AIR QUALITY IMPACT ASSESSMENT
RESOURCE RECOVERY FACILITY
55 MARTIN ROAD, BADGERYS CREEK NSW 2555

Prepared for: AMJ Demolition and Excavations
Claron Consulting

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1. INTRODUCTION

Benbow Environmental has been engaged by AMJ Demolition and Excavations and Claron Consulting to undertake an Air Quality Impact Assessment (AQIA) for the development of the approved resource recovery facility at 55 Martin Road, Badgerys Creek, NSW, pursuant to DA-263-2018-A (Attachment 1). The assessment determines the predicted air pollutant contribution from the approved resource recovery operations at the nearest sensitive receptors. The previous AQIA for this job (ref: 171127_AQIA_Rev3) has been updated to reflect a proposed s.4.55(2) modification application to increase the shed size from that previously approved by DA-263-2018-A. Note that nothing else changes from the previous Consent.

The proposal is for enlarging the shed to encompass the external 'finished product' bins and moving it from the northern boundary to the southern boundary, every other operating parameter as previously approved remains the same (eg trucks, hours of operation, staff numbers, tonnages, hardstand pavement area, stormwater, boundary noise fencing etc). The 'finished product' bunkers that were previously located externally are now entirely within the larger building, which is a superior environmental outcome for dust suppression (ie all products both incoming waste and outgoing recovered aggregates are now contained entirely within the building).

1.1 PURPOSE OF REPORT

The purpose of this study is to assess the potential impacts of dust emissions on ambient air quality, as a direct result of the approved development, being the operation of the approved resource recovery facility only. Should the results of this assessment show any exceedance of the adopted criteria for the specific emissions, mitigation measures would be recommended, in order to prevent or reduce to an acceptable level any detrimental effects to ambient air quality and any impacts on the local community.

1.2 SCOPE OF WORKS

The scope of works undertaken for this AQIA consists of the following:

- Reviewing site details and the approved operations;
- Determining the most suitable pollutant emission data for the approved development;
- Undertaking air dispersion modelling of the approved operations to determine the potential air quality impacts at the nearest sensitive receptors;
- Assessing the predicted pollutant levels against NSW EPA guidelines; and
- Compiling the methods and results of the assessment in a report, with a final statement on the potential air quality impacts resulting from the approved development.

1.3 RELEVANT LEGISLATION AND PUBLICATIONS

Various publications have been followed for generic guidance and/or utilised to comply with statutory requirements for the preparation of this AQIA report. The most relevant ones are listed as follows:

- *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (NSW EPA, 2022) [referred to as *Approved Methods*];

- National Pollutant Inventory Emission Estimation Technique Manual (NPI EETM) for Mining (2012); and
- National Pollutant Inventory Emission Estimation Technique Manual (NPI EETM) for Mining and Processing of Non-Metallic Materials (2014).

2. SITE DETAILS AND APPROVED DEVELOPMENT

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

2.1 SITE LOCATION

The approved subject site is located at 55 Martin Road, Badgerys Creek, Lot 4 in DP 611519 and has a second street frontage on Lawson Road. The site is located in the Liverpool Local Government Area of New South Wales and lies approximately 15 kilometres south-east of Penrith and 40 kilometres west of the Sydney CBD.

