditions 23, 24, 27, 28, 36, 37, 38, 43, 44, 45, 46 of the plans approved at 14 Kiora Cres Yennora, by Holroyd city council.

- I Eddy Hawach Intent to comply that "No Structural Work to be carried out on site' at 14 Kiora Cres Yennora.

Eddy Hawach



16 Memorial Avenue
PO Box 42
Merrylands NSW 2160

T 02 9840 9840
F 02 9840 9734
E hcc@holroyd.nsw.gov.au
www.holroyd.nsw.gov.au

DX 25408 Merrylands
TTY 02 9840 9988
ABN 20 661 226 966

Environmental & Planning Services Department

Our Reference: 2013/351
Contact: Ms Roopali Pandey
Phone: 02 9840 9659

10 April 2014

Stimson Consultant Services
PO Box 4308
WINMALEE NSW 2777

Dear Sir/Madam

PREMISES: 14 Kiora Crescent, Yennora
DEVELOPMENT CONSENT NO: 2013/351/1
DATE FROM WHICH CONSENT OPERATES: 10 April 2014

I refer to the abovementioned Development Consent which was determined by granting of "Deferred Commencement" consent pursuant to S.80(3) of the Environmental Planning & Assessment Act, 1979 (Amended), and the additional information received on 3 April 2014.

It is stipulated that Schedule "B" consent for alterations to an existing industrial premises and fit out for a liquid waste facility, shall not operate until such time as Schedule "A" conditions have been complied with to Council's satisfaction.

Accordingly, you are advised that conditions set forth in Schedule "A" of Development Consent No. 2013/351/1 have now been complied with to Council's satisfaction and Schedule "B" consent shall become operative. The date from which the consent operates is **10 April 2014.**

If you have any further enquiries please contact Ms Roopali Pandey of Council's Environmental & Planning Services Department on 02 9840 9659, Monday to Friday.

Yours faithfully,

Merv Ismay
GENERAL MANAGER

Per:
MANAGER DEVELOPMENT

16 Memorial Avenue
PO Box 42
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ABN 20 661 226 966

Environmental & Planning Services Department

Our Reference: 2013/351
Contact: Ms Roopali Pandey
Phone: 9840 9659

ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979
NOTICE OF DETERMINATION OF APPLICATION

DEFERRED COMMENCEMENT

12 February 2014

Stimson Consultant Services
PO Box 4308
WINMALEE NSW 2777

Dear Sir/Madam

Pursuant to Section 81 of the Act, Council has granted "deferred commencement" to your Development Application described as follows:

PROPERTY:	**Lot 49, DP 18211**
STREET ADDRESS:	**14 Kiora Crescent, Yennora**
DEVELOPMENT CONSENT NO:	**2013/351/1**
DECISION:	**Delegated Authority**
DATE FROM WHICH CONSENT OPERATES:	**TO BE ADVISED UPON SATISFACTORY COMPLETION OF SCHEDULE 'A'**
DATE OF EXPIRY OF CONSENT:	**12 February 2017**
PROPOSED DEVELOPMENT:	**ALTERATIONS TO AN EXISTING INDUSTRIAL PREMISES AND FIT OUT FOR A LIQUID WASTE FACILITY**

This Development Application is APPROVED in accordance with the Environmental Planning & Assessment Act 1979 and is subject to compliance with the requirements of Holroyd City Council, the Building Code of Australia, the Local Government Act 1993, and the following conditions as set out hereunder and/or endorsed upon the attached plans.

PURSUANT TO SECTION 80(3) OF THE ACT, THIS CONSENT IS NOT TO OPERATE UNTIL COUNCIL IS SATISFIED THAT ALL SCHEDULE 'A' CONDITIONS HAVE BEEN SATISFIED.

IMPORTANT *English*

This letter contains important information. If you do not understand it please ask a relative or friend to translate it or come to Council and discuss this letter with Council's staff using the Telephone Interpreter Service.

IMPORTANTE *Italian*

Questa lettera contiene informazioni importanti. Se non la comprende chieda ad un parente od amico di tradurgliela, o venga al Municipio a discuterla col personale del Comune con l'aiuto del Servizio Telefonico Interpreti.

IMPORTANTE *Spanish*

Esta correspondencia contiene información importaate. Si no la entiende, por favor solicite a un familiar o alguna amistad que se la traduzca, o concurra al Municipio e infórmese de su contenido con funcionarios municipales, utilizando el Servicio Telefónico de Intérpretes.

ΣΗΜΑΝΤΙΚΟ *Greek*

Αυτή η επιστολή περιέχει ενδιαφέρουσες πληροφορίες. Αν δεν τις καταλαβαίνετε ζητήστε από κάποιο συγγενή ή φίλο να τις μεταφράσει ή ελάτε στη Δημαρχία να μιλήσετε στο προσωπικό σχετικά μ' αυτή την επιστολή χρησιμοποιώντας την Τηλεφωνική Υπηρεσία Διερμηνέων.

IMPORTANTI *Maltese*

Din l-ittra fiha taghrif importanti. Jekk ma tifimhiex, jekk joghgbok staqsi lil qarib jew habib biex jittraducihielek jew ejja sal-Kunsill u ddiskuti din l-ittra ma' l-istaff tal-Kunsill billi tuza s-Servizz Telefoniku tal-Interpreti.

重要的信息 *Chinese*

此信含有重要的信息。如果你看不懂，你可請親戚或朋友譯成中文或前往市府並通過電話傳譯服務與市府的工作人員討論此信。

TIN QUAN TRỌNG *Vietnamese*

Tin tức trong thư này rất quan trọng. Nếu quí vị không hiểu rõ, xin hỏi những người thân hoặc bạn bè phiên dịch cho quí vị hoặc đến hỏi nhân viên Tòa Hành Chánh, tại đây có phương tiện Thông Ngôn Qua Điện Thoại.

هام *Arabic*

تحتوي هذه الرسالة على معلومات هامة . إذا لم تكن تفهمها يُرجى طلب ترجمتها من قريب أو صديق أو إحضر إلى المجلس وناقش هذه الرسالة مع موظفي المجلس عن طريق الاستعانة بخدمة الترجمة الهاتفية .

SCHEDULE "A"

Consent to the alterations to an existing industrial premises and fit-out for a liquid waste facility shall not operate until all of the following Schedule "A" conditions have been complied with to Council's satisfaction.

Please note that this consent shall lapse if the approved development is not physically commenced by the "date of expiry of consent" shown on the front page of this document. It is therefore in your interest to attend to the following matters as soon as possible. When Council is satisfied that Schedule "A" has been complied with, a letter will be issued advising of the "date from which Consent operates".

Swept Path Analysis

1. Swept path analysis for the largest vehicle (i.e. Small Rigid Vehicle) shall be provided to Council that will demonstrate that the vehicle can enter and exit the site in a forward direction.

****

SCHEDULE "B"

This consent cannot operate until such time as Council is satisfied with the evidence produced in response to Schedule "A" and has notified the applicant in writing of the date from which the consent operates.

PRELIMINARY

1. This consent shall lapse if the above development is not physically commenced by the date of expiry shown on the front page of this Consent. Any person entitled to act on the consent may apply to Council at least 30 days before this three year period expires, for an extension of one year (in accordance with Section 95A of the Environmental Planning & Assessment Act 1979), provided that good cause is shown. **Note: Failure to lodge an application for extension of consent will mean the consent lapses and a fresh application will be required that will be assessed in accordance with current controls.**

2. Development shall take place in accordance with the attached endorsed plans:

   - Architectural prepared by Morson Group Pty Ltd, Drawing Number DA01, Issue A, dated 7 December 2013; as amended to satisfy Conditions 13 and 14;
   - General Terms of Approval letter issued by NSW Environmental Protection Authority, dated 17 October 2013;
   - Odour Impact Assessment Report prepared by Benbow Environmental, dated 21 January 2014;
   - Amended Waste Management Plan to satisfy Condition 12;

   a) As amended in red by Council. All amendments are to be incorporated in the Construction Certificate plans.

3. All building work shall be carried out in accordance with the requirements of the Building Code of Australia. Fully detailed plans including fire safety details shall be submitted with the Construction Certificate application. No work is to commence until such time as a Construction Certificate is obtained for the work/building permitted by this Consent.

Appointment of Council or a Private Certifier as the Principal Certifying Authority (PCA)

4. Either Council or a Private Certifier is to be appointed as the Principal Certifying Authority (PCA) for the development in accordance with Section 109E of the Act.

   Accordingly, wherever reference is made to the Principal Certifying Authority in this Consent, it refers to Council or the Private Certifier as chosen by you.

   Note: Once you have chosen either Council or a Private Certifier as the PCA, you cannot change from one to the other, or from one Private Certifier or another, without the approval of Department of Planning & Infrastructure.

5. The applicant shall consult with, as required:
(a) Sydney Water Corporation Limited
(b) Integral Energy
(c) Natural Gas Company
(d) A local telecommunications carrier
regarding their requirements for the provision of services to the development and the location of existing services that may be affected by proposed works, either on site or on the adjacent public road(s).

6. Building materials, builders sheds, waste bins, site fencing, gates or any material of any description shall not be left or placed on any footway, road or nature strip. Footways and nature strips shall be maintained, including the cutting of vegetation, so as not to become unsightly or a hazard for pedestrians. Offenders will be prosecuted.

NOTE: FEES, BONDS & CONTRIBUTIONS INDICATED IN CONDITIONS OF THIS CONSENT MAY VARY IN ACCORDANCE WITH THOSE ADOPTED BY COUNCIL AT SUBSEQUENT ANNUAL REVIEWS OF ITS "FEES AND CHARGES" AND SUBSEQUENT CHANGES TO THE BUILDING PRICE INDEX. FEES CHARGED WILL BE THOSE CURRENT AT THE TIME OF PAYMENT.

PRIOR TO ISSUE/RELEASE OF CONSTRUCTION CERTIFICATE

The following conditions must be complied with prior to the issue of a Construction Certificate. In many cases the conditions require certain details to be included with or incorporated in the detailed plans and specifications which accompany the Construction Certificate:-

Payment of Bonds, Fees and Long Service Levy

7. The Principal Certifying Authority is to ensure and obtain written proof that all bonds, fees and contributions as required by this consent have been paid to the applicable authority. This includes all Long Service Levy payments to be made to the Long Service Payments Corporation.

Consistency with Endorsed Development Consent Plans

8. The Principal Certifying Authority must ensure that any certified plans forming part of the Construction Certificate, are in accordance with the Development Consent plans.

Damage Deposit

9. A cash bond/bank guarantee of **$782.00** must be paid/lodged with Council to cover making good any damage caused to the property of Council, during the course of construction associated with the development. This will be held for 'six (6) months after the completion of works' or six (6) months after the issue of 'Final Occupation Certificate' (whichever occurs last) to remedy any defects that may arise within this time.

   Note:- The applicant/owner shall be held responsible for and may be required to pay the full reinstatement costs for damage caused to Council's property unless the applicant/owner notifies Council in writing and provides photographic proof of any existing damage to Council's property. Such notification shall occur prior to works/demolition commencing. However, if in the opinion of Council, during the course of construction existing damage has worsened, Council may require full reinstatement. If damage does occur during the course of construction, prior to reinstating any damage to Council's property, the applicant/owner shall obtain design specifications of all proposed restoration works. Restoration/construction works within the road reserve shall be carried out by a licensed construction contractor at the applicant/owners expense and shall be inspected by Council prior to placement of concrete and/or asphalt.

Fire Safety Upgrading & Essential Services

10. The applicant/owner is to give written notice to the Certifying Authority of the measures that are currently implemented in the building or premises to ensure the safety of persons in the building in the event of fire. The schedule of measures must be provided with the Construction Certificate application.

11. Prior to the issue of a Construction Certificate, the applicant / owner must submit plans to the Accredited Certifier or Council, confirming that the fire safety measures contained within the subject building have been upgraded under the provisions of Clause 94 of the Environmental Planning & Assessment Regulations 2000, into total conformity with the Building Code of Australia and are adequate:

(i) to protect persons using the building, and to facilitate their egress from the building, in the event of fire, or
(ii) to restrict the spread of fire from the building to other buildings nearby.

Required Submissions to Certifying Authority

12. A Waste Management Plan shall be submitted to the Principal Certifying Authority, prior to the issue of a Construction Certificate, providing the details of the recycling and waste disposal facilities that are to be used.

13. Amended architectural plans shall be submitted to the Principal Certifying Authority, prior to the issue of a Construction Certificate, designating the two tandem carspaces within the building on the ground floor as unloading area.

Accessibility

14. Prior to the issue of a Construction Certificate, amended plans must be submitted to the Accredited Certifier or Council, indicating that the new development (and any affected part of the existing building) has been upgraded to comply with the requirements of the Disability (Access to Premises – Building) Standards 2010.

PRIOR TO WORKS COMMENCING

The following conditions are to be complied with prior to any works commencing on the site:

Appointment of Principal Certifying Authority and Notification of Commencement of Work

15. The person having the benefit of the development consent, not the principal contractor (builder), must: -

a) Appoint a Principal Certifying Authority in accordance with Section 81A(2)(b) of the Act.

b) Have the Principal Certifying Authority complete the 'Accredited Certifier Details' on the approved form provided by Council for this purpose, an original of which is attached to this Development Consent.

c) Notify Council of the appointment of the Principal Certifying Authority and of the intention to commence building work, such notification is to be given to Council at least two (2) working days prior to the proposed commencement date, and be on the approved form provided by Council for this purpose, an original of which is attached to this Development Consent.

If nominated, Council can provide this service for you and act as the Principal Certifying Authority.

N.B. The Principal Certifying Authority must also notify the person having the benefit of the Development Consent of any mandatory critical stage inspections and other inspections that are to be carried out in respect of the building work such notification must comply with Clause 103A of the Regulations.

Notification of Principal Contractor (Builder)/Owner-Builder

16. The person having the benefit of the Development Consent must:-

(a) Notify the Principal Certifying Authority that the person will carry out the work as an owner-builder, if that is the case;

OR

(b) Appoint a Principal Contractor for the building work (who must be the holder of a contractor licence if any residential building work is involved), and notify the Principal Contractor of any mandatory critical stage inspections and other inspections that are to be carried out in respect of the building work.

(c) Notify the Principal Certifying Authority of any such appointment.

Where Council is the Principal Certifying Authority, such notification is to be on the approved form provided by Council for this purpose, an original of which is attached to this Development Consent.

Signs to be Erected on Sites

17. A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:

(a) showing the name, address and telephone number of the Principal Certifying Authority for the work, and

(b) showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted **outside working hours and at any time for business purposes**, and

(c) stating that unauthorised entry to the work site is prohibited.

The sign must be rigid and durable and be read easily by anyone in any public road or other public place adjacent to the site.

Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

This clause does not apply in relation to building work, subdivision work or demolition work that is carried out inside an existing building that does not affect the external walls of the building.

Note: Principal Certifying Authorities and Principal Contractors must also ensure that signs required by this clause are erected and maintained (clause 227A of the Regulations currently imposes a maximum penalty of $1,100).

DURING CONSTRUCTION

The following conditions are applicable during construction:-

Endorsed Plans & Specifications

18. A copy of the endorsed stamped plans and specifications, together with a copy of the Development Consent, Construction Certificate and approved Traffic Management Plan are to be retained on site at all times.

Hours of Work & Display of Council Supplied Sign

19. For the purpose of preserving the amenity of neighbouring occupations building work including the delivery of materials to and from the site is to be restricted to the hours of 7.00am to 6.00pm Mondays to Fridays and 8.00am to 4.00pm Saturdays. Work on the site on Sundays and Public Holidays is prohibited. **Note: Demolition work is not permitted on weekends or Public Holidays - refer to specific demolition condition for approved hours.**

The yellow "Hours of Building Work" sign (supplied by Council with the approval), is to be displayed in a prominent position at the front of the site for the duration of the work.

20. Builder's refuse disposal and storage facilities are to be provided on the development site for the duration of construction works and all rubbish shall be removed from the site upon completion of the project.

21. The approved Waste Management Plan must be implemented and complied with during all stages of works on site.

Compliance with Critical Stage Inspections and other Inspections nominated by the Principal Certifying Authority

22. Section 109E(3)(d) of the Act requires certain specific inspections (prescribed by clause 162A of the Regulations) and known as 'Critical Stage Inspections' to be carried out for building work. Prior to permitting commencement of the work your Principal Certifying Authority is required to give notice of these inspections pursuant to clause 103A of the Regulations.

N.B. An Occupation Certificate cannot be issued and the building may not be able to be used or occupied where any mandatory critical stage inspections or other inspections required by the Principal Certifying Authority are not carried out.

Where Council is nominated as Principal Certifying Authority, notification of all inspections required is provided with the Construction Certificate approval.

PRIOR TO ISSUE OF FINAL OCCUPATION CERTIFICATE

The following conditions are to be complied with prior to the issue of a final occupation certificate:-

Trafficable Bund

23. All service entries to workshop areas shall be provided with a trafficable bund with a minimum height of 100mm to prevent any spillage exiting the workshop area and entering the stormwater system.

Emergency Spill Response Management Plan

24. A policy on 'spill procedures' is to be developed and implemented to ensure that all staff are aware of what to do in the event of a spill. A copy of this policy is to be submitted to Council.

Removal of Signage on Change of Occupation

25. All signage associated with the previous use is to be removed from the premises.

Fire Safety Upgrading & Essential Services

26. Prior to the issue of an Occupation Certificate, the Principal Certifying Authority must ensure the fire safety measures contained within the subject building have been upgraded under the provisions of Clause 94 of the Environmental Planning & Assessment Regulations 2000, into total conformity with the Building Code of Australia and are adequate:
    i. to protect persons using the building, and to facilitate their egress from the building, in the event of fire, or
    ii. to restrict the spread of fire from the building to other buildings nearby.

Incident Management

27. A Draft Incident Management Plan shall be submitted to Council and the NSW Environmental Planning Authority prior to the issue of an Occupation Certificate.

Trade Waste Licence

28. A Trade Waste Dischargers' Licence is to be obtained from Sydney Water prior to the issue of an Occupation Certificate.

CONDITIONS RELATING TO USE

The following conditions are applicable to the use of the development:-

Safety & Amenity

29. No signs or goods are to be displayed or trading of any description is to be carried out on the public road, public footpath, utility service land, customer and/or employee parking area, the driveways or pedestrian walkways outside or in the immediate vicinity of the premises.

30. For the purposes of preserving the amenity of neighbouring occupations and residents, hours of operation are to be restricted to between:-

- 7.00am and 7.00pm Monday to Friday;
- 7.00am and 12.00noon Saturdays

31. All industrial activities are to be confined within the building and no such activity shall occur externally to the building and this shall include loading and unloading, also storage of new and used materials.

32. Business is to be conducted and patrons are to be controlled at all times so that no interference occurs to the amenity of the adjoining occupations.

33. The operation of the premises shall be conducted in such a manner as not to interfere with or materially affect the amenity of the neighbourhood by reason of noise, vibration, odour, fumes, vapour, steam, soot, ash, dust, particulate matter, waste water, waste products or other impurities which are a nuisance or injurious to health.

34. All industrial activity is to be conducted so that it causes no unreasonable interference to adjoining industrial occupations.

Alarms

35. Where an intruder alarm is installed on the premises it shall be fitted with a timing device in accordance with the requirements of the Protection of the Environment Operations Act 1997.

Disposal of waste and Spills

36. The business is to be operated in a manner so that no contaminants from the workshop are permitted to enter the stormwater drainage system by the washing down of work areas or the disposal of waste and spills.

37. Sufficient supplies of appropriate absorbent materials shall be kept on site to recover any liquid spillage. Liquid spills shall be cleaned up using dry methods, by placing absorbent material on the spill and sweeping or shovelling the material into a secure bin. Absorbent materials used to clean up must be disposed of to an appropriately licensed waste facility.

38. Disposal of liquid waste via the sewer shall only be carried out after approval from Sydney Water via a Trade Waste Agreement. Alternatively, liquid waste shall be removed by a licensed liquid waste contractor.

Traffic / Parking

39. The car parking spaces, driveways and manoeuvring areas are to be used for employees and visitors vehicles only and not for the storage of new or used materials, finished goods or commercial vehicles.

40. All vehicles shall enter / exit the site in a forward direction.

41. The size of delivery vehicles shall be restricted to a small rigid truck.

42. Service vehicles shall not load / unload on or from the street.

Air Emissions

43. The use of the premises shall not give rise to air impurities in contravention of the *Protection of the Environment Operations Act 1997* and shall be controlled in accordance with the requirements of such Act.

44. In the event of Council receiving complaints regarding air pollution or odour from the premises, the person(s) in control of the premises shall at their own cost arrange for an environmental investigation to be carried out (by a suitably qualified person) and submit a report to Council specifying the proposed methods for the control of odour exiting the premises.

45. Any discharge to the atmosphere must not result in any odour or other air impurity detectable outside the boundaries of the property.

46. In the event of Council receiving complaints regarding excessive odour from the garbage bay area, the person(s) in control of the premises shall at their own cost arrange for an environmental investigation to be carried out (by a suitably qualified person) and submit a report to Council specifying the proposed methods for the control of odour emanating from the garbage bay area.

Noise

47. The operation of all plant and equipment shall not give rise to an equivalent continuous (LA_{eq}) sound pressure level at any point on any residential property greater than 5dB(A) above the existing background L_{A90} level (in the absence of the noise under consideration).

48. In the event of Council receiving complaints regarding excessive noise, the person(s) in control of the premises shall at their own cost arrange for an acoustic investigation to be carried out (by a suitably qualified person) and submit a report to Council specifying the proposed methods for the control of noise emanating from the premises.

Clean Water Discharge

49. The operation of the premises shall be conducted in a manner, which does not pollute waters as defined by the *Protection of the Environment Operations Act 1997*.

Signage on Stormwater Drains (Commercial/Industrial)

50. Signs shall be displayed adjacent to all stormwater drains on the premises indicating that only clean water is allowed to enter these drains. Examples of possible signage include: 'Clean Rainwater Only', 'Clean water only - NO waste' or 'H_2O only'.

Waste Collection

51. Liquid and solid wastes generated on the site shall be collected, transported and disposed of in accordance with the *Protection of the Environment Operation Act 1997.* Records shall be kept of all liquid and solid waste disposal from the site, and be made available to Council Officers on request.

Maintenance of Bunded Area

52. Bunded areas shall be properly maintained and all spillages and/or wastes within the bunded areas cleaned up as soon as practicable and disposed of in a manner that does not pollute waters.

Amount of Liquid

53. The amount of liquid/sludge/effluent to be processed shall not exceed 900 tonnes per year.

Number of Employees

54. The maximum number of employees who work at the waste processing site shall be two (2).

ADVISORY NOTES

Other Necessary Approvals

A. The applicant's attention is drawn to the need to obtain Council's separate approval for any ancillary activity not approved by this consent, including:
   (a) Works, including the pruning or removal of any tree(s) not authorised in the preceding conditions or on the approved plans. Council's Tree Preservation Order protects trees by definition taller than 3.5m or having a trunk circumference exceeding 500mm measured one metre above ground level. If in doubt contact Council's Tree Management Officer.
   (b) Any fencing located forward of the proposed building and exceeding the limitations specified in Local Environmental Plan 2013, Part 3 *"Exempt and Complying Development"*.
   (c) The erection of any advertising sign, not being exempt from the need to obtain approval.
   (d) The installation of any furnace, kilns, steam boiler, chemical plant, sand blast, spray painting booth or the like.

   NOTE: * If you carry out building work as an owner builder and sell your home within seven (7) years from the date of completion (date of final occupation certificate), then a Certificate of Insurance must be attached to your Contract of Sale.

B. Section 97 of the Act provides that an applicant who is dissatisfied with the Council's determination of the Development Application may appeal to the Land and Environment Court within 6 months of the date of determination, or as otherwise prescribed.

C. Section 82A of the Act provides that an applicant may request, within 6 months of the date of determination of the Development Application, that the Council review its determination (this does not apply to integrated or designated development). A fee is required for this review.

   It should also be noted that an application under Section 82A of the Act cannot be reviewed/determined after 6 months of the date of determination. Therefore, the submission of a Section 82A Application must allow sufficient time for Council to complete its review within the prescribed time frame, including the statutory requirement for public notification.

D. The applicant and Owner are advised that the Commonwealth Disability Discrimination Act 1992 may apply to this particular proposal. Approval of this application does not imply or confer compliance with this Act. Applicants and owners should satisfy themselves as to compliance and make their own enquiries to the Australian Human Rights Commission. Attention is also drawn to the provisions of Parts 2, 3 and 4 of Australian Standard 1428 - Design for Access and Mobility.

E. A Construction Certificate shall be obtained in accordance with Section 81A (2)(a)of the Act, prior to the commencement of any work on site. Council can provide this service for you.

F. An Occupation Certificate is to be issued by the Principal Certifying Authority prior to the occupation of the building.

G. CONSTRUCTION/OCCUPATION CERTIFICATE FEES

An administration fee of $36.00 per certificate is payable to Council on lodgement of Construction and Occupation Certificates from Principal Certifying Authorities.

Yours faithfully

Merv Ismay
GENERAL MANAGER

Per:
MANAGER DEVELOPMENT

2013/351

Protection of the Environment Operations Act 1997

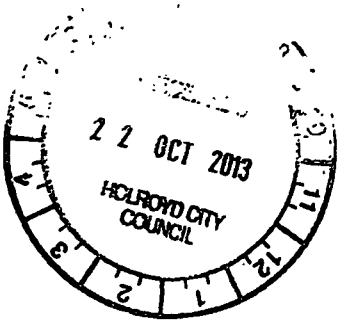
General Terms of Approval - Issued

NSW EPA

Notice No: 1517545

The General Manager
Holroyd City Council
PO Box 42
MERRYLANDS NSW 2160

Attention: Mr W J Attard



Notice Number	1517545
File Number	EF13/8371
Date	17-Oct-2013

Re: Development Application: 2013/351/1 - 14 Kiora Crescent Yennora
Integrated Proposal foe Fit Out and Use of Premises for a Liquid Waste Facility.

Issued pursuant to Section 91A(2) Environmental Planning and Assessment Act 1979

I refer to the development application and accompanying information provided for the proposed liquid waste facility received by the Environment Protection Authority's (EPA) on 13 September 2013.

EPA has reviewed the information provided and has determined that it is able to issue a licence for the proposal, subject to a number of conditions. The applicant will need to make a separate application to EPA to obtain this licence.

The general terms of approval for this proposal are provided at attachment A. If Holroyd City Council grants development consent for this proposal these conditions should be incorporated into the consent.

These general terms relate to the development as proposed in the documents and information currently provided to EPA. In the event that the development is modified either by the applicant prior to the granting of consent or as a result of the conditions proposed to be attached to the consent, it will be necessary to consult with EPA about the changes before the consent is issued. This will enable EPA to determine whether its general terms need to be modified in light of the changes.

If you have any questions, or wish to discuss this matter further please contact Jeevan Jacob on 02 9995 5902.

Yours sincerely

Holroyd City Council
THESE ENDORSED PLANS ARE TO BE READ IN CONJUNCTION WITH DEVELOPMENT CONSENT
No. 2013/351/1

Greg Thomas
Manager Hazardous Materials Advice
Hazardous Materials, Chemicals & Radiation
(by Delegation)

William

Protection of the Environment Operations Act 1997

General Terms of Approval - Issued

Notice No: 1517545

Administrative conditions

A1. Information supplied to the EPA

A1.1 Except as expressly provided by these general terms of approval, works and activities must be carried out in accordance with the proposal contained in:

- the development application DA2013/351/1 submitted to Holroyd City Council;
- any environmental impact statement "Statement of Environmental Effects - Use of Existing Tenancy, Liquid Waste Processing Facility 14 Kiora Crescent, Yennora, July 2013 relating to the development; and
- all additional documents supplied to the EPA in relation to the development.

A2. Fit and Proper Person

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

Limit conditions

L1. Pollution of waters

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

L2. Waste

L2.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997.

Code	Waste	Description	Activity	Other Limits
K110	Grease trap waste	any grease, oil, solids, water or other matter results from the preparation or manufacturing of food and is collected in a grease trap	Waste processing (non-thermal treatment)	
K130	Sewage sludge and residues including night-soil and septic tank sludge		Waste processing (non-thermal treatment)	

L2.2 This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if it requires an environment protection licence under the Protection of the Environment Operations Act 1997.

Holroyd City Council
THESE ENCLOSED PLANS ARE TO BE READ IN CONJUNCTION WITH DEVELOPMENT CONSENT

General Terms of Approval - Issued

Notice No: 1517545

L3. Noise limits

L3.1 All operations and activities occurring on the premises must be conducted in a manner that will not cause or permit any offensive noise beyond the boundaries of the premises.

Operating conditions

O1. Odour

The proponent must comply with section 129 of the *Protection of the Environment Operations Act 1997.*

Section 129 of the *Protection of the Environment Operations Act 1997* provides that the licensee must not cause or permit the emission of any offensive odour from the premises

O2. Dust

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

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

Monitoring and recording conditions

M1 Monitoring records

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

M1.2 All records required to be kept by the licence must be:

- in a legible form, or in a form that can readily be reduced to a legible form;
- kept for at least 4 years after the monitoring or event to which they relate took place; and
- produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected: the date(s) on which the sample was taken;

- the time(s) at which the sample was collected;
- the point at which the sample was taken; and
- the name of the person who collected the sample.

General Terms of Approval - Issued

Notice No: 1517545

Reporting conditions

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

General Terms of Approval - Issued

Notice No: 1517545

Attachment – Mandatory Conditions for all EPA licences

Administrative conditions

Operating conditions

Activities must be carried out in a competent manner

Licensed activities must be carried out in a competent manner.

- This includes:

  the processing, handling, movement and storage of materials and substances used to carry out the activity; and

  the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

Maintenance of plant and equipment

- All plant and equipment installed at the premises or used in connection with the licensed activity:

  must be maintained in a proper and efficient condition; and

  must be operated in a proper and efficient manner.

Monitoring and recording conditions

Recording of pollution complaints

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

- The record must include details of the following:

  the date and time of the complaint;

  the method by which the complaint was made;

  any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;

  the nature of the complaint;

  the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and

  if no action was taken by the licensee, the reasons why no action was taken.

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

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

Telephone complaints line

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

The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

This condition does not apply until 3 months after this condition takes effect.

Reporting conditions

Annual Return documents

What documents must an Annual Return contain?

- The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

  a Statement of Compliance; and

  a Monitoring and Complaints Summary.

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

Period covered by Annual Return

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

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

- Where this licence is transferred from the licensee to a new licensee,

  the transferring licensee must prepare an annual return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and

  the new licensee must prepare an annual return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

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

- Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an annual return in respect of the period commencing on the first day of the reporting period and ending on

  in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or

  in relation to the revocation of the licence – the date from which notice revoking the licence operates.

Deadline for Annual Return

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

Notification where actual load can not be calculated

(Licences with assessable pollutants)
Where the licensee is unable to complete a part of the Annual Return by the due date because the licensee was unable to calculate the actual load of a pollutant due to circumstances beyond the licensee's control, the licensee must notify the EPA in writing as soon as practicable, and in any event not later than the due date.

- The notification must specify:

  the assessable pollutants for which the actual load could not be calculated; and

  the relevant circumstances that were beyond the control of the licensee.

Licensee must retain copy of Annual Return

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

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

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

(a) the licence holder; or

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

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

Notification of environmental harm

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

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

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

Written report

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

(a) where this licence applies to premises, an event has occurred at the premises; or

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

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

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

The request may require a report which includes any or all of the following information:

the cause, time and duration of the event;

the type, volume and concentration of every pollutant discharged as a result of the event;

the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; and

the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;

action taken by the licensee in relation to the event, including any follow-up contact with any complainants;

(details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event;

(any other relevant matters.

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

General conditions

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

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

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

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

NOT APPROVED

WASTE MANAGEMENT PLAN

For Commercial and Industrial Fit Out/Change of Use

The relevant sections of this form must be completed and submitted to Council with your Development Application for Commercial/Industrial Fitout and/or use.

Completing this form requires you to identify and quantify the types of waste that will be generated during the proposed change of use as well as nominating how you intend to reuse, recycle or dispose of the excess, unwanted materials.

You are also required to provide Council with details relating to the types of waste that will be generated as a by-product of your business and details as to how you intend to ensure the on-going management of waste and recycling on-site.

The information provided on the form (and on your plans) will be assessed against the objectives of Development Control Plan No. 35 –*Guidelines for Planning for Less Waste.* Council will request the re-submission of Waste Management Plans if there is no obvious attempt made to reuse/recycle building materials generated as by-products of development.

If you would like a copy of the Western Sydney Recycling Directory or if you would like any assistance completing your Waste Management Plan, please contact Council's Waste Officer on 9840 9715.

OUTLINE OF PROPOSAL

Site Address: 14 Heard Cres Yennora

Applicant's name and address: STIMSON CONSULTANT SERVICES PTY LTD P.O Box 4308 WINMALEE 2777

Phone: 0401449101. **Fax:**

Buildings and other structures currently on the site: Vacant Industrial Shed

Brief Description of Proposal: Use of Existing Tenancy, Liquid Waste Processing facility

The details provided on this form are the intentions for managing waste relating to this project.

Signature of Applicant: ***Date:*** 1.8.13

This form must be completed to accurately reflect the development proposal and estimated waste generation during development and ongoing operation.

It should be noted that with regard to ongoing waste management, Council offers a competitive commercial waste service. For more information about this service contact Council's Waste Services Depot on 9632 2241.

Council does NOT however offer a commercial recycling service. Council expects that a commercial recycling contractor will be employed to meet your ongoing waste reduction requirements.

For more information contact Council on 9840 9840.