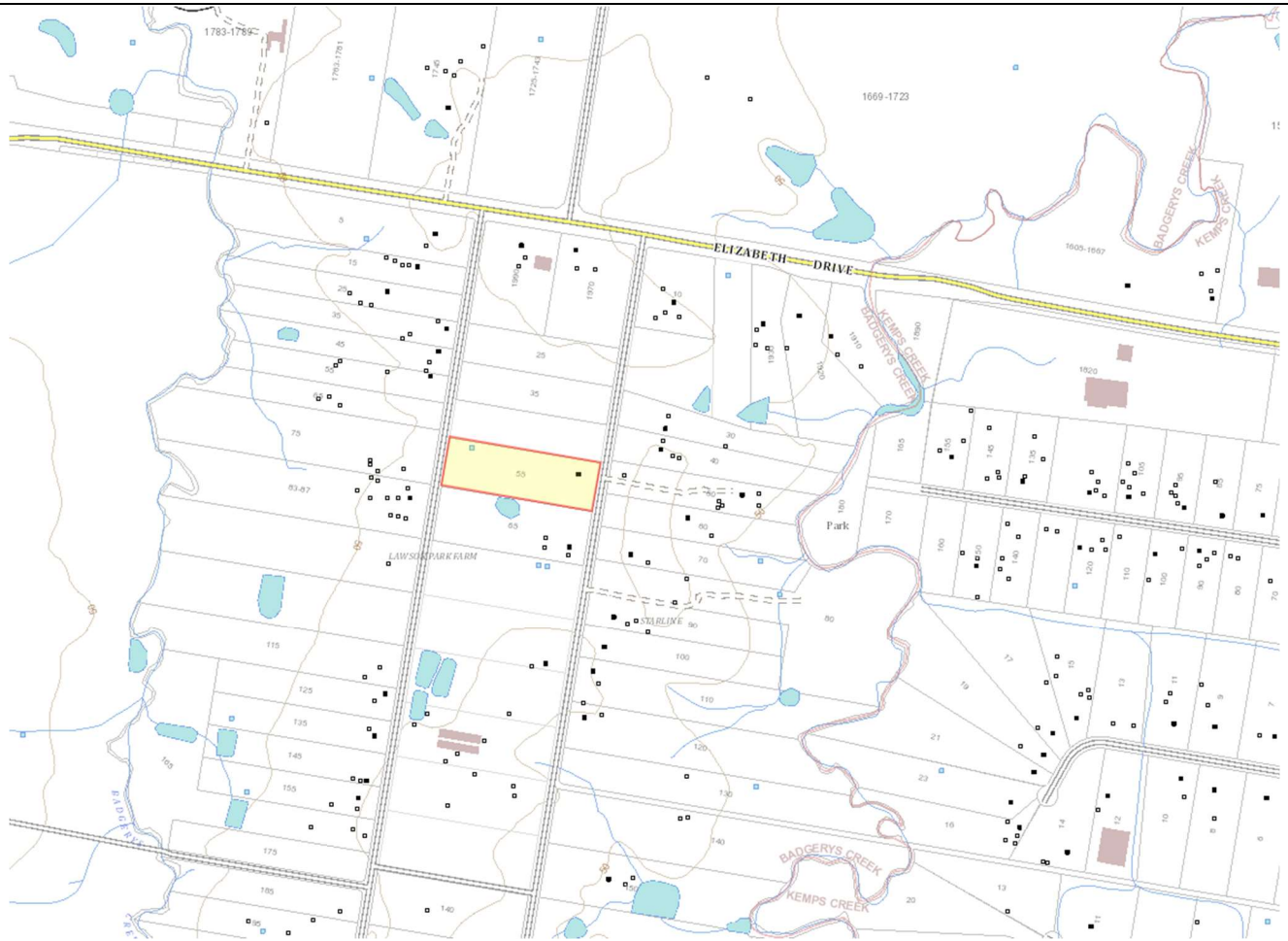
Figure 2-1 shows the location of the site in a local context and Figure 2-2 shows an aerial photo of the site and surrounding area.

2.2 DESCRIPTION OF THE SITE AND SURROUNDING AREA

The site consists of one rectangular lot of gently sloping grassy land, approximately 2.5 hectares in area, with a small dam near the north-west boundary and a one storey brick residence near the north-east corner. Elizabeth Drive, to the north of the site, leads east to the Westlink M7 approximately 8 km away and Leppington Railway Station is located approximately 10 km to the south-east of the site

The subject site is zoned as ENT – Enterprise under Chapter 4 Western Sydney Aerotropolis of State Environmental Planning Policy (Precincts – Western Parkland City) 2021.

Figure 2-1: Site Location in Local Context



↑N
Not to scale

Source: SIX Maps 2024
Legend: Site boundaries

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Figure 2-2: Aerial view of the Site

↑N Not to scale	**Source:** SIX Maps 2022 **Legend:** Site boundaries	Benbow Environmental 27 Sherwood St, Northmead NSW 2152

2.3 NEAREST IDENTIFIED SENSITIVE RECEPTORS

The subject site is surrounded by nearby developments and a number of residential dwellings that could be potentially affected by odour and dust emissions from the approved site activities. In AQIA reports, these potentially affected sites are referred to as 'sensitive receptors'. A sensitive receptor is defined in the *Approved Methods* (EPA, 2016) as follows:

> *"A location where people are likely to work or reside; this may include a dwelling, school, hospital, office or public recreational area. An air quality impact assessment should also consider the location of known or likely future sensitive receptors."*

Table 2-1 provides a list of the nearest identified sensitive receptors and Figure 2-3 shows the location of these receptors in relation to the subject site. The distance between the sensitive receptors and the approved development is measured as the distance between the nearest façade of the potentially impacted building and the approved site boundary.