WASTE MANAGEMENT PLAN

For Commercial and Industrial Fit Out/Change of Use

Type of Material	**Waste Estimate** - Volume (m^3) or Area (m^2)	***On-Site Reuse*** Specify proposed reuse or on-site recycling methods	**Off-Site Recycling** Specify contractor and recycling outlet	**Off-Site Disposal** Specify contractor and landfill site
EXAMPLE Shelving (metal)	$10m^2$	Keep and reuse in new office	Remainder sent to ABC Recycling Company	Nil to Landfill
Bricks	$<0.2m^3$			Offcuts to landfill
Concrete	—			
Timber- please specify	—			
Plasterboard	—			
Metals- please specify	—			
Tiles	—			
Asbestos (roof or wall cladding)	—			***A licensed facility must be nominated here –***
Other- (eg. IT equipment, shelving, desks, fittings)	—			

Waste Management Plans must be development specific. Council will request the re-submission of a Waste Management Plan if there is no obvious attempt made to minimise waste by reusing/recycling building materials generated as by-products of development.

DESIGN OF FACILITIES

TYPE OF WASTE TO BE GENERATED	EXPECTED VOLUME PER WEEK	PROPOSED ON-SITE STORAGE AND TREATMENT FACILITIES	DESTINATION
Please specify. For example: glass, paper, food waste, offcuts etc.	▪ litres ▪ see Appendix 3 of Part A of DCP 2007 for estimates	For example: • waste storage & recycling area • on-site composting • compaction equipment	• recycling • disposal (specify contractor)
See attached SOE.			

Note: Details of on-site waste management facilities should be provided on the plan drawings accompanying your application

ON-GOING MANAGEMENT

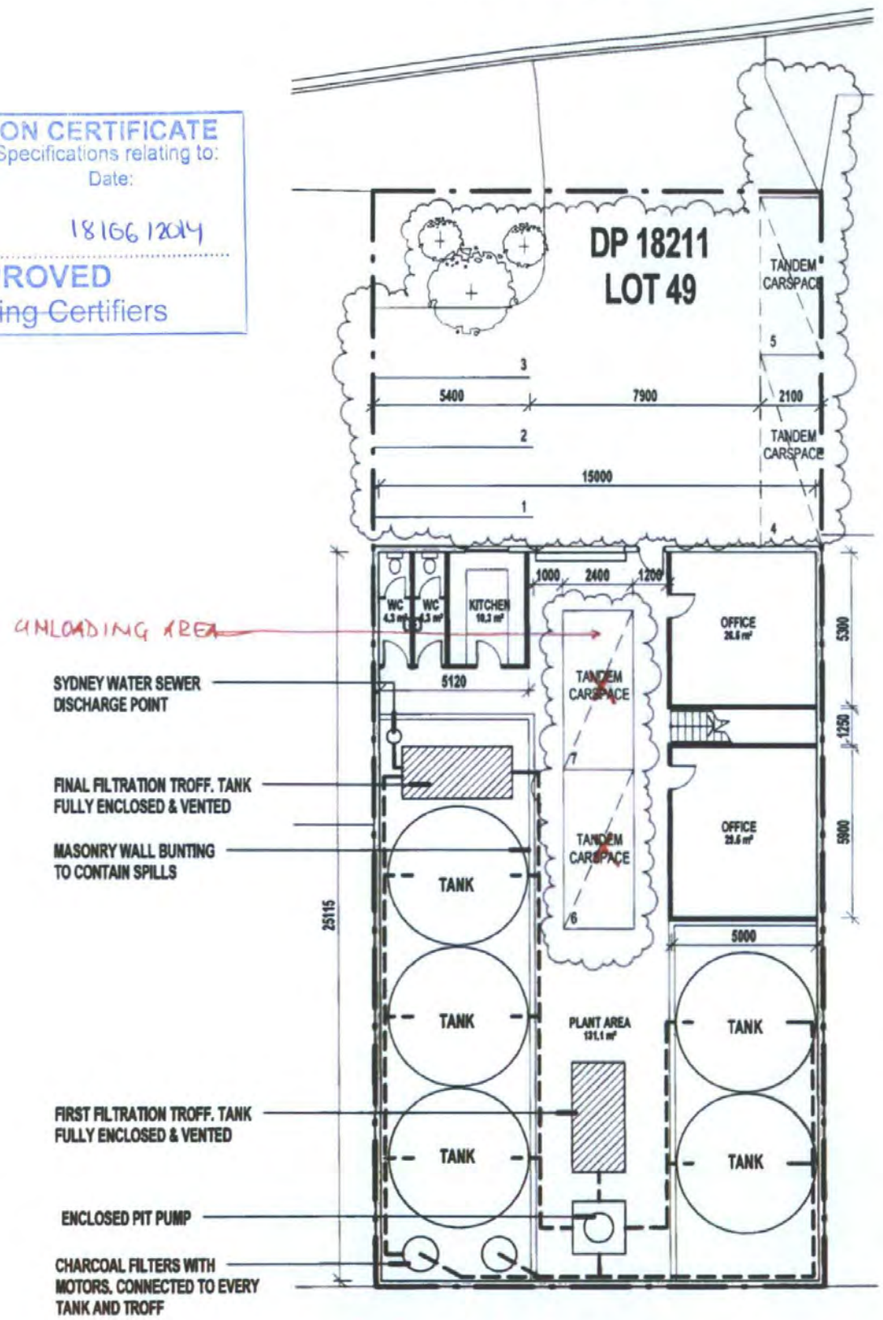
Describe how you intend to ensure ongoing management of waste on-site (eg. lease conditions, caretaker/manager onsite) including any waste reduction initiatives you intend to implement.

Office waste as per commercial contractor.

Please Note – This form must be completed as part of a Development Application for works involving change of use/fit out of commercial/industrial premises only, where there is no proposed extension to the existing floor area. For further information about waste estimates/volumes (to assist in completing this plan) please refer to Appendix 3 of Part A of Council's DCP 2007.

KIORA CRESCENT

CONSTRUCTION CERTIFICATE
Approved Plans & Specifications relating to:
Certificate No: 141821 Date: 18/06/2014
APPROVED
AR Building Certifiers

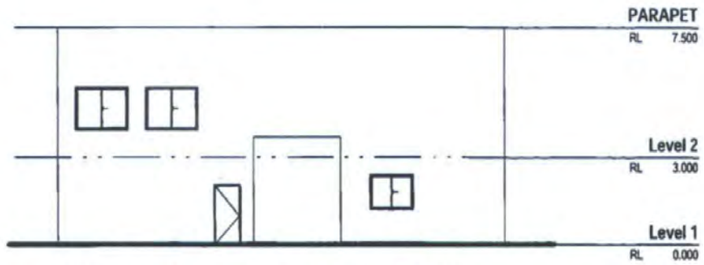


GROUND FLOOR PLAN
1 : 200



MEZANINE
1 : 200

Holroyd City Council
THESE ENDORSED PLANS ARE TO BE READ IN CONJUNCTION WITH DEVELOPMENT CONSENT
No. 2013/351/1



NORTH ELEVATION
1 : 200

GROSS FLOOR AREA SCHEDULE	
Name	Area
FIRST FLOOR GFA	63.7 m²
GROUND FLOOR GFA	392.9 m²
Grand total: 2	456.7 m²

0 1 2 3 4 5 10m
SCALE BAR

ISSUE	DATE	AMENDMENT
B	22/08/2013	Revision 1 DA SUBMISSION
A	07/12/2013	REVISED DA SUBMISSION

PROJECT
PROPOSED WASTE TRANSFER STATION
ADDRESS
14 KIORA CRESCENT, YENNORA, NSW, 2161
CLIENT
STIMSON CONSULTING SERVICES

Morson Group pty ltd
NOMINATED ARCHITECT - P T MORSON
REGISTRATION NUMBER 6100
ACN 159 480 05a, ABN 41 159 480 05a
E: peter@morsonassociates.com
M: 0429 477 161
PO Box 570, Potts Point, NSW 1335

SCALE 1 : 200
DATE JULY 2013
NORTH
SHEET NAME FLOOR PLANS
DRAWING NUMBER **DA01**
B ISSUE NO.

SCB-05

BUILDING CERTIFICATE APPLICATION FOR UNAUTHORISED WORKS

Made under the Environmental Planning and Assessment Act 1979 (Section 149D)

Disclaimer: The information provided by you on this form will be used by Holroyd City Council or its agents to process this application. Once collected by Council, the information can be accessed by you in accordance with Council's Access to Information Policy and Privacy Management Plan or in special circumstances, where Commonwealth legislation requires or were you give permission for third party access.

PART 1 – Property, Applicant & Owner Details

2016 / 10

1. Property details
Address

Unit:		**House:**	
Street:	16 Kiora Crescent		
Suburb:	Yennora	**Postcode:**	2161 NSW
Lot:	50	**DP/SP etc**	18211

Property access contract

Name	Mr. WEI CHEN	**Ph:**	96321588

2. Applicant details
Full name/company and contact person

Family name (Company): CHEN

Full given names: WEI

OR company Contact person:

Postal address

Suburb:	Yennora	**Postcode:**	2161

Contact details

Mobile:	0410601917	**Fax:**	
Email:	info@farmlinkengineering.com.au	**Date:**	12-2-2016

Note: Applicant is required to sign the last page of this application

3. Applicant's authority
Please (✓)

☐ public authority	☐ under contract
☑ owner (see below)	☐ with owner's consent (see below)

4. Owner's details
Full name/company
And contact person

Family name (Company): CHEN

Full given names: WEI

Postal address 16 Kiora Crescent

Suburb:	Yennora	**Postcode:**	2161 NSW

Contact details

RECEIVED
17 FEB 2016
Holroyd City Council

Home phone:	0410601917	**Mobile:**	0410601917
Office phone:	96321588	**Fax:**	
Email:	info@farmlinkengineering.Com.au		

Note: Signatures of all registered are required on the last page of this application. Without the signatures of all registered owners Council cannot accept this application.

OFFICE USE ONLY **Reference:**	BC/	**BC Fee:**	$ 1359.70
Scanning Fee:			
Date:	BC/	**Receipt #:**	$ 1474879
$			

DA = 245 + CC = 864.70 + BC = 250

Manager

BUILDING CERTIFICATE APPLICATION FOR UNAUTHORISED WORKS

Made under the Environmental Planning and Assessment Act 1979 (Section 149D)

Disclaimer: The information provided by you on this form will be used by Holroyd City Council or its agents to process this application. Once collected by Council, the information can be accessed by you in accordance with Council's Access to Information Policy and Privacy Management Plan or in special circumstances, where Commonwealth legislation requires or were you give permission for third party access.

PART 2 – Building Details

5. Building Description
Description of building/part requiring certification

Note: If the unauthorised Development is incomplete, has caused the Building Classification to change, or has intensified the existing use at the preemies them separate Development Approval may be required (ie Section 96, Development Application (DA) or Complying Development Certificate)

Light duty Removable office

	Floor area of building (m^2): 32 m^2		
	Estimated cost of works: $ 30000.		
	Date works were completed: not yet		
Please (✓)	**Owner/applicant is responsible for works**	**yes** ✓	**no**
	Certificate required for whole building	**yes** ✓	**no**
	Certificate required for part of building	**yes**	**no**

Note: An increased fee will be imposed if works have been completed within the past 24 months, the applicant/owner was responsible for the work, AND the work was not authorised under the Environmental Planning & Assessment Act. This increased fee is equivalent to that of a combined development and construction certificate application, or a complying development certificate application (whichever is relevant). Addition inspection fees also apply.

PART 3 – Accompanying Documentation Checklist (Please note: The submission of all relevant certification does not guarantee approval of the unauthorised development)

AUTHORISED Building Works – All Applications – Generally

Identification Survey Report	• Full drawings of the building (1:100 scale/1:200) i.e. site plan, floor plan depicting unauthorised work, elevations and sections.	2		
Works as executed (built) architectural plans				
Floor plans indicating the extent of unauthorised works				
Installation certificates relating to essential fire safety measures	Details of proposed and existing fire safety measures as required by the Building Code of Australia (BCA), including certification.			
Works as executed (built) Stormwater/drainage plan	Full drawings of the building (1:100 scale/1:200).			
A4 size notification plans	Site & elevation plans reduced to A4 size, for all unauthorised work.			
Sydney Water approval	Stamped plans from Sydney Water to ensure the unauthorised development does not detrimentally impact Sydney Water infrastructure.			

BUILDING CERTIFICATE APPLICATION FOR UNAUTHORISED WORKS

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PART 3 – Accompanying Documentation Checklist (continued)

Description	Notes NB: more information may be requested during the assessment of your application	Co Copies Required	Applicant (✓)	Officer (✓)
UNAUTHORISED Building Works – All Applications – Generally (continued)				
Shadow diagram/profiles	**9am, 12pm and 3pm diagrams in winter solstice**	**2**		
Certification confirming the structural elements, stormwater, health and amenity comply with BCA requirements	• Structural engineers report for all structural elements • Termite management Certification to AS3660 • Wet area waterproofing certification to BCA and AS3740 • Electrical certification to AS3000 • Glazing certification to AS1288 and AS2043 • Smoke alarm certification to BCA & AS3786 • Building Code of Australia (BCA) Compliance Report/Audit by Level A1 Accredited Building Certifier. (Generally for "Habitable" development only) • Other certification maybe requested			
Statement of Environmental Effects	**Full description of the proposal and assessment against relevant LEP and DCP requirements, including a numerical compliance report/table**	**2**		
Energy and sustainability performance certificate (BASIX)	**Can be sourced from www.basix.nsw.gov.au**	**2**		
Aboriginal archaeological statement	**For "high" and "medium" sensitivity sites**	**2**		
Contamination report	**If the site is potentially contaminated. (eg Asbestos, etc)**	**2**		
Traffic Report	**If requested by Council**	**2**		
Flora fauna statement	**If requested by Council**	**2**		
Flood/Hydraulic Report	**If requested by Council**	**2**		
Heritage impact statement	**If the subject site is a heritage item or is in a conversation area. See Heritage DCP or LEP on at www.holroyd.nsw.gov.au**	**2**		
UNAUTHORISED Building Works – Non residential – In addition to above				
Annual Fire Safety Statement (class 2-9 buildings ONLY)				

BUILDING CERTIFICATE APPLICATION FOR UNAUTHORISED WORKS

Made under the Environmental Planning and Assessment Act 1979 (Section 149D)

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UNAUTHORISED Building Works – where Development consent obtained but no Construction Certificate issued				
Copy of Development Consent & approved plans		2		
Demonstration of compliance with conditions of consent, pertaining to the Construction Certificate and Occupation Certificate		2		
Design certificates relating to essential fire safety measures		2		
Design certificate relating to structural elements, stormwater, health & amenity		2		
Works –as-executed plans for stormwater	Full drawings of the building (1:100 scale/1:200).	2		
As built drawings indicating the extent of unauthorised works	Full drawings of the building (1:100 scale/1:200) i.e. site plan, floor plan depicting unauthorised work, elevations and sections.			
Annual Fire Safety Statement (Class 2-9 buildings ONLY)		2		

PART 4 – Digital Requirements

6. Digital requirements	As of 10th June 2013, all Applications must be accompanied by a digital data disc i.e. CD-ROM, DVD-ROM containing all documentation (including written documents). This is to assist Council in record keeping and processing.
	Applications without a digital data disc will not be accepted.
File format requirements	• The files must be in PDF format
	One PDF file should contain all plans and drawings (excluding internal residential floor plans) i.e. site plan, elevation plan, landscape plan, stormwater survey etc in the same single file Each additional accompanying document requires a separate PDF file e.g. application form, statement of environmental effects, heritage report, and internal residential floor plans, etc each in separate files. • Standard documents are not required to be above 400 dpi resolution whether they are single page or multipage documents and must not exceed 500MB in size. • Please contact Council's Records Department on 9840 9840 if your document exceeds 500MB. Files named as follows: Document Type – Property Address

My disc contains files which are named correctly and their content Exactly matches hardcopies submitted with this application	yes ☐	no ☐

BUILDING CERTIFICATE APPLICATION FOR UNAUTHORISED WORKS

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PART 7 – Council Officer Declaration

9. Owner declaration

I declare that this application is, to the best of my knowledge, complete including owner's consent and that all accompanying documentation outlined in the checklist in Part 3 of this application has been lodged including digital requirements.

Officer's name

Officer's signature

BUILDING CERTIFICATE APPLICATION FOR UNAUTHORISED WORKS

Made under the Environmental Planning and Assessment Act 1979 (Section 149D)

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PART 5 – Applicant Declaration

7. Applicant declaration

To ensure transparency in Council's decision making functions, any application which is made by a Council employee/Councillor and/or their immediate relative/s, will be independently reviewed for assessment.

I am an employee/Councillor or relative of an employee/Councillor of Holroyd City Council. YES or NO (Please circle applicable answer)

I declare that all the information in the application and checklist is, to the best of my knowledge, true and correct and that digital requirements are met.

Applicant's signature

Date: 12-2-2016

PART 6 – Owner's Consent

8. Owner Consent

One or more of the owners is an employee/Councillor or relative of an employee/Councillor of Holroyd City Council. YES or NO (Please circle applicable answer)

I/we own the subject land, consent to this application and consent to Council officers entering the premises during normal office hours for the purpose of conducting inspections relative to this application. I accept that all communication regarding this application will be through the nominated applicant.