Table 2-1: Nearest Identified Sensitive Receptors

Receptor ID	Address	Lot & DP	Approx. Distance and Direction from Approved Development	Type of Receptor
R1	1990 Elizabeth Drive, Badgerys Creek	Lot 10 DP 860338	370 m N	Residential
R2	1970 Elizabeth Drive, Badgerys Creek	Lot 11 DP 860338	370 m N	Residential
R3	30 Martin Road, Badgerys Creek	Lot 8 DP 226448	150 m NE	Residential
R4	40 Martin Road, Badgerys Creek	Lot 7 DP 226448	110 m NE	Residential
R5	50 Martin Road, Badgerys Creek	Lot 6 DP 226448	50 m E	Residential
R6	60 Martin Road, Badgerys Creek	Lot 5 DP 226448	170 m E	Residential
R7	70 Martin Road, Badgerys Creek	Lot 4 DP 226448	130 m SE	Residential
R8	80 Martin Road, Badgerys Creek	Lot 2 DP 530595	220 m SE	Residential
R9	90 Martin Road, Badgerys Creek	Lot 2 DP 226448	210 m SE	Residential
R10	75 Martin Road, Badgerys Creek	Lot 34 DP 3050	290 m S	Residential
R11	65 Martin Road, Badgerys Creek	Lot 36 DP 3050	Adjacent S	Residential
R12	83-87 Lawson Road, Badgerys Creek	Lot 6 DP 3050	70 m SW	Residential
R13	75 Lawson Road, Badgerys Creek	Lot 5 DP 3050	70 m W	Residential

Table 2-1: Nearest Identified Sensitive Receptors

Receptor ID	Address	Lot & DP	Approx. Distance and Direction from Approved Development	Type of Receptor
R14	65 Lawson Road, Badgerys Creek	Lot 1 DP 104049	200 m W	Residential
R15	55 Lawson Road, Badgerys Creek	Lot 1 DP 1084967	110 m NW	Residential
R16	45 Lawson Road, Badgerys Creek	Lot 14 DP 531743	170 m NW	Residential
R17	35 Lawson Road, Badgerys Creek	Lot 13 DP 531743	200 m NW	Residential
R18	25 Martin Road, Badgerys Creek	Lot 1 DP 611519	150 m N	Industrial
R19	10 Martin Road, Badgerys Creek	Lot 10 DP 226448	270 m NE	Industrial
R20	105 Lawson Road, Badgerys Creek	Lot 8 DP 3050	220 m SW	Industrial

Figure 2-3: Nearest Sensitive Receptors Considered

2.4 SITE DESIGN AND OPERATIONAL DETAILS

2.4.1 Approved Development

The approved development consists of the construction and operation of a resource recovery facility which would receive, handle and process non-putrescible construction and demolition (C&D) waste, including soil (VENM/ENM) and green waste (comprising of garden waste only). The amount of overall waste to be processed will be approximately 95,000 tonnes per year.

2.4.2 Construction Details

The construction of the facility involves building a large shed ('unloading and processing shed') to enclose all the processing operations, including unloading from trucks, sorting, and crushing. Additionally, a weighbridge and wheel wash will be installed next to the Lawson Road entrance. A car park and landscaped area will be built to the east of the property, near the existing one storey brick building, fronting Martin Road. No demolition works would be needed. Construction waste, from the facility's construction phase, is expected to consist of General Solid Waste (non-putrescible) and would be recycled or disposed of offsite. Waste would be stored within enclosed bins. The one storey brick building will function as a showroom and office. The site plans are presented in Figure 2-4.

2.4.3 Operational Details

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

- Unloading and loading of materials;
- Material handling and sorting;
- Crushing and screening of concrete, bricks, untreated timber and similar waste materials; and
- Material storage.