- **If the owner is a company, this form must be signed by 2 directors or a director and a company secretary (unless it has a sole director). In addition to the signatures, a common seal must be stamped on this form if applicable. If there is no common seal, a company letterhead is acceptable. Alternatively a copy of the company's ASIC registration can be accepted in lieu of the common seal or company letterhead.**
- **If the property is a unit under strata title or a lot in a community title and approval is sought for work on or over common property, then the common seal of the body corporate must be stamped on this form and signed by the chairman or secretary of the Body Corporate.**

Owner's signature(s)	**Date:** 12-2-2016
	Date:
	Date:
	Date:

16 KIORA CRESCENT YENNORA



REVISION	DATE	DESCRIPTION
A	080216	

TITLE	AUTHOR	DATE	SIGNATURE
DRAWN BY:	LC	2016	
CHKD BY:			
CO-ORDINATOR			
R.A.S. APPROVED			

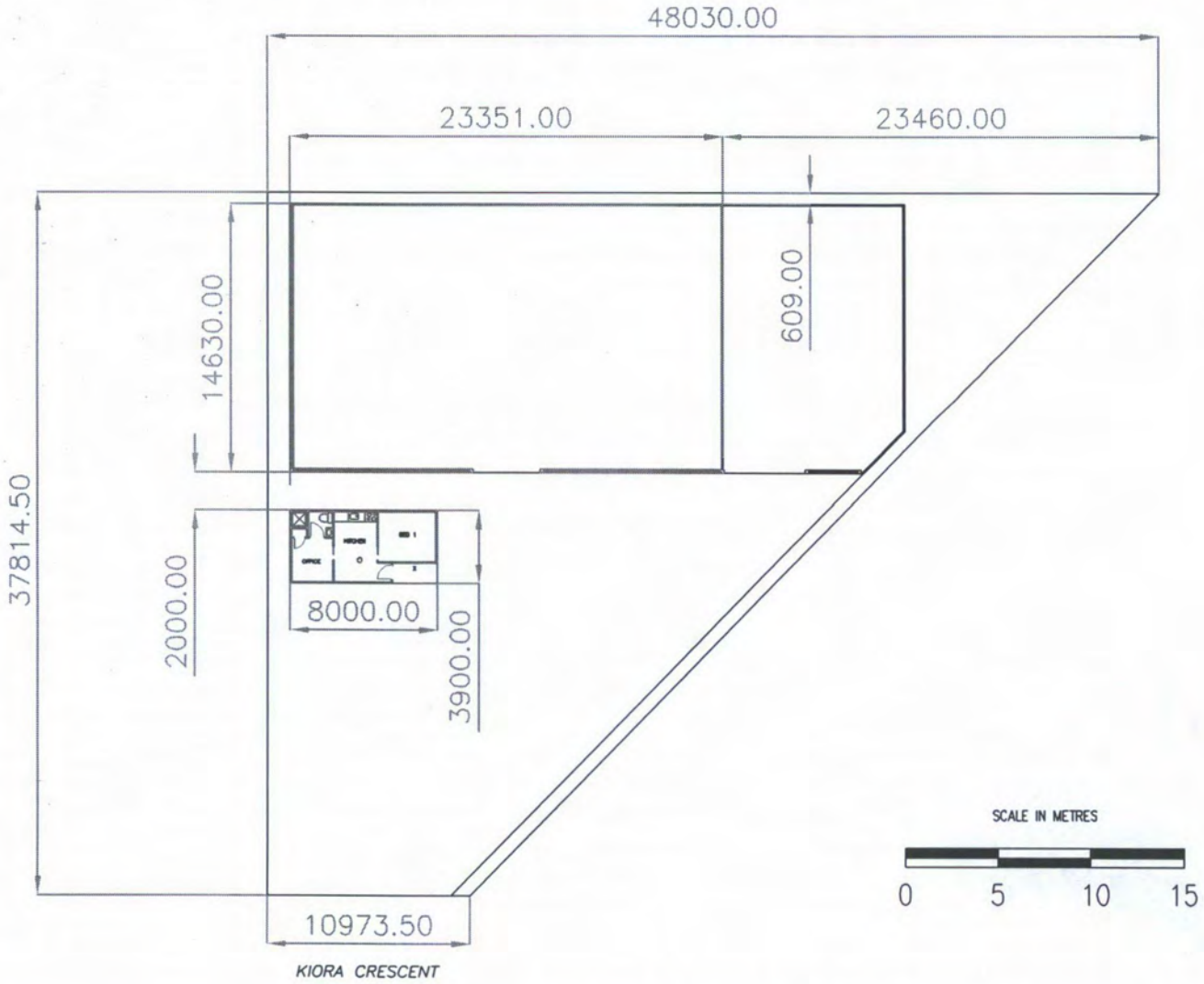
COMPUTER AIDED DRAWING - DO NOT REVISE BY HAND

PROPOSED BLOCK
16 KIORA CRESCENT YENNORA

DRAWING No	CAD FILE NAME	REV
		A

SCALE

16 KIORA CRESCENT YENNORA



REVISION	DATE	DESCRIPTION
A	080216	

TITLE	AUTHOR	DATE	SIGNATURE
DRAWN BY:	LC	2016	
CHKD BY:			
CO-ORDINATOR			
R.A.S. APPROVED			

COMPUTER AIDED DRAWING – DO NOT REVISE BY HAND

PROPOSED BLOCK
16 KIORA CRESCENT YENNORA

DRAWING No	CAD FILE NAME	REV
		A

SCALE

Version 3 – March 2013

Form 15—Compliance Certificate for building Design or Specification

NOTE

This is to be used for the purposes of section 10 of the *Building Act 1975* and/or section 46 of the *Building Regulation 2006*.

RESTRICTION: A building certifier (class B) can only give a compliance certificate about whether building work complies with the BCA or a provision of the QDC. A building certifier (Class B) can not give a certificate regarding QDC boundary clearance and site cover provisions.

1. Property description

This section need only be completed if details of street address and property description are applicable.

EG. In the case of (standard/generic) pool design/shell manufacture and/or patio and carport systems this section may not be applicable.

The description must identify all land the subject of the application.

The lot & plan details (eg. SP / RP) are shown on title documents or a rates notice.

If the plan is not registered by title, provide previous lot and plan details.

Street address *(include no., street, suburb / locality & postcode)*

16 Kiora Cresent

Yennora NSW Postcode 2161

Lot & plan details *(attach list if necessary)*

Lot14 & 15 on DP728, Section 7

In which local government area is the land situated?

2. Description of component/s certified

Clearly describe the extent of work covered by this certificate, e.g. all structural aspects of the steel roof beams.

Standard Mecano Wall Frames, Trusses, Steel Floor System
N3 wind Rating
Site Assumed Class M or Better 450x1000 PAD Footing
founded on natural stiff or dense soils, Building Certifier to Assess

3. Basis of certification

Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications, were relied upon.

AS1170.0, 0.1, 0.2, AS4600, AS4100, AS3600, AS2870
Engineering Principles BCA-2013

4. Reference documentation

Clearly identify any relevant documentation, e.g. numbered structural engineering plans.

DWG No, GYWC2-1 to GYWC2-5
DWG No, MBP-PF
DWG No, Frame Engineering
DWG No, House Engineering Sheet 1 of 3 and 2 of 3
DWG No, HT-5000-N3

LOCAL GOVERNMENT USE ONLY

Date received		Reference Numbers	

5. Building certifier reference number

Building certifier reference number

6. Competent person details

A competent person for building work, means a person who is assessed by the building certifier for the work as competent to practise in an aspect of the building and specification design, of the building work because of the individual's skill, experience and qualifications in the aspect. The competent person must also be registered or licensed under a law applying in the State to practice the aspect.

If no relevant law requires the individual to be licensed or registered to be able to give the help, the certifier must assess the individual as having appropriate experience, qualifications or skills to be able to give the help.

If the chief executive issues any guidelines for assessing a competent person, the building certifier must use the guidelines when assessing the person.

Name (*in full*)
Vic Bacud

Company name (*if applicable*)
Mecano Sheds

Contact person
Alex

Phone no. *business hours*
5482 5614

Mobile no.

Fax no.
5482 4527

Email address
alexk@mecano.com.au

Postal address
PO Box 758
Gympie Qld Postcode 4570

Licence or registration number (*if applicable*)
RPEQ 3647

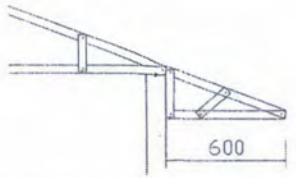
7. Signature of competent person

This certificate must be signed by the individual assessed by the building certifier as competent.

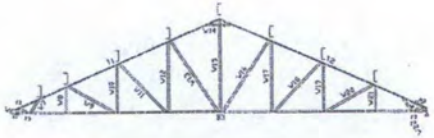
Signature

Date
23/10/2014

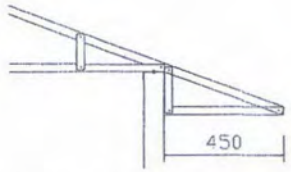
REF: GYWC2-4



Knee Connection With 600mm Overhang
(Optional)



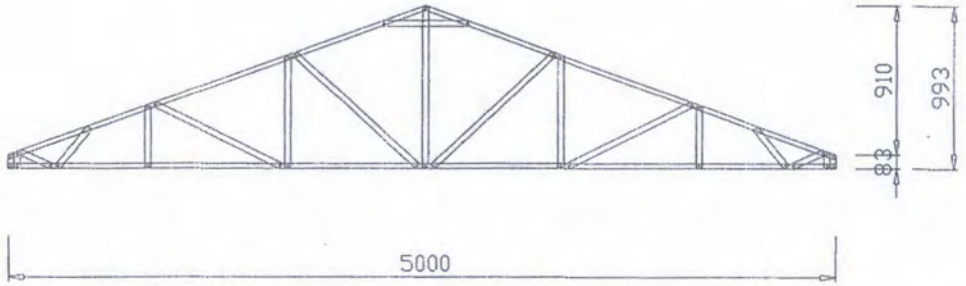
Web Orientation
All webs to face outwards

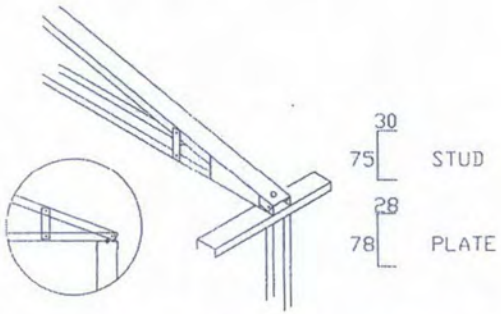


Knee Connection With 450mm Overhang
(Optional)



Web Connection in perspective
Stud to Plate connection M6 x 1 x 15 Buildex Frame Screws
All Webs and splices are plate section
All top and bottom chords and noggins are stud section





Flat Truss Knee Connection in perspective
1 x M12 bolt connection with 2 x 38mm round washers

Truss Spacing for Dwellings
Maximum 1200mm Ctrs
0.95 Steel Thickness

Roof Battens 64TH0.55 @ 1200 ctrs max (N3)
2 - 12/14 teks per connection
6 - 12/14 teks per lap

Truss Spacings for Sheds
maximum 3000mm
0.95 Steel Thickness

Roof Battens 64TH0.75 @ 1200 ctrs max.

2 - 12/14 teks per connection
6 - 12/14 teks per lap

Manufactureer's material Propertys = Gr.550MPa by Bluescope.

Registered Professional Engineer
Mr Vic Bacud, Jnr
MIEAust CPEng RPEQ 3647
41430+
NPER-3
Signature ..... Date 02/06/2014
Registered on the NPER-3 in the Category of
Civil and Structural
National Professional Engineers Register Section Three

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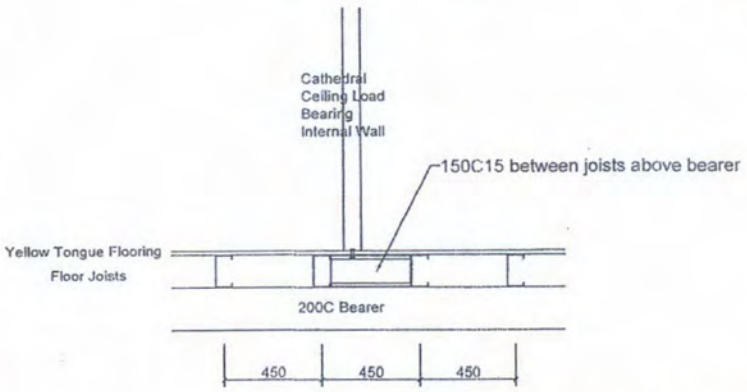
Mecano
www.mecano.com.au Sheds
Dennis Little Drive
Gympie Industrial Estate
Po Box 758
Gympie Qld 4570
Ph (07) 5482 5614
Fax (07) 5482 4527
Email - mecano@spiderweb.com.au

5000mm 20°
N3 Truss

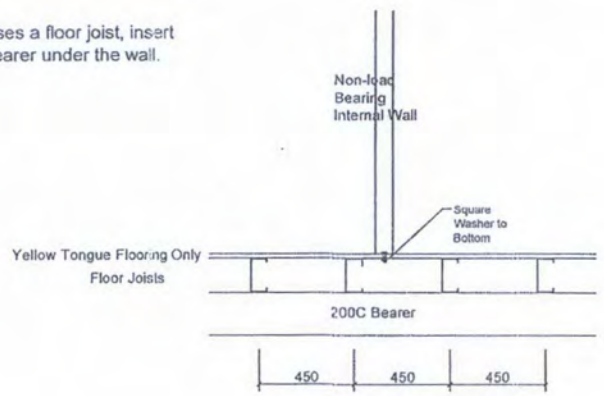
DATE : 2/06/14		Truss
DES	Sandie	SHEET 1 of 1
DRWN	Alex	DWG. NO. HT-5000-N3
CHK	Vic	REV 1

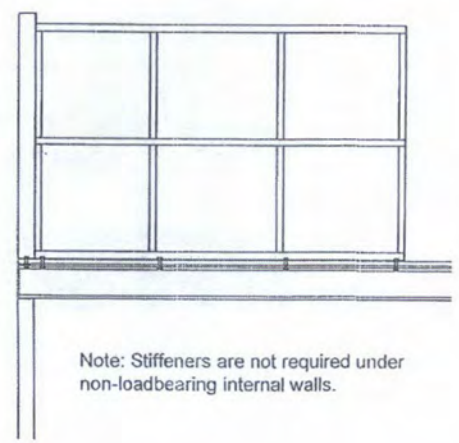
Non-loadbearing internal wall for Standard House Range



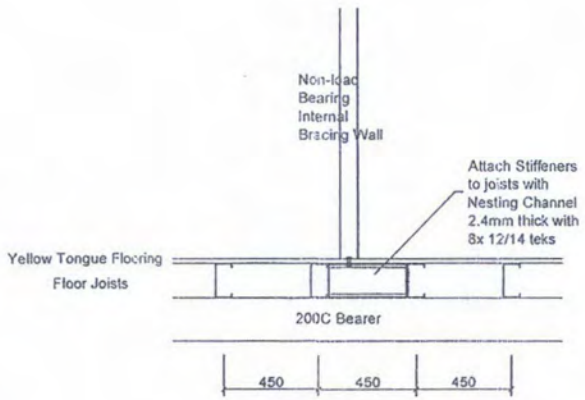
Note: When an Internal wall misses a floor joist, insert stiffener, as shown, on centre bearer under the wall.

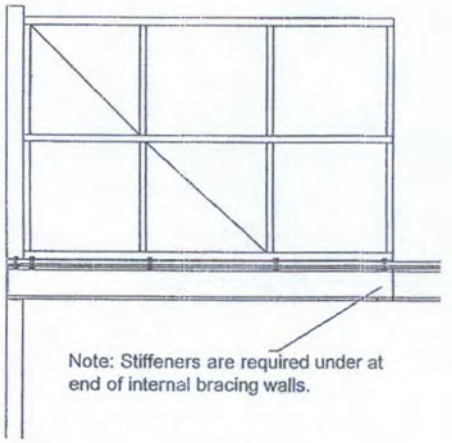
Loadbearing internal wall for Standard Graceville House Range





Note: Stiffeners are not required under non-loadbearing internal walls.





Note: Stiffeners are required under at end of internal bracing walls.

Non-loadbearing internal bracing wall for Standard House Range

Mr Vic Bacud, Jnr
MIEAust CPEng EC 26331
NPER-3
Signature ..... Date 30,10,2013
Registered as a NPER-3 in the Category of
Civil and Structural
National Professional Engineers Register Section Three

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MBP
Mecano Building Products
Dennis Little Drive
Gympie Industrial Estate
Po Box 758
Gympie Qld 4570
Ph (07) 5482 5614
Fax (07) 5482 4527
Email - mecano@spiderweb.com.au

Standard Connection Details for House wall frame connection to Floor System

DATE : 04/08/09			WALL SPECIFICATIONS 2
DES			SHEET 2 OF 3
DRWN	SP		DWG. NO. HOUSE ENGINEERING
CHK			REV.

WALLING REQUIREMENTS USING MECANO STEEL-FRAMING

STUD 75 (29) thickness varies as below

PLATE 78 (27) thickness varies as for stud

LOAD BEARING (EXTERNAL) WALLS

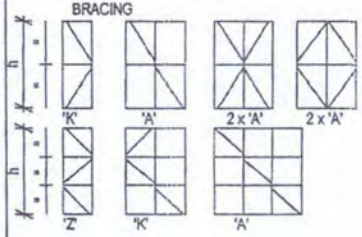
WIND CATEGORY	W33N (N2)	W41N (N3)	W50C (C2)
WALL HEIGHTS (mm)	q_z=0.92 KPa	q_z=1.4 KPa	q_z=2.1 KPa
2400	0.75mm@600ctrs 1 row of Nogging	0.75mm@600ctrs 1 row of Nogging	0.75mm@450ctrs 0.95mm@600ctrs 1 row of Nogging
2700	0.75mm@600ctrs 1 row of Nogging	0.75mm@450ctrs 0.95mm@600ctrs 1 row of Nogging	0.75mm@450ctrs 1 row of Nogging
3000	0.75mm@600ctrs 2 row of Nogging	0.75mm@600ctrs 2 rows of Nogging	0.95mm@450ctrs 2 rows of Nogging
5000	0.75mm@600ctrs 1200 Max ctrs for Nogging	0.75mm@600ctrs 1200 Max ctrs for Nogging	0.95mm@450ctrs 1200 Max ctrs for Nogging

NOTE: THESE TABLES REPRESENT MINIMUM REQUIREMENTS

NON-LOAD BEARING WALLS(INTERNAL)

WALL HEIGHTS	STUD SPACING
2400	0.75@600
2700	0.75@600

BRACING



NOTE FOR DOUBLE NOGGIN WALLS
(1)Double Noggins are required for walls 3000 high and above
(2)Double Noggin required for floor loaded walls 2700 high and above
(3)Does not apply to non load bearing walls

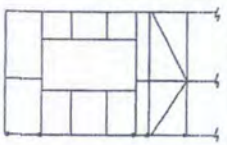
BRACING STRENGTHS (kN)

WALL HEIGHTS		STUD SPACING (mm) 300	450	600	1000
2400	K	0.9	2.0	2.4	3.3
	A	2.2	3.3	4.2	6.5
2700	K	0.7	1.3	2.0	2.9
	A	1.8	2.8	3.5	4.9
3000	K	0.7	1.2	1.8	2.4
	A	1.4	2.5	3.2	4.0
2400	Z	1.0	1.8	2.8	
	K	1.5	2.1	4.0	
	A	2.9	4.2	5.5	
2700	Z	0.9	1.5	2.0	
	K	1.5	2.2	2.9	
	A	2.7	3.8	4.9	
3000	Z	0.7	1.3	1.7	
	K	1.3	2.0	2.4	
	A	2.5	3.5	4.2	

NOTES (General)
(1) All connections can be one of the following:-
(a) CRNT rivet (US481030) x 2
(b) Hawnb self piercing rivet x 2
(c) 10 gauge tek screw x 2
(d) 40 mm fillet weld coated with anti-corrosive paint x 2
(2) For 0.75 mm steel - reduce bracing values by 20%
For 1.15 steel - increase bracing values by 10%
(3) Linear interpolation is permitted for stud spacings and wall heights not exactly in table values
(4) All steel - G450 Z275 (or AZ150)high tensile
(5) Wall is assumed to be clad on at least one side.
(6) Where cyclone resistant windows and doors have been fitted, the equivalent noncyclonic stud may be selected.
(7) These tabled values are designed for serviceability deflections in residential applications

ASSUMPTIONS
(1) Max allowable stress ≠450MPa for W.
(2) Max allowable deflection ≠12mm for W, or height/200 whichever is the lesser
(3) Cpi = 0.2 for NonCyclonic & = 0.6 for Cyclonic

WALL TIE DOWN



EXTERNAL WALLS TO CONCRETE SLAB -
1 X M12 CHEMSET BOLT OR
1 X M12 SCREW BOLT AT:-
(50mmx50mmx3mm Steel Washer to be used)
(1) BOTH SIDES OF OPENINGS
(2) BOTH SIDES OF BRACE SETS
(3) BELOW EACH TRUSS
(4) ALWAYS WITHIN 50mm OF STUD
(5) WALL CORNERS & ENDS
(6) 1200 c/c OF SOLID WALLS ELSEWHERE - N3
(7) 900 c/c OF SOLID WALLS ELSEWHERE - C2

INTERNAL (NON LOAD BEARING) WALLS-
1 X M10 MASONRY ANCHOR
or Explosive fastener (Hilti or Ramset type)
with a 3.8mm long drive pin with 12mm washer.

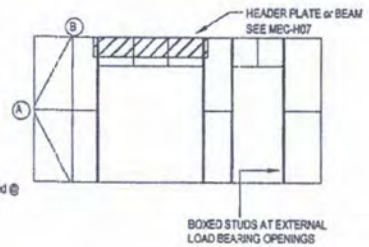
EXTERNAL WALLS TO FLOOR SYSTEM -
1 X M12x45 BOLT or Threaded Rod
or strap

INTERNAL (NON LOAD BEARING) WALLS-
1 - No. 14 hexagon washer head self-tapping screws to every location of flange of joists.

Opening Span	HEADER BEAM C200F8	C200D24	SHS x 5.0 Wall Plate	RHS x 5.0 Wall Plate
960	30	30	25.0	14.8
1260	30	30	25.0	10.9
1560	30	30	24.0	8.8
1860	28	30	21	8.0
2460	24	30	16	7.0
2760	20	27	14.5	5.2
3060	19	21	10.5	3.5
3660	10	16	6.3	2.4

MAX ALLOWABLE LOAD PER TRUSS (KN) (1200 CTRS)

NOTES
(1) Linear interpolation is permitted for opening sizes other than those shown in the tables.
(3) Header plate screwed to both sides of wall will double capacities of those shown in the table.
(4) Tek screws should be a minimum of 10 gauge, class 3. Wafer heads are recommended for clad sides.
(5) Allowable loading values given in tables assume truss spacing of 1200 mm. For truss spacing of 900 in openings greater than 2400mm multiply values by 0.75.

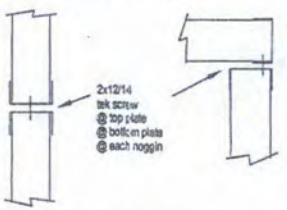


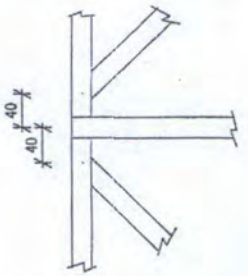
ADDITIONAL JAMB STUD FOR OPENINGS 2461-3661mm 4 X TEK SCREWS TO BOXED STUDS

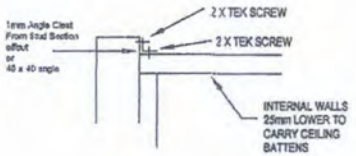


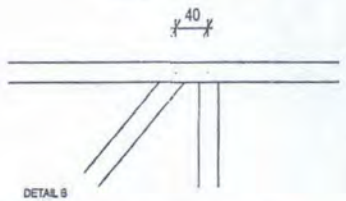
BOXED STUD screwed or rivetted @ 600 CTRS

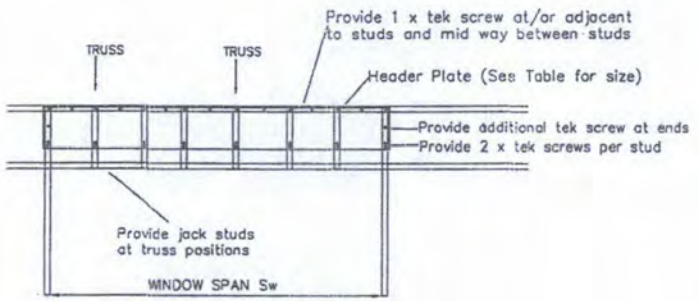
CONNECTING WALL FRAMES

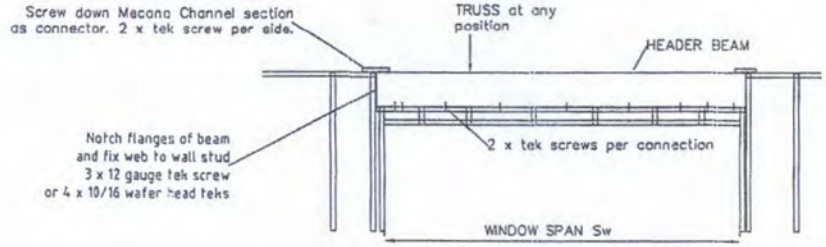












This plan is to be read in conjunction with truss specifications

Mr Vic Bacud, Jnr
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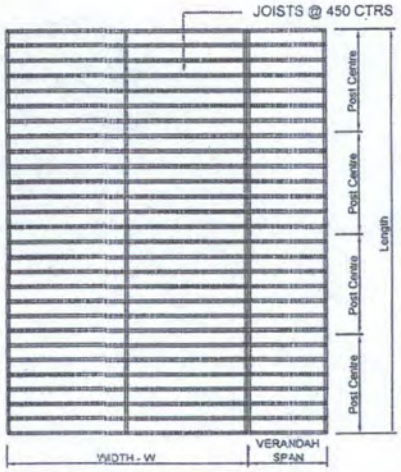
Standard House Wall
Engineering for N2 and N3
& C2 Regions

DATE : 04/08/09		WALL SPECIFICATIONS 1
DES		SHEET 1 OF 3
DRWN	SP	DWG. NO.
CHK		HOUSE ENGINEERING 1 REV.

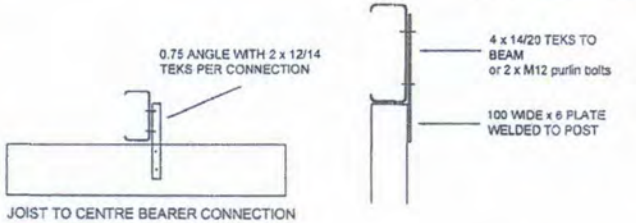


TYPICAL FLOOR PLAN

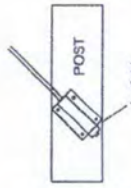
NOTES
FLOOR SYSTEM IS DESIGN TO AS1170.1 FOR A LIVE LOAD OF 1.5 KPa AND PT LOAD OF 1.8 KN
MINIMUM BEARING CAPACITY OF GROUND - 100KPa
LIMIT STATE DESIGN HAS BEEN USED
MAX POST HEIGHT 3000 mm
LOAD BEARING WALLS MUST BE BOLTED TO JOIST OR BEARER

MAIN FLOOR				
WIDTH W	JOIST	BEARER A	BEARER B	MAXIMUM POST CENTRES
3100	150C15 2 Rows 22TH	150NC24	NA	3200mm
3600	200C15 2 Rows 22TH	200NC24	NA	3200mm
4000	200C24 2 Rows 22TH	200NC24	NA	3200mm
5400	150C12	150NC24	200C24	3200mm
6300	150C15	150NC24	200C24	3200mm
7200	200C15	200NC24	200C24	3200mm
7650	200C15	200NC24	200C24	3200mm
8100	150C12	150NC24	200C24 at 2700 max ctrs	3200mm
9000	150C15	150NC24	200C24 at 3000 max ctrs	3200mm
10500	200C15	200NC24	200C24 at 3500 max ctrs	3200mm
12600	150C15	150NC24	200C24 at 3150 max ctrs	3200mm

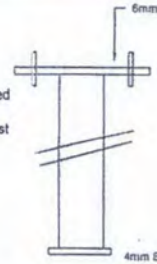
VERANDAH		
WIDTH W	JOIST	BEARER A
2400	150C12	150NC24
2700	150C12	150NC24
3000	150C15	150NC24
3600	200C15	200NC24
4000	150C12	150NC24 200C15 W/O BEARER



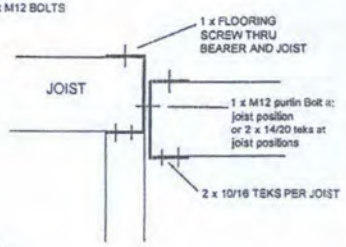
JOIST TO CENTRE BEARER CONNECTION

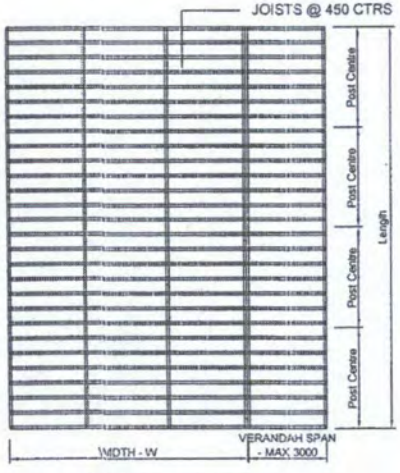


ROD BRACING CONNECTION

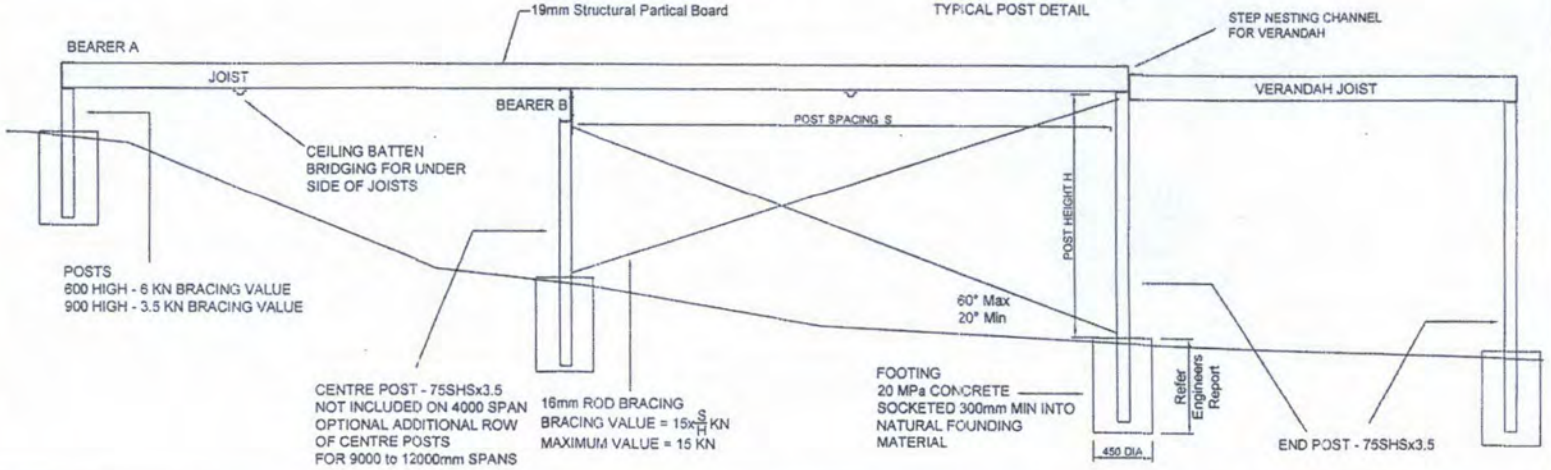


TYPICAL POST DETAIL





OPTIONAL FLOOR PLAN



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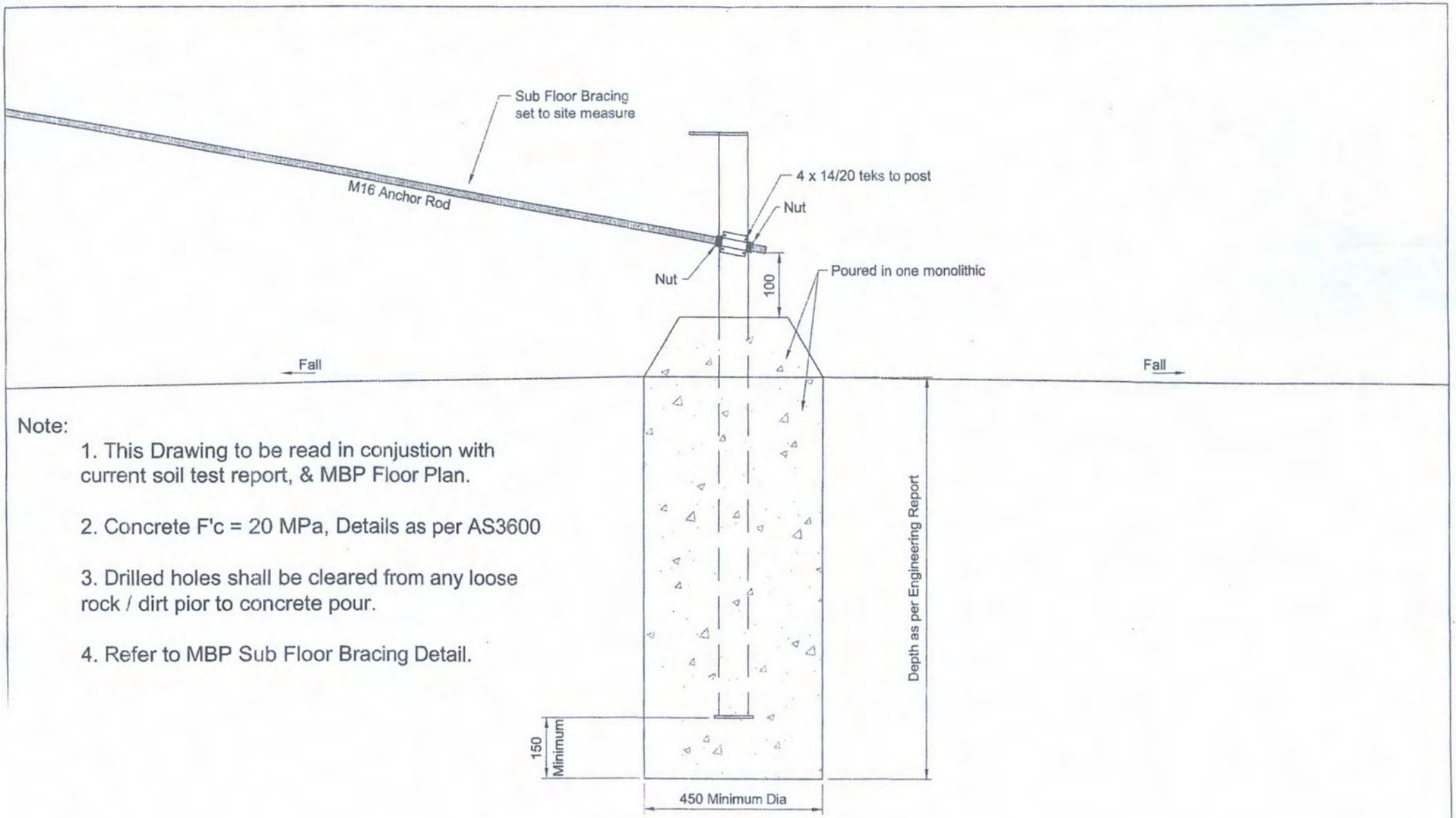
Standard Engineering

DATE : 06/08/10
DES
DRWN SP
CHK

FLOORSYSTEM

SHEET 1 OF 1
DWG. NO.
FRAME ENGINEERING
1
REV.