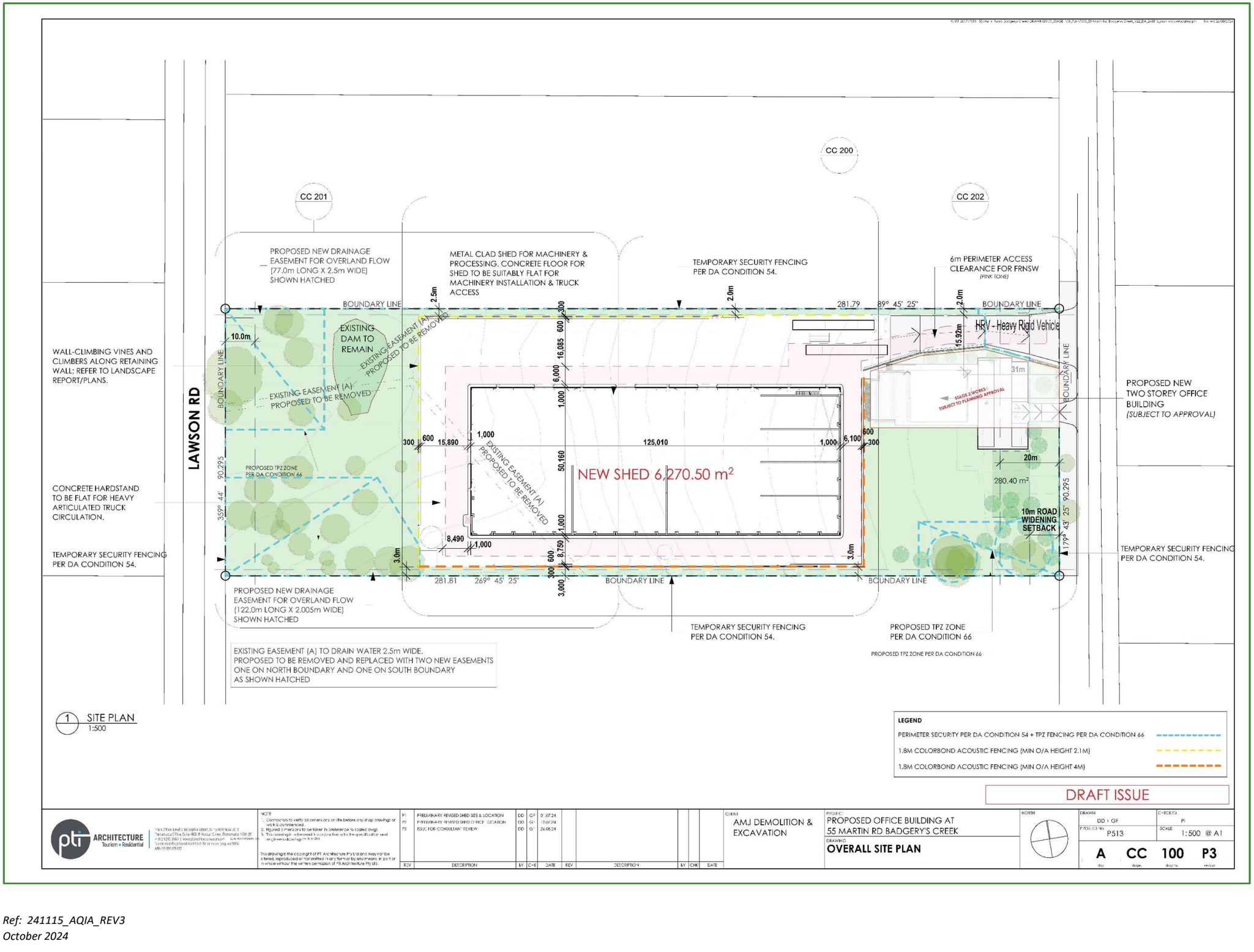
Wastes to be accepted on site are typical building materials, including bricks, concrete, timber, glass, metal, as well as garden waste, soil (Excavated and Virgin Excavated Natural Material) and general waste. The quantity for each material may vary significantly depending on the source that generated the waste. Nevertheless, all incoming material will be unloaded and sorted within the shed, which will be provided with concrete flooring. The materials to be recovered will then be stored in bays, located in the materials stockpile area within the shed, in order to be stored or processed further; further processing may involve crushing and/or screening, depending on the type of material.

Recovered materials would be stored in the material stockpile bays within the building for re-selling, either directly from site to trade clients or to a landscape supply outlet offsite. Any processed waste that is not suitable for resource recovery will be collected by a licensed waste contractor for final disposal to landfill.

2.4.4 Hours of Operation

The approved resource recovery facility seeks approval to operate during the following hours: Monday to Friday, 7am to 6pm, and Saturday, 7am to 5pm. No work is approved to be undertaken on Sundays.

Figure 2-4: Site Plan for Approved Resource Recovery Facility



3. METEOROLOGY AND LOCAL AIR QUALITY

3.1 PROJECT SITE REPRESENTATIVE METEOROLOGICAL DATA

The nearest weather monitoring station to the subject site is the Badgerys Creek AWS operated by the Bureau of Meteorology. This monitoring station is located approximately 3.7 kilometres to the south-west of the subject site and was considered to be the most appropriate source of data for meteorological modelling due to its proximity to the site, completeness of data, and similar topography to the subject site.

The representative meteorological year of 2016 was selected based on long term averages from Badgerys Creek AWS. At the time of preparing this report, the last full year of data available is 2016, and was therefore considered appropriate. Meteorological data for 2016 was compared with long term averages for minimum temperature, maximum temperature, and wind run and found to be consistent. Wind roses representing the annual frequency of wind speed and direction were also compared for the seven most recent meteorological years and found to be reasonably consistent (Attachment 2).

3.1.1 WRF

The Weather Research and Forecasting (WRF) Model is a next-generation mesoscale numerical weather prediction system designed as a collaborative effort between the American National Center for Atmospheric Research (NCAR) and other meteorological specialist organisations. It was created for both atmospheric research and operational forecasting applications and serves a wide range of meteorological applications across scales from tens of meters to thousands of kilometres.

A prognostic meteorological data file was created by Lakes Environmental using the WRF model with observational meteorological data from 2016 (NCAR , 2017).

3.1.2 AERMET

AERMET is a meteorological pre-processor that organises data and estimates the necessary boundary layer parameters for dispersion calculations in AERMOD.

A meteorological data file was produced for inclusion in the air dispersion model using AERMET ver. 16216. The WRF prognostic data was entered into AERMET as onsite and upper air data. The surrounding land use was set to grassland.

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, north-east, east, south-east, 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 representing the annual frequency of wind speed and direction for the subject site were created using Badgerys Creek AWS 2016 data. Trends in wind speed and direction are described in detail below and wind rose plots have been included in Figure 3-1.

The 2016 annual average wind speeds were estimated to be 2.39 m/s with a calms frequency of 5.67%. Annual winds from the south-west were found to be dominant and were present for approximately 21% of the time.

The average 2016 summer wind speed was estimated to be 2.24 m/s, with a calms frequency of 5.27%. Easterly winds were found to be dominant at a frequency of around 14%. Winds from the south-west to the south-east were found to be present for approximately 12-14% of the time.

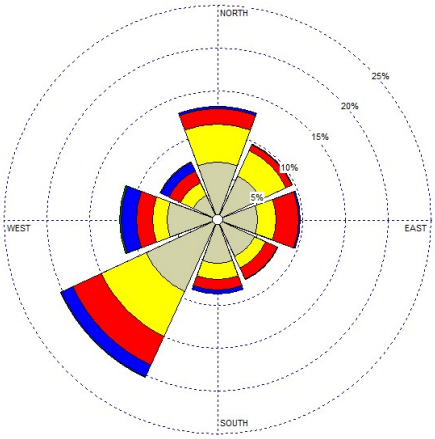
In autumn 2016, dominant winds blew from the south-west (24%) and all other wind directions occurred at frequencies less than 15%. The average autumn wind speed was 2.07 m/s with a calms frequency of 6.93%.

The 2016 winter data showed the prevalence of winds from the south-west and west at frequencies of 29% and 19% respectively. The average winter wind speed was 2.45 m/s with a calms frequency of 5.30%.

In spring 2016, average wind speeds of 2.77 m/s with a calms frequency of 5.18% were recorded. Dominant winds were found to be present from the south west (20%), with winds from the north and west occurring at a frequency of 16% each.

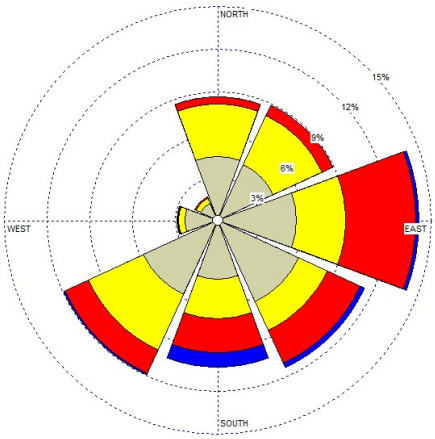
Figure 3-1: Wind Rose Plots for the Referenced Meteorological Station – Bureau of Meteorology Badgerys Creek AWS for 2016

All Seasons



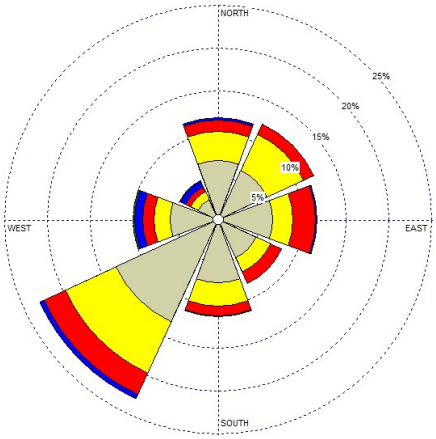
Average Wind Speed: 2.39 m/s
Calms Frequency: 5.67%
Axis Frequencies: 5%, 10%, 15%, 20%, 25%

Summer Season (December – February)