Note:

1. This Drawing to be read in conjustion with current soil test report, & MBP Floor Plan.

2. Concrete F'c = 20 MPa, Details as per AS3600

3. Drilled holes shall be cleared from any loose rock / dirt pior to concrete pour.

4. Refer to MBP Sub Floor Bracing Detail.

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Typical Pad Footing
NTS

DRWN	AK	DATE: 14/10/09
CHK		DWG NO MBP-PF

GENERAL NOTES

G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER PROJECT DRAWINGS, SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE WORK. ALL DISCREPANCIES SHALL BE REFERRED FOR DECISION BEFORE PROCEEDING WITH THE WORK.

G2 ALL DIMENSIONS ARE TO BE CHECKED ON SITE BEFORE WORK STARTS. VARIATIONS ARE TO BE CONFIRMED AND AGREED. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM THE DRAWING.

G3 DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXCAVATIONS IN A STABLE CONDITION.

G4 SAFETY REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WORK PLACE, HEALTH AND SAFETY ACT AS ADMINISTERED BY THE DIVISION OF ACCIDENT PREVENTION.

G5 THE APPROVAL FOR THE USE OF ALTERNATIVES SHALL BE SOUGHT BEFORE THE WORK COMMENCES.

G6 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. ALL REDUCED LEVELS ARE EXPRESSED IN METRES AND ARE TO ASSUMED DATUM UNLESS NOTED OTHERWISE

THESE DRAWINGS CONTAIN INFORMATION FOR OBTAINING A BUILDING PERMIT. THEY ARE NOT DETAILED SUFFICIENTLY FOR A SPECIFICATION FOR A BINDING CONTRACT WITH A BUILDER. AN ADDITIONAL SPECIFICATION SHOULD BE WRITTEN TO INCLUDE PAINTING, ELECTRICAL & PLUMBING FITTINGS, AND SECOND FIXINGS (KITCHENS, ROBES, CUPBOARDS ETC.).

WINDOWS & DOORS INCLUDING FRAMES, GLAZING & FIXINGS ARE TO COMPLY WITH AS 1288 - 1994 (GLAZING & IMPACT) AND AS 2047 - 1999 (CONSTRUCTION) AND BE CERTIFIED BY MANUFACTURER (INCLUDING FIXING DETAILS). REFER TO DTCM/412/1-2 FOR DESIGN PRESSURE CRITERIA. BUILDER TO CHECK THAT FRAME SIZES SUITE CONSTRUCTED OPENINGS (ESP. BLOCKWORK).
WINDOWS LESS THAN 1500mm FROM BASE OF BATH OR SHOWER] SUBSTRATE ARE REQUIRED TO BE SAFETY GLASS AS PER AS 1288.

SLIDING GLASS DOOR TO HAVE SAFETY MOTIFS AT MID HEIGHT.
SAFETY GLASS IS REQUIRED WHERE GLASS PANELS EXCEED 0.5 SQ M.
SMOKE ALARMS (COMPLYING WITH AS 3786) ARE TO BE INSTALLED WHERE SHOWN ON PLAN IN ACCORDANCE WITH BCA 3.7.2. PHOTO ELECTRIC OR IONISATION TYPES ARE TO BE FITTED IN OR UNDER CEILING (WITH NO DEAD AIR SPACES) AND IN HALLWAY BETWEEN BEDROOMS AND OTHER HABITABLE AREAS AS REQUIRED.
SANITORY COMPARTMENTS (TOILETS) TO HAVE REMOVABLE DOOR AS PER BCA 3.8.3.3(C) IF DISTANCE FROM PAN TO NEAREST PART OF DOOR IS LESS THAN 1200mm, ALTERNATIVES INCLUDE SLIDING DOOR OR OPENING

PROPRIETORY ITEMS AND NON STRUCTURAL MATERIALS WITH UNSPECIFIED FIXING SHALL BE CONSTRUCTED AS PER MANUFACTURERS SPECIFICATION FOR THE RELEVANT REGION

TERMITE RISK MANAGEMENT

Termite controlto be in accordance with AS 3660.1 & BCA 3.1.3
Monolithic concrete slab laid in accordance with AS 2870.1 with 75mm exposed vertical concrete edge for visual termite control.
All penetrations and construction joints to be fitted with Termimesh or other approved physical barriers installed or applied by licenced applicator to manufacturers specification.
Any untreated timber posts, stairs and the like shall be set 75mm minimum clear of ground for visual inspection.
Any active nest containing economically significant termites within the property boundaries up to a distance of 50m from the proposed building shall be eliminated prior to construction. All timber offcuts, building debris and other materials such as cardboard and paper containing cellulose shall be removed from the site.
Two approved notices shall be affixed to the dwelling as required advising owners of the method of termite risk management used, and their ongoing responsibility for the maintainance of the systems.

STEELWORK

1. Cold formed steel sections of 1.2mm thickness or less shall have a minimum yiel stress of 500MPa and 450MPa for greater thickness.
2. Cold formed girts and purlins shall be Lysaght, Stramit or Mecano with equivalent sizes, and sections properties. Fabrication shall comply to all manufacturer's catalog and manuals conforming to AS1533-1988, The Cold Formed Steel Structures Code.
3. All M16 bolts shall be 8.8/S. 830MPa Minimum Tensile Strength to AS1252 and all M12 bolts shall be 4.6/S, 400MPa Minimum Tensile Strength to AS1111.
4. Steel flat bars, angular bars, universal beams/columns shall be Grade 250 to AS3679, with a 410MPa Minimum Tensile Strength.
5. RHS and SHS shall be as indicated in the drawing to comply with AS1163 and AS4100
   * Tru Blu, Big Blu with 350MPa minimum yield strength
   * Greens Tuf with 450MPa minimum yield strength.
6. Reinforcing round bars shall be as indicated in the drawing.
   * Low strength plain bars to AS1302-250R. Marked "R"
   * Low strength deformed bars to AS1302-250Y, marked "S"
   * High strength deformed bars to AS1302-400Y, marked "Y"
7. Wire mesh reinforcement for concrete slab shall be F-62 with 25mm top cover for light loading & F72 to F82 for heavier.
8. Roof, wall, sway braces and fly braces shall be as shown in the drawing, or to manufacturer's manuals.
9. All weldments shall be 6mm fillet minimum and to receive an appropriate coat of anti-corrosive paint before any final finish coating is applied.
10. Stability of the structure during construction is the Builder's responsibility. Provide suitable temporary bracing as needed.

STRUCTURAL STEELWORK NOTES

S1 All workmanship and materials shall be in accordance with AS4100-1990
S2 Unless otherwise specified, all steelwork not hot dip Galvanised shall be shop painted with one coat of zinc phosphate primer.
S3 Except where otherwise shown, welds to be 6mm. continuous fillet. E4 1XX electrode.
S4 Unless otherwise shown , all bolts, nuts and washers shall be galvanised in accordance with AS1214
S5 Site welds to be painted with zinc rich paint.
S6 Dissimilar metals shall be separated so as to prevent galvanic corrosion.
S7 All metal used in structural timber connections shall be provided with suitable corrosion protection for particular conditions in accordance with AS/NZS 4791 & AS 1214.

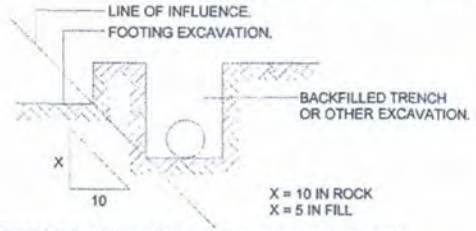
CONCRETE WORK

C1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 - 1994.
C16 DAMPPROOF MEMBRANE TO BE 200um THK. POLYETHYLENE FILM. LAP JOINTS 200mm. SEAL LAP PENETRATIONS & PUNCTURES WITH DOUBLE SIDED BUTYL ADHESIVE TAPE.
C21 MAINTAIN MINIMUM COVER TO REINFORCEMENT AROUND PENETRATIONS OF THE SLAB.

1. Concrete for footing shall be 20MPa and 25MPa for slab, minimum compressive strength at 28th day with 20mm maximum aggregate size. At concrete pouring, slump shall be from 60mm to 100mm dependent from site conditions and shall be vibrated by an approved method. Curing of concrete shall be done just after initial set for 3 to 7 days continuous.
2. All crack control joints shall be 4mm wide x 45mm deep saw cut. Locations shall be from 6.0m to 12.0m on centres.
3. Reinforcement shall be aligned correctly using approved spacers.
4. Prior to concrete pour, Builder shall comply to all Council requirements, seek advice and perform the best building practice.

SITE PREPARATIONS, EARTHWORKS AND FOUNDATIONS NOTES.

E1 EARTHWORKS SHALL BE IN ACCORDANCE WITH AS 3798 AND AS FOLLOWS
E2 REFER GEOTECHNICAL REPORT AS NOTED ON DRAWINGS
E3 ALL VEGETATION AND TOPSOIL SHALL BE REMOVED TO STOCKPILE.
E4 THE CONTRACTOR SHALL CHECK ALL EXCAVATIONS FOR ORGANIC MATERIAL AND RUBBISH. IF ANY OF THIS MATERIAL IS FOUND, IT SHALL BE REMOVED FROM THE WORKS TO A PLACE DESIGNATED BY THE OWNER OR BUILDER.
E5 WHERE INDICATED IN THE SPECIFICATION OR ON THE DRAWINGS, EXCAVATED MATERIAL ADEQUATE FOR FILLING SHALL BE STOCKPILED FOR RE-USE.
E6 UNLESS NOTED OTHERWISE IN SPECIFICATION, FOOTING AND SLABS SHALL BE FOUNDED ON COMPACTED MATERIAL OR CONTROLLED FILL AS PER GEOTECHNICAL REPORT
E7 FOOTINGS HAVE BEEN DESIGNED FOR A UNIFORM BEARING PRESSURE OF 100 kPa. BEFORE ANY CONCRETE IS PLACED THE SAFE BEARING CAPACITY OF THE GROUND SHALL BE VERIFIED.
E8 PRIOR TO CARRYING OUT EARTHWORKS OPERATIONS, THE CONTRACTOR SHALL LOCATE ALL SERVICES & ADVISE THE SUPERINTENDENT OF ANY CONFLICTS.
E9 LEVELS SHOWN ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCING WORK
E10 TERMITE TREAT UNDER SLAB IN ACCORDANCE WITH THE RELEVANT REQUIREMENTS - AS PER A.S. 3660 Pt.1.
ANY ACTIVE NEST CONTAINING ECONOMICALLY SIGNIFICANT TERMITES WITHIN THE PROPERTY BOUNDARIES UP TO A DISTANCE OF 50m FROM THE PROPOSED BUILDING SHALL BE ELIMINATED PRIOR TO CONSTRUCTION
ALL TIMBER CUT-OFFS, BUILDING DEBRIS, REMOVABLE FORMWORK AND OTHER MATERIALS CONTAINING CELLULOSE (EG. CARDBOARD, PAPER) SHALL BE REMOVED FROM THE SITE
E11 THE LIMITATIONS OF EXCAVATIONS NEAR FOOTINGS SHALL BE AS FOLLOWS:



E12 ALL FREE DRAINING GRANULAR FILL MATERIAL BEHIND RETAINING WALLS SHALL BE OF STRONG DURABLE PARTICLES CONFORMING TO THE FOLLOWING GRADINGS.

A.S. SIEVE SIZE	% PASSING
26.5mm	100
9.5mm	45 - 100
2.36mm	20 - 75
75 microns	0 - 15

E13 DRAINAGE: FOR ALL FORMS OF TERMITE PROTECTION THE SUB FLOOR AREA BELOW A SUSPENDED FLOOR SHALL BE GRADED & DRAINED TO PREVENT THE PONDING OF WATER UNDER BUILDINGS. ALL PAVING & OTHER GROUND SURFACES ABUTTING EXTERNAL WALLS SHALL GRADE AWAY FROM THE BUILDING.

E14 BUILDER TO COMPLY WITH HEALTH & SAFETY REGULATIONS & GOVERNMENT & LOCAL AUTHORITY REQUIREMENTS

Registered Professional Engineer 41430+
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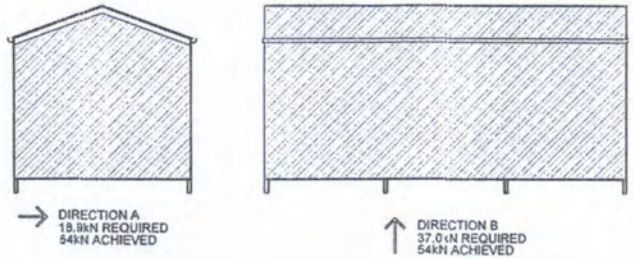
PROPOSED DWELLING FOR:
Wei Chen
16 Kiora Cresent
Yennora NSW
NSW 2161

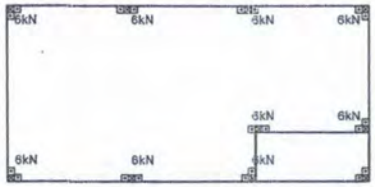
DATE : 22/10/14		General Notes	
DES	Gemini	SHEET 1 of 5	
DRWN	Alex	DWG. NO. GYWC2-1	
CHK			1 REV

Subfloor Bracing

DIR.A Area 13.5sq.m. x 1.4 = 18.9kN
1684.2 for N3 and 1684.3 for C2 TABLE 8.1
DIR B Area 30.8sq.m. x 1.2 = 37.0kN
1684.2 for N3 and 1684.3 for C2 TABLE 8.3



Posts 600mm or less achieve 6kN in both directions
9 x 600mm posts @ 6kN achieves 54kN in both directions



REQUIREMENTS FOR SUSTAINABLE BUILDINGS MP 4.1

PERFORMANCE REQUIREMENTS	ACCEPTABLE SOLUTIONS
ENERGY EFFICIENCY	
P1 The thermal performance of a class 1 building attached to a class 10a building must comply with performance requirements p2.6.1 of the BCA 2010 (Volume 2)	A1 (1)A Class 1 Building including an enclosed class 10a building attached to a class 1 building complies with: (a) parts 3.12.1, 3.12.2, 3.12.3,and 3.12.4 of the BCA 2010(Volume 2) except,for buildings in climate zone 1 and 2, disregard 3.12.1.5(a)(i)and (iii); or (b) Verification using a reference building in accordance with V2.6.2.2 of the BCA 2010(Volume2) ;or (c) a software rating of not less than 6 stars; or (d) in climate zone 1,2,and 5, a combination of a software rating of not less than 4.5 stars and a nominal credit obtained under (2) to reach a total of 6 stars; or (e) in climate zone 3 a combination of a software rating of not less than 5 stars and a nominal credit obtained under (2) to reach a total of 6 stars;or (f) part 3.12 of the BCA 2009 (Volume 2) where a nominal credit of not less than 1 star is obtained under (2) (2) For the purposes of (1)(d)-(f) the following nominal credits apply: (a) 0.5 star where a building includes an outdoor living area' the roof covering of which achieves a Total R-Value of at least 1.5 for downward heat flow; (b) 1 star where a building includes an outdoor living area the roof covering of which achieves a Total R-Value of at least 1.5 for downward heat flow and the outdoor living area includes a permanently installed ceiling fan with a speed controller and a blade rotation diameter of not less than 900mm; (c) 1 star where a building has a solar photovoltaic system of at least 1kW in capacity (maximum power output) installed
ENERGY EFFICIENT DOMESTIC SERVICES	
P3	A3 Class 1 Building , including a verandah, balcony or an enclosed class 10a building attached to a class 1 building, have: (a) artificial lighting that complies with part 3.12.5.5of BCA2010(Volume 2) ;or (b) Energy efficient lighting for a minimum of 80 percent of total fixed artificial lighting
P5 For class 1 Building hot water systems comply with the Queensland Plumbing and wastewater code.	A5 For hot water systems for a class 1 building: (a) Disregard BCA 2010 (Volume 2) 3.12.5.5 and instead (b) Comply with the Queensland Plumbing and Wastewater Code.
P6 In class 1 and 2 buildings new and replacement air-conditioners must be energy efficient	A6 In class 1 and class 2 building , New and replacement air-conditioners have an EER of at least 2.9.
WATER CONSERVATION	
P7 In class 1 and class 2 buildings, in areas serviced by *a water service provider*, shower roses must facilitate the efficient use of water.	P7 In class 1 and class 2 buildings, in areas serviced by *a water service provider*, all shower roses have a minimum 3-star Water Efficiency Labelling and Standards rating. NOTE: Water Efficiency Labelling and Standards (WELS) - references the Australian Government's labelling standards scheme for water efficient products
P8 in class 1 and class 2 buildings in serviced by a water service provider , Toilet cisterns and bowels must facilate the efficient use of water.	P8 In class 1 and class 2 building , in areas serviced by a water service provider ,all toilet cisterns: (a) have a dual flush function and have a minimum 4- star water efficiency labelling and standards rating;and (b) are compatible with the size of the toilet bowl to allow for proper functioning of the toilet
P9 In class 1 and class 2 buildings, in areas serviced by *a water service provider*, tap ware must facilitate the efficient use of water.	A9 In class 1 and class 2 buildings, in areas serviced by *a water service provider*, tap ware has a minimum 3-star Water Efficiency Labelling and Standards rating for taps serving: (a) laundry tubs; and (b) kitchen sinks; and (c) basins.

REQUIREMENTS FOR PLUMBING

All plumbing work to comply with energy requirements of AS/NZS 3500 All storage HWS to have a heat trap within 1m of the outlet & before the first branch if no heat trap is an integral part of the HWS.

PIPE INSULATION

SYSTEM ELEMENT	PIPING LOCATION	R-VALUE	ACCEPTED INSULATION MATERIAL
Cold water connection to HWS - Between closest valve & HWS	Internal & External	0.3	13mm Closed cell polymer.
Outlet piping from HWS. -First 500mm from HWS or to a point 150mm down the vertical leg of the heat trap.			As above
Non-recirculating hot water piping	External piping connected to primary kitchen sink		As above

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Mr Vic Bacud, Jnr
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NPER-3
Signature ..... Date 23/10/2014
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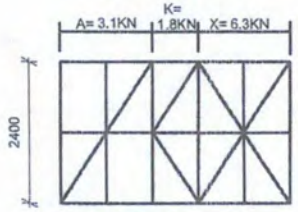
PROPOSED DWELLING FOR:
Wei Chen
16 Kiora Cresent
Yennora NSW
NSW 2161

DATE : 22/10/14		Sub Floor Bracing & Energy Efficiency	
DES	Gemini	SHEET 2 of 5	
DRWN	Alex	DWG. NO. GYWC2-2	
CHK			1 REV

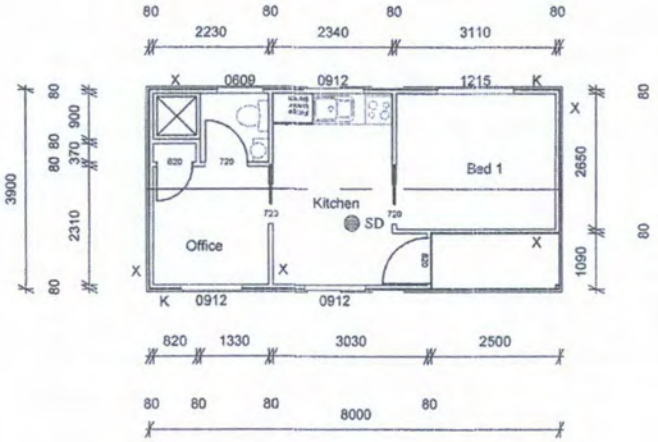
MIN. SETBACK FROM FRONT BOUNDRY ___m
MIN. SETBACK FROM SIDE BOUNDRY ___m

Bracing Descriptions

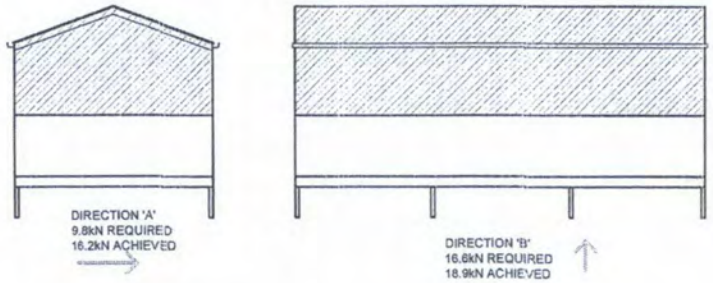


0.75 Steel @ 600 ctrs

Note: –
X, K or A denotes Bracing



DIR.A Area 7.0sq.m. x 1.4 = 9.8kN
1684.2 for N3 and 1684.3 for C2 TABLE 8.1
DIR B Area 17.2sq.m. x 0.96 = 16.6kN
1684.2 for N3 and 1684.3 for C2 TABLE 8.2

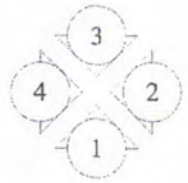


REAL PROPERTY DESCRIPTION

LOT -	14&15
REGISTERED PLAN NUMBER -	DP728
LOCAL AUTHORITY -	Fairfield

DESIGN CRITERIA

REGION -	B
TERRAIN CATEGORY -	TC2.5
TOPOGRAPHY -	T1
SHIELDING -	PS
WIND CLASSIFICATION -	N3
CLIMATE ZONE -	2



SD Approved smoke alarm to comply with A.S. 3786 & Part 3.7.2 of BCA

FLOOR AREA	28.475sq.m.
VERANDAH AREA	2.725sq.m.
TOTAL AREA	31.2sq.m.

DO NOT SCALE OFF PLAN.

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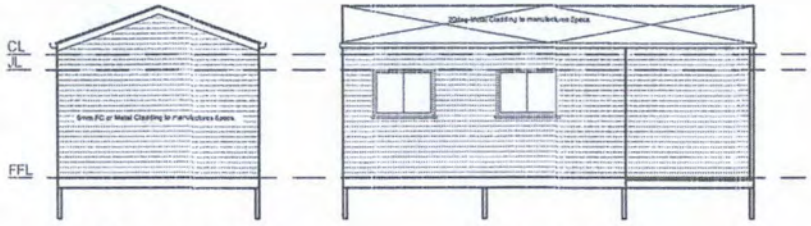
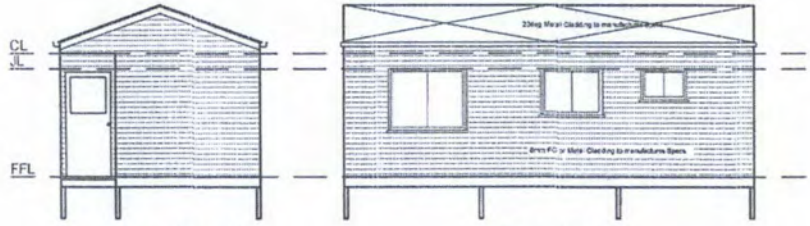
PROPOSED DWELLING FOR:
Wei Chen
16 Kiora Cresent
Yennora NSW
NSW 2161

DATE : 22/10/14		Floor Plan	
DES	Gemini	SHEET 3 of 5	
DRWN	Alex	DWG. NO. GYWC2-3	1 REV
CHK			



Elevation 4

Elevation 1



Elevation 2

Elevation 3

Roof cladding to be installed according to manufacturer's requirements and in accordance with AS1562.1 - Design & Installation of sheet roof and wall cladding - metal.
Wall cladding to be installed in accordance with manufacturer's requirements and any referenced Standards.
Windows and glazing to be installed in accordance with AS2047 - Windows in buildings.
Upgrade at corners if required to suit specific site wind loadings.

NOTES
The design of timber stairs, ramps and balustrades should be in accordance with the Building Code of Australia, sections D2.13 & D2.16
Goings & risers must be constant throughout. Risers must not have any openings that would allow a 125mm sphere pass through between the treads..
Going (G) & Riser (R) and quantity (2R+G) must be in accordance with BCA Table D2.13.
Provide a handrail & balustrade along every side of any stairway or ramp, corridor, hallway, external access, balcony, bridge, patio, mezzanine or the like wherever the side is not bounded by a wall and is more than 915mm (or 5 risers in the case of a stair) above the adjoining floor or ground.

Provide at least one handrail to other stairs.
Fix handrails and balustrades at a vertical height of 1000mm above floor surface, and 865mm above the nosings of the stair treads.
Where the floor is more than 3.0m above the ground, balusters must be vertical to prevent small children from climbing over the rail.
Every handrail to stairs shall be continuous between stair flights and landings and shall have no gap in the rail wider than 150mm and shall be so constructed that there will be no obstructions that will tend to break a handhold.
Balustrades must not have any openings that would allow a 125mm sphere to pass through between the balusters or betwee the bottom rail & the floor.

DO NOT SCALE OFF PLAN

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PROPOSED DWELLING FOR:
Wei Chen
16 Kiora Cresent
Yennora NSW
NSW 2161

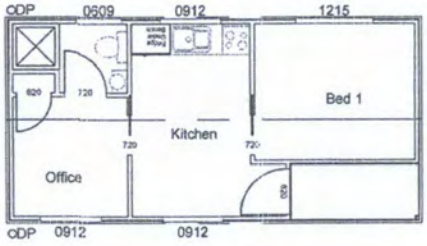
DATE : 22/10/14		Elevations
DES	Gemini	SHEET 4 of 5
DRWN	Alex	DWG. NO. GYWC2-4
CHK		1 REV

NOTES
Sanitary facilities shall comply with AS1428.1 - Design for access and mobility. Door circulation spaces shall be in accordance with cl.11.5.2.
Toilet seats of moulded plastics shall comply with AS1371.
Water closets built especially for ambulant people with disabilities shall be in accordance with cl.15.3.
All work shall be in accordance with Local Authority by-laws and the BCA.

The Sewerage and Water Supply By-laws require that:
-All sanitary plumbing and drainage work be carried out only by licenced tradespersons.
-All fittings, fixtures and pipes comply with the requirements of the Joint Commitee (Standard Sewerage By-laws 36 & 37 and Standard Water Supply By-laws 14a - 18a).
-Sanitary compartments must have doors and partitions that extend to a min. 1800mm above floor level.
Toilet areas without natural ventilation by means of a window must be mechanically vented.
-Waterproofing must comply with AS3740
-All wet areas to be treated to BCA3.8.1 with approved waterproofing system.

Gutter and downpipe selection to be in accordance with BCA 3.5.2.2(a).
Roof catchment area per downpipe is <40sq.m.
Size of gutter required as per Table 3.5.2.2(b) 'A' Medium Reclangular or 'D' 125mm Quad in accordance with AS3500.32.
Downpipe section as per BCA Table 3.5.2.2(c) - 90mm Ø.
Downpipes on a common gutter to be no more that 9m. apart.

Rainfall intensities per BCA Table 3.5.2.1 for Sydney. 5 minute rainfall intensity (mm/h) Average Recurrence Interval (ARI) once in 20 years 214. Once in 100 years 273.



PLUMBING PLAN

DO NOT SCALE OFF PLAN.

PLUMBING TO BE INSTALLED BY A REGISTERED PLUMBER

Registered Professional Engineer 41430+
Mr Vic Bacud, Jnr
MIEAust CPEng RPEQ 3647
NPER-3
Signature ..... Date 23/10/2014
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PROPOSED DWELLING FOR:
Wei Chen
16 Kiora Cresent
Yennora NSW
NSW 2161

DATE : 22/10/14		Plumbing Layout
DES	Gemini	SHEET 5 of 5
DRWN	Alex	DWG. NO. GYWC2-5
CHK		REV 1