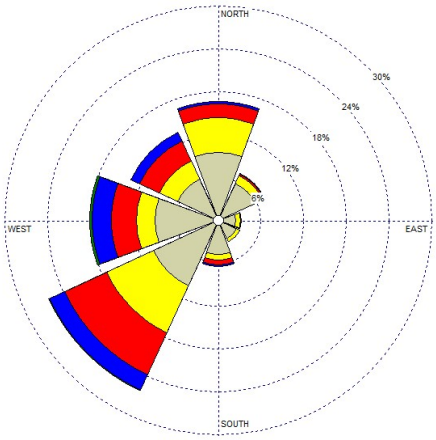
Average Wind Speed: 2.24 m/s
Calms Frequency: 5.27%
Axis Frequencies: 3%, 6%, 9%, 12%, 15%

Autumn Season (March – May)



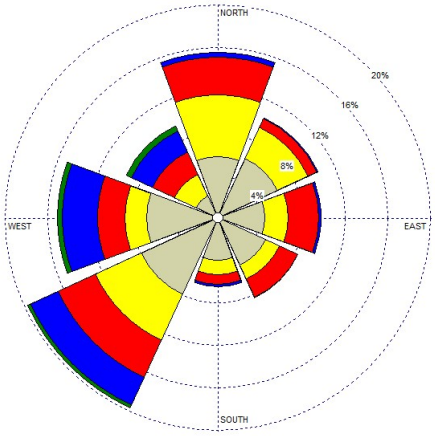
Average Wind Speed: 2.07 m/s
Calms Frequency: 6.93%
Axis Frequencies: 5%, 10%, 15%, 20%, 25%

Winter Season (June – August)



Average Wind Speed: 2.45 m/s
Calms Frequency: 5.30%
Axis Frequencies: 6%, 12%, 18%, 24%, 30%

Spring Season (September – November)



Average Wind Speed: 2.77 m/s
Calms Frequency: 5.18%
Axis Frequencies: 4%, 8%, 12%, 16%, 20%

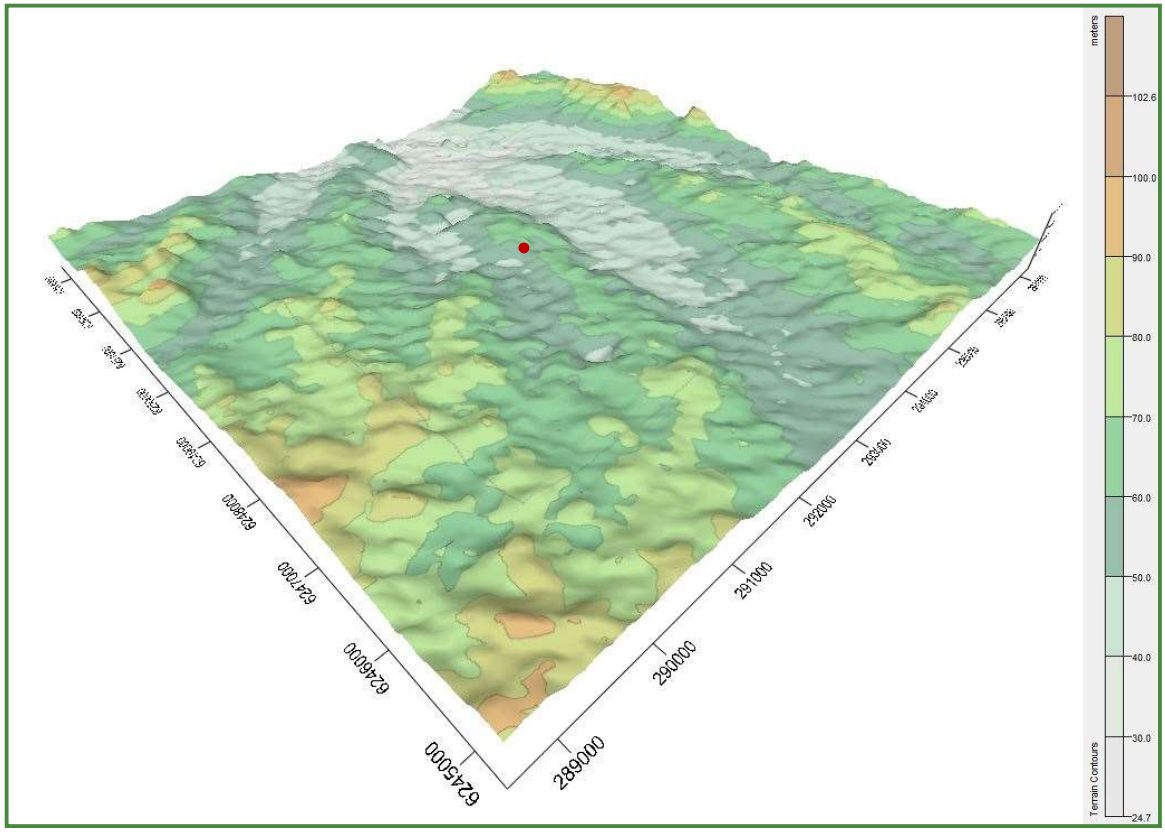
Legend

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 emissions from the subject site. Figure 3-2 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, vertical exaggeration by a factor of 10



3.5 LOCAL AIR QUALITY

No air quality measurements have been undertaken specifically for this project. Instead, the nearest available air quality monitoring data was used to gain an understanding of what current pollutant levels may be around the site and to provide background air quality parameters for the assessment.

Background air quality parameters were obtained from the closest NSW OEH ambient air monitoring station located at Bringelly, approximately 4.5 km south of the subject site. The relevant assessable pollutant parameters available from the monitoring station are PM_{10} and $PM_{2.5}$.values for 2016.

A summary of the background data is provided in Table 3-1.

Table 3-1: Referenced Background Particulate Matter Data from NSW OEH Monitoring Station at Bringelly (2016-2017)

Pollutant	Parameter	Concentration (µg/m³)
		2016
PM_{10}	Annual Average Concentration	16.92
	Peak 24 Hour Concentration	61.6 (07/05)
	Number of 24 Hour Ground Level Impact Criteria (50 µg/m³) Exceedances	3
$PM_{2.5}$	Annual Average Concentration	7.64
	Peak 24 Hour Concentration	21.6 (04/07)
	Number of 24 Hour Ground Level Impact Criteria (25 µg/m³) Exceedances	0

PM_{10} has been bolded as it exceeds the criteria. As per Section 5.1.3 of *Approved Methods* (EPA 2022), where the existing ambient air pollutant concentrations exceed the assessment criteria it must be demonstrated that no additional exceedances of the impact assessment criteria occur as a result of the approved activity.

Using the worst-case particle size distribution data provided by the U.S. Environmental Protection Agency (USEPA) AP-42 Emissions Database, a PM_{10}-to-TSP ratio of 0.51 was used to estimate the TSP background concentration level of 33.18 µg/m³ for an annual averaging period.

A summary of the adopted background air quality levels for assessment is provided in Table 3-2.

Table 3-2: Adopted Particulate Matter Background Levels for Assessment

Pollutant	Averaging Period	Concentration (µg/m³)
Total Suspended Particulates (TSP)	Annual	33.18
PM_{10}	24 hours	**61.6**
	Annual	16.92
$PM_{2.5}$	24 Hours	21.6
	Annual	7.64

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 approved development is required to comply with this Act.

4.2 PROTECTION OF ENVIRONMENT OPERATIONS (CLEAN AIR) REGULATION 2022

In accordance with Part 5 of the *Protection of the Environment Operations (Clean Air) Regulation 2022* (herein referred to as the Clean Air Regulation), the approved waste recycling facility would belong to Group 6 (Standards for scheduled premises) as the activity 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".*

Part 2 – Scheduled Premises of the Clean Air Regulation provides standards of concentration for scheduled premises general activities and plant, any crushing, grinding, separating or materials handling activity:

Solid Particles (total) = 20 mg/m^3

The facility would be required to meet the above standard of concentration.

4.3 NSW Environment Protection Authority Guidelines

Approved Methods (EPA 2022) provides guidance on methodology and thresholds that are to be used for the air impact assessment of a approved development. This air impact assessment has been conducted in accordance with this guideline. Assessable pollutants (along with their corresponding limits) are summarised in Table 4-1.

Table 4-1: Relevant Limits from the Approved Methods for Modelling and Assessment of Air Pollutants in New South Wales (2022)

Pollutant	Averaging Period	Percentile	Concentration		Application of Criteria
			pphm	µg/m^3	
TSP	Annual	100th	-	90	At the nearest existing or likely future off-site sensitive receptor
PM_{10}	24 Hours	100th	-	50	At the nearest existing or likely future off-site sensitive receptor
	Annual	100th	-	25	At the nearest existing or likely future off-site sensitive receptor
$PM_{2.5}$	24 Hours	100th	-	25	At the nearest existing or likely future off-site sensitive receptor
	Annual	100th	-	8	At the nearest existing or likely future off-site sensitive receptor

5. AIR QUALITY IMPACTS FROM CONSTRUCTION

The approved development involves the construction of the compacted roadbase, shed, stockpile bays, the new carpark and landscaped areas. Demolition is not required; however minor excavation to level the site will occur.

The construction activities have the potential to generate dust.

The following control measures are provided as suggestions only and may be implemented where appropriate. Local weather conditions should be taken into account in determining the level and suitability of controls required.