EIS Attachment 7: Stormwater Sample Collection Analysis Results

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2025861**	Page	: 1 of 9
Client	: **BENBOW ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: Matthew Taylor	Contact	: Customer Services ES
Address	: 25-27 SHERWOOD STREET NORTHMEAD NSW, AUSTRALIA 2152	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: 191251_Stormwater	Date Samples Received	: 28-Jul-2020 10:20
Order number	: 191251	Date Analysis Commenced	: 28-Jul-2020
C-O-C number	: ----	Issue Date	: 04-Aug-2020 13:55
Sampler	: Matthew Taylor		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 6		
No. of samples analysed	: 6		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- Samples containing fine particulate matter less than 1.2 µm may bias low for TSS via EA025H.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	S-1	S-1	S-2	S-2	S-1
			Client sampling date / time	28-Jul-2020 09:45	28-Jul-2020 09:45	28-Jul-2020 09:25	28-Jul-2020 09:25	28-Jul-2020 09:45
Compound	CAS Number	LOR	Unit	ES2025861-001	ES2025861-002	ES2025861-003	ES2025861-004	ES2025861-005
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	----	----	----	----	**8.41**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	----	----	----	----	**223**
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	----	----	----	----	**29**
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	<0.001	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	<0.0001	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	<0.001	----	----
Copper	7440-50-8	0.001	mg/L	**0.006**	----	**0.001**	----	----
Nickel	7440-02-0	0.001	mg/L	**0.001**	----	<0.001	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	<0.001	----	----
Zinc	7440-66-6	0.005	mg/L	**0.092**	----	**0.034**	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	<0.0001	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	5	µg/L	----	<5	----	<5	----
Isopropylbenzene	98-82-8	5	µg/L	----	<5	----	<5	----
n-Propylbenzene	103-65-1	5	µg/L	----	<5	----	<5	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	----	<5	----	<5	----
sec-Butylbenzene	135-98-8	5	µg/L	----	<5	----	<5	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	----	<5	----	<5	----
tert-Butylbenzene	98-06-6	5	µg/L	----	<5	----	<5	----
p-Isopropyltoluene	99-87-6	5	µg/L	----	<5	----	<5	----
n-Butylbenzene	104-51-8	5	µg/L	----	<5	----	<5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	----	<50	----	<50	----
2-Butanone (MEK)	78-93-3	50	µg/L	----	<50	----	<50	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	----	<50	----	<50	----
2-Hexanone (MBK)	591-78-6	50	µg/L	----	<50	----	<50	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	----	<5	----	**18**	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	----	<5	----	<5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	S-1	S-1	S-2	S-2	S-1
				Client sampling date / time	28-Jul-2020 09:45	28-Jul-2020 09:45	28-Jul-2020 09:25	28-Jul-2020 09:25	28-Jul-2020 09:45
Compound	CAS Number	LOR	Unit		ES2025861-001	ES2025861-002	ES2025861-003	ES2025861-004	ES2025861-005
					Result	Result	Result	Result	Result
EP074D: Fumigants - Continued									
1.2-Dichloropropane	78-87-5	5	µg/L		----	<5	----	<5	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		----	<5	----	<5	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		----	<5	----	<5	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		----	<5	----	<5	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		----	<50	----	<50	----
Chloromethane	74-87-3	50	µg/L		----	<50	----	<50	----
Vinyl chloride	75-01-4	50	µg/L		----	<50	----	<50	----
Bromomethane	74-83-9	50	µg/L		----	<50	----	<50	----
Chloroethane	75-00-3	50	µg/L		----	<50	----	<50	----
Trichlorofluoromethane	75-69-4	50	µg/L		----	<50	----	<50	----
1.1-Dichloroethene	75-35-4	5	µg/L		----	<5	----	<5	----
Iodomethane	74-88-4	5	µg/L		----	<5	----	<5	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		----	<5	----	<5	----
1.1-Dichloroethane	75-34-3	5	µg/L		----	<5	----	<5	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		----	<5	----	<5	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		----	<5	----	<5	----
1.1-Dichloropropylene	563-58-6	5	µg/L		----	<5	----	<5	----
Carbon Tetrachloride	56-23-5	5	µg/L		----	<5	----	<5	----
1.2-Dichloroethane	107-06-2	5	µg/L		----	<5	----	<5	----
Trichloroethene	79-01-6	5	µg/L		----	<5	----	<5	----
Dibromomethane	74-95-3	5	µg/L		----	<5	----	<5	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		----	<5	----	<5	----
1.3-Dichloropropane	142-28-9	5	µg/L		----	<5	----	<5	----
Tetrachloroethene	127-18-4	5	µg/L		----	<5	----	<5	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		----	<5	----	<5	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		----	<5	----	<5	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		----	<5	----	<5	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		----	<5	----	<5	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		----	<5	----	<5	----
Pentachloroethane	76-01-7	5	µg/L		----	<5	----	<5	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		----	<5	----	<5	----
Hexachlorobutadiene	87-68-3	5	µg/L		----	<5	----	<5	----
EP074F: Halogenated Aromatic Compounds									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	S-1	S-1	S-2	S-2	S-1
				Client sampling date / time	28-Jul-2020 09:45	28-Jul-2020 09:45	28-Jul-2020 09:25	28-Jul-2020 09:25	28-Jul-2020 09:45
Compound	CAS Number	LOR	Unit		ES2025861-001	ES2025861-002	ES2025861-003	ES2025861-004	ES2025861-005
					Result	Result	Result	Result	Result
EP074F: Halogenated Aromatic Compounds - Continued									
Chlorobenzene	108-90-7	5	µg/L		----	<5	----	<5	----
Bromobenzene	108-86-1	5	µg/L		----	<5	----	<5	----
2-Chlorotoluene	95-49-8	5	µg/L		----	<5	----	<5	----
4-Chlorotoluene	106-43-4	5	µg/L		----	<5	----	<5	----
1.3-Dichlorobenzene	541-73-1	5	µg/L		----	<5	----	<5	----
1.4-Dichlorobenzene	106-46-7	5	µg/L		----	<5	----	<5	----
1.2-Dichlorobenzene	95-50-1	5	µg/L		----	<5	----	<5	----
1.2.4-Trichlorobenzene	120-82-1	5	µg/L		----	<5	----	<5	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		----	<5	----	<5	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		----	**21**	----	<5	----
Bromodichloromethane	75-27-4	5	µg/L		----	**10**	----	<5	----
Dibromochloromethane	124-48-1	5	µg/L		----	<5	----	<5	----
Bromoform	75-25-2	5	µg/L		----	<5	----	<5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		----	<1.0	----	<1.0	----
Acenaphthylene	208-96-8	1.0	µg/L		----	<1.0	----	<1.0	----
Acenaphthene	83-32-9	1.0	µg/L		----	<1.0	----	<1.0	----
Fluorene	86-73-7	1.0	µg/L		----	<1.0	----	<1.0	----
Phenanthrene	85-01-8	1.0	µg/L		----	<1.0	----	<1.0	----
Anthracene	120-12-7	1.0	µg/L		----	<1.0	----	<1.0	----
Fluoranthene	206-44-0	1.0	µg/L		----	<1.0	----	<1.0	----
Pyrene	129-00-0	1.0	µg/L		----	<1.0	----	<1.0	----
Benz(a)anthracene	56-55-3	1.0	µg/L		----	<1.0	----	<1.0	----
Chrysene	218-01-9	1.0	µg/L		----	<1.0	----	<1.0	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		----	<1.0	----	<1.0	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		----	<1.0	----	<1.0	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	<0.5	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		----	<1.0	----	<1.0	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		----	<1.0	----	<1.0	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		----	<1.0	----	<1.0	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		----	<0.5	----	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		----	<0.5	----	<0.5	----
EP080/071: Total Petroleum Hydrocarbons									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	S-1	S-1	S-2	S-2	S-1
				Client sampling date / time	28-Jul-2020 09:45	28-Jul-2020 09:45	28-Jul-2020 09:25	28-Jul-2020 09:25	28-Jul-2020 09:45
Compound	CAS Number	LOR	Unit		ES2025861-001	ES2025861-002	ES2025861-003	ES2025861-004	ES2025861-005
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C6 - C9 Fraction	----	20	µg/L		----	<20	----	<20	----
C10 - C14 Fraction	----	50	µg/L		----	140	----	100	----
C15 - C28 Fraction	----	100	µg/L		----	960	----	610	----
C29 - C36 Fraction	----	50	µg/L		----	700	----	80	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		----	1800	----	790	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		----	<20	----	<20	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		----	<20	----	<20	----
>C10 - C16 Fraction	----	100	µg/L		----	210	----	180	----
>C16 - C34 Fraction	----	100	µg/L		----	1360	----	570	----
>C34 - C40 Fraction	----	100	µg/L		----	450	----	<100	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		----	2020	----	750	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		----	210	----	180	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		----	<1	----	<1	----
Toluene	108-88-3	2	µg/L		----	<2	----	<2	----
Ethylbenzene	100-41-4	2	µg/L		----	<2	----	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		----	<2	----	<2	----
ortho-Xylene	95-47-6	2	µg/L		----	<2	----	<2	----
^ Total Xylenes	----	2	µg/L		----	<2	----	<2	----
^ Sum of BTEX	----	1	µg/L		----	<1	----	<1	----
Naphthalene	91-20-3	5	µg/L		----	<5	----	<5	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		----	104	----	99.5	----
Toluene-D8	2037-26-5	5	%		----	121	----	124	----
4-Bromofluorobenzene	460-00-4	5	%		----	109	----	111	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		----	22.2	----	23.9	----
2-Chlorophenol-D4	93951-73-6	1.0	%		----	40.6	----	52.2	----
2.4.6-Tribromophenol	118-79-6	1.0	%		----	36.8	----	50.6	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		----	74.5	----	65.9	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	S-1	S-1	S-2	S-2	S-1
				Client sampling date / time	28-Jul-2020 09:45	28-Jul-2020 09:45	28-Jul-2020 09:25	28-Jul-2020 09:25	28-Jul-2020 09:45
Compound	CAS Number	LOR	Unit		ES2025861-001	ES2025861-002	ES2025861-003	ES2025861-004	ES2025861-005
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	1.0	%		----	**69.9**	----	**67.2**	----
4-Terphenyl-d14	1718-51-0	1.0	%		----	**70.7**	----	**66.0**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		----	**110**	----	**105**	----
Toluene-D8	2037-26-5	2	%		----	**114**	----	**117**	----
4-Bromofluorobenzene	460-00-4	2	%		----	**104**	----	**109**	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)				Client sample ID	**S-2**	----	----	----	----
				Client sampling date / time	28-Jul-2020 09:25	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**ES2025861-006**	--------	--------	--------	--------
					Result	----	----	----	----
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		**7.35**	----	----	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		**135**	----	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L		**5**	----	----	----	----

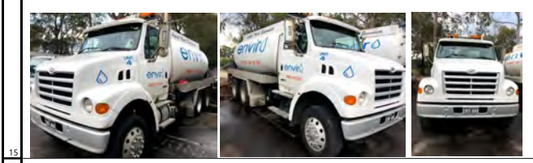
Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

EIS Attachment 8: Vehicle and Truck Register

Vehicle & Trucks Registration

PREVIOUS REGO	REGISTRATION	TYPE	YEAR	AUTO/MANUAL	FUEL	HEIGHT	WIDTH	LENGTH	LITRES	AXLES	ENGINE NUMBER	VIN NUMBER	REGO DUE
CG02TG- STERING RIGID 	**CG02TG**	TAUTLINER LT7599A	2003	AUTO	DIESEL	**3.6 M**	**2.95 M**	**11.5 M**	**N/A**	3	**46301294**	**2FZHATBS94AM08378**	**29/01/2022**
ENV013- FORD F350-RIGID 	**ENV013**	FORD F350	2001	MANUAL	DIESEL	**1.95 m**	**2.55 m**	**7.1 M**	**3000**	2	**5029508**	**9BFKF34F21B066777**	**20/04/2021**
ENV015- VOLVO- FM9-RIGID 	**ENV015**	VOLVO FM9	2003	MANUAL	DIESEL	**3.45 M**	**3.1 M**	**8.5 M**	**15000**	3	**D9007069**	**YV5J4CND63D124642**	**14/05/2021**
ENV017- IVECO ACCO02A 	**ENV017**	RIGID TRUCK-	2007	AUTO	DIESEL	**3.55 m**	**2.8 m**	**9.2 m**		3	**ESN46763639**	**6F22523007DP00473**	**9/01/2022**
ENV019- IVECO 2350G-RIGID 	**ENV019**	IVECO 2350G	2009	AUTO	DIESEL	**3.30 M**	**2.8 M**	**8.5 M**		3	**46993897**	**6F22523009DS00353**	**19/05/2021**
ENV0111- ISUZU FRR600 	**ENV111**	ISUZU FRR600	2009	AUTO	DIESEL	**2.6 m**	**2.8 m**	**8.2 m**	**6000**	2	**6HK1486907**	**JALFRR34P97000125**	**7/02/2022**
ENV444- STERNG LT7599A 	**ENV444**	STERNG LT7599A	1999	AUTO	DIESEL	**3.45 m**	**2.900 m**	**8.260 m**	**15000**	3	**45882974**	**2FZNALBB7YAG14243**	**18/04/2021**
ENV555- MITSU-CANT79A 	**ENV555**	MITSU-CANT79A	2019	AUTO	DIESEL	**2.4 M**	**5.00 M**	**2.00 M**	**2000**	2	**4P10D71837**	**JLFFEA21E0KJ30317**	**5/09/2021**

EIS Attachment 9: Enviro Waste Public Complaint & Report Form

Public Complaint & Report Form

The details of the person lodging a complaint can remain unidentified. However, details of the complainer are important should need to seek further clarification.

Complainer Contact Details

Title: _____ First Name: _____, Last Name: _____

Address:

_____

_____

Phone: (02) _____, Mobile : _____

Preferred Contact time: _____

Email Address:

_____

Complaint Received: In Person ☐ In Writing ☐ By Phone ☐

Details and Description of the Complaint

Date: _____; Time: _____; Business Name:_____

Location where incident happen:_____

Details: _____

_____

_____

_____

_____

_____

_____

_____

Were there any Witness: (if YES, please provide details): NO ☐ YES ☐

Details:

First & Last Name: _____

Contact Phone No.: _____

Public Complaint & Report Form

Enviro Personnel Details

Vehicle Registration : _____ Driver's Name:_____

Vehicle Type (Car, Truck…): _____ Driver's Driving license: _____

Investigation's Outcome

Complaint documented by:	_____
Date:_____	Time : _____
Investigation Conducted by:	_____
Investigator's Position:	_____

Investigation Outcome:

_____

_____

_____

Action Taken / or required:

_____

_____

Investigator's Signature: _____, Date: _____

Employee's Name :_____,

Employee's Signature: _____, Date: _____

Has the Complainer requested copy of the Investigation Report: NO ☐ YES ☐

(if Yes, please confirm that a feedback have been provided): Name: _____, Signature: _____

General Manager :_____, Signature: _____

Date: _____

Benbow
ENVIRONMENTAL
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Visit our website at:
www.benbowenviro.com.au

E-mail:
admin@benbowenviro.com.au

RTB/bm
Ref: 191251_Let5_Rev2
06 October 2020

ATT: Traffic Team
Cumberland Council
PO Box 42
MERRYLANDS NSW 2160

E: council@cumberland.nsw.gov.au

CC: Susan Fox
Senior Environmental Assessment Officer
Industry Assessments
Department of Planning, Industry and Environment

E: Susan.Fox@planning.nsw.gov.au

Dear Sir/Madam,

Re: SSD-10407 - Yennora Liquid Waste Facility – Vehicle Maneuverability

The Department of Planning, Industry and Environment has requested following the second adequacy review that Benbow Environmental consult with Council regarding the traffic issues for the proposed development located at 14-16 Kiora Crescent, Yennora SSD-10407:

- *The Department considers access and site maneuverability to be a key issue given the limited space within the site. The Department requests the Applicant consult with Council prior to submitting the EIS to ensure Council are satisfied with the proposed access, truck maneuverability and parking arrangements at the site. The outcomes of those discussions must be documented within the EIS. The Department notes consultation is a requirement of the SEARs.*

Benbow Environmental agrees that site maneuverability is a key issue given the limited space within the site. As such the proponent has undertaken all reasonable feasible measures to improve vehicle manoeuvrability on site. Including:

- Removing the existing demountable office space;
- Connecting the driveways of the two lots to allow greater space for vehicle turning;
- Widen the driveway at 16 Kiora to allow greater space for vehicle turning;
- Bunding the rear external area at 16 Kiora for the purpose of using this as a truck waiting bay;
- 24/7 operations which will allow the trips to be spread out;
- Implementing a truck scheduling program to prevent queuing on the street.

This has allowed for vehicles to enter and leave the site in a forward direction, and truck swept paths do not interfere with car parking spaces.

The site plan is provided in Attachment 1, the traffic assessment is provided in Attachment 2, the swept paths in Attachment 3 and council SEARS comments in Attachment 4.

Please let us know if there are any other assessments you would like us to send through (including the EIS and all other supporting environmental documents).

Benbow Environmental would like to arrange a meeting/conference call with council if required.

Yours faithfully,
for Benbow Environmental



Emma Hansma
Senior Engineer

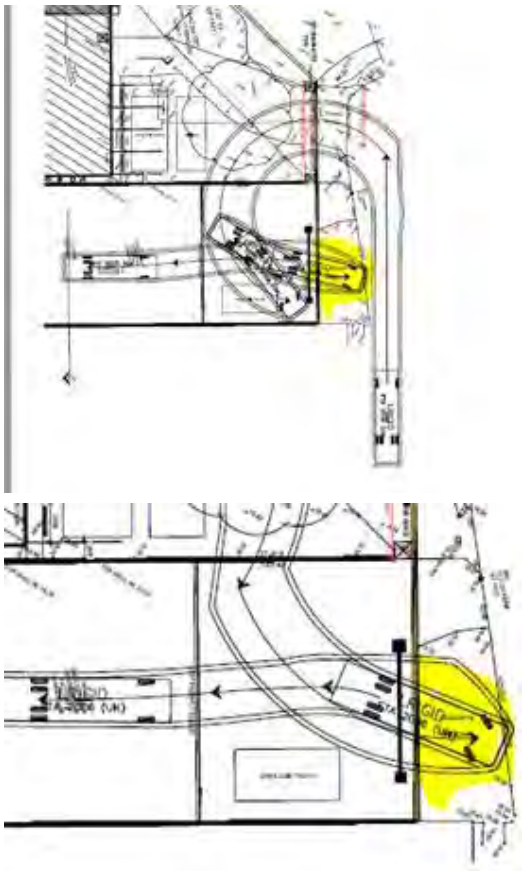
From:	Bala Sudarson
To:	Belinda Middleton; Michael Lawani
Cc:	Susan.Fox@planning.nsw.gov.au; Emma Hansma
Subject:	RE: ATT: TRAFFIC TEAM - SSD-10407 - Yennora Liquid Waste Facility – Vehicle Maneuverability
Date:	Thursday, 15 October 2020 11:13:29 AM
Attachments:	image104953.png 191251_Let5_Rev2.pdf

Hi Belinda

Reference is made to attached documents submitted in response to Council's Traffic comments. Please note the following:

a) The 10.0m truck used in the swept path analysis is a not a standard truck that is defined in Australian standard AS2890.1.

b) The swept path analysis shows that the turning path encroaches into Council' s land (footpath and nature strip).

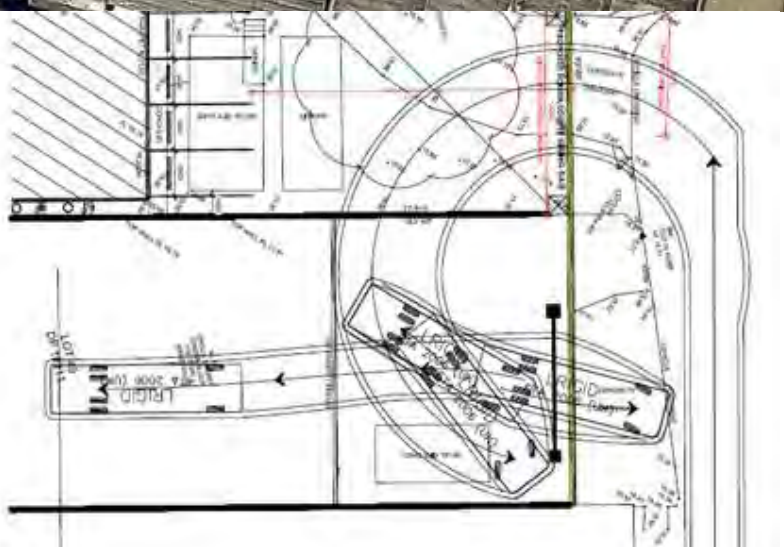


c) Reverse manoeuvring in Council's land is not acceptable. It will compromise the safety. Vehicles should enter and leave the site in a forward direction.

d) Proposed 4 point turn truck manoeuvring movement is not acceptable. Manoeuvring shall be limited to three point turn.







The above comments relates to traffic matters only.

Regards
Bala Sudarson

BALA SUDARSON
SENIOR DEVELOPMENT ASSESSMENT ENGINEER

16 Memorial Avenue, PO Box 42 Merrylands NSW 2160
T +61 2 8757 9964
E Bala.Sudarson@cumberland.nsw.gov.au
W www.cumberland.nsw.gov.au

From: Belinda Middleton [mailto:belinda@benbowenviro.com.au]
Sent: 6 October 2020 3:06 PM
To: Records Department <council@cumberland.nsw.gov.au>
Cc: Susan.Fox@planning.nsw.gov.au; Emma Hansma <ehansma@benbowenviro.com.au>
Subject: ATT: TRAFFIC TEAM - SSD-10407 - Yennora Liquid Waste Facility – Vehicle Maneuverability

Dear Sir/Madam,

Please see attached letter regarding SSD-10407 - Yennora Liquid Waste Facility – Vehicle Maneuverability letter and attachments prepared by Emma Hansma.

Do not hesitate to call if you have any questions.

Kind Regards

Belinda Middleton
Senior Word Processor
On behalf of

email: belinda@benbowenviro.com.au
website: www.benbowenviro.com.au

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