Potential Controls:

- Consider timing of demolition with regards to wind speed and direction;
- Use of water sprays and dust suppression surfactants regularly where there is a risk of dust being generated;
- Securely cover skips and minimise drop heights of materials;
- Minimise the time materials/wastes are stockpiled on site;
- Limit stockpile height and size;
- Locate stockpiles away from sensitive receptors;
- Position stockpiles near existing wind breaks such as trees, fences, earth banks;
- Install physical barriers e.g. screens, fences;
- Wet suppression of stockpiled materials as needed to ensure no visible dust emissions;
- Covering/tarping of stockpiles – this may include the use of mulch temporarily laid over the stockpile;
- Use wet cleaning methods or mechanical road sweepers to prevent the build-up of dusts on site road surfaces;
- Cover all loads entering and leaving the site;
- Vehicles leaving the site to be cleaned of dirt and other materials to avoid tracking these materials onto public roads; and
- Minimise area of soil disturbance.

6. EMISSIONS TO AIR

6.1 AIR EMISSION SOURCES

Particulate matter can be generated from a number of sources associated with the site's operation, including:

- Front end loader handling of materials;
- Excavator handling of materials;
- Screening;
- Brick crushing;
- Concrete crushing;
- Unloading materials;
- Loading materials; and
- Wind erosion of stockpiles.

6.1.1 Odour Impacts

The site's approved operations include the storage of green garden waste. Any such waste or timbers will be stored temporarily onsite, and no composting will occur. All other materials processed on site are non-odorous. Therefore, odour has not been considered as a potential emission and no further assessment is required.

6.2 AIR IMPACT MITIGATION MEASURES

The following mitigation measures will be implemented at the subject site:

- A 2.1 m high Colorbond retaining wall surrounding the site;
- All handling, sorting, crushing and screening activities will be conducted within the building;
- All trafficable surfaces will be hardstand, which means there will be negligible wheel generated emissions;
- Installation of water sprays along the building openings and mist sprays within the building to limit airborne particulates being emitted from the building.

6.3 EMISSION FACTORS

The following emission factors from the NPI EETM for Mining (2012) and NPI EETM for Mining and Processing of Non-Metallic Minerals (2014) (crushed stone processing data) were utilised in this assessment to represent the sites activities. The relevant NPI documents do not include data for estimating emission of $PM_{2.5}$.

The *Background Document for Revisions to Fine Fraction Ratios Used for AP-42 Fugitive Dust Emissions Factors* (2006) gives a ratio of 0.15 $PM_{2.5}/PM_{10}$ for 'Aggregate Handling and Storage Piles' which was used to estimate $PM_{2.5}$ emissions for wind erosion from external stockpiles.

The US EPA AP-42 *Appendix B.2 Generalized Particle Size Distributions* (1996) data for 'Mechanically Generated Processed Ores and Non-metallic Minerals' gives a ratio of 0.35 $PM_{2.5}/PM_{10}$ which was used to estimate $PM_{2.5}$ emissions from crushing and screening activities.

Table 6-1: Emission Factors

Reference (NPI EETM)	Source	$PM_{2.5}$ Emission Factor (kg/tonne)	PM_{10} Emission Factor (kg/tonne)	TSP Emission Factor (kg/tonne)
Mining	Front End Loader	0.0018	0.012	0.025
Mining	Excavator	0.0018	0.012	0.025
Mining and Processing of Non-Metallic Minerals	Screening	0.00151	0.0043	0.0125
Mining and Processing of Non-Metallic Minerals	Crushing	0.00042	0.0012	0.0027
Mining and Processing of Non-Metallic Minerals	Loading	0.00001	0.00005	[1]0.00010
Mining and Processing of Non-Metallic Minerals	Unloading	0.000001	0.000008	[1]0.00002
Mining	Wind Erosion from Stockpiles	[2]0.03 kg/ha/hr	0.2 kg/ha/hr	0.4 kg/ha/hr

[1] No TSP data available in NPI. As materials are made up of a variety of products (bricks, concrete, timber, metal, glass) a generic PM_{10} to TSP ratio of 0.51 has been assumed to estimate TSP emission factors.
[2] No $PM_{2.5}$ data available in NPI. A ratio of 0.15 $PM_{2.5}/PM_{10}$ has been adopted as per the *Background Document for Revisions to Fine Fraction Ratios Used for AP-42 Fugitive Dust Emissions Factors* (2006) 'Aggregate Handling and Storage Piles'

6.3.1 Reduction Factors

The following reduction factors were utilised as per the NPI EETM for Concrete Batching and Concrete Product Manufacturing, materials handling and the NPI EETM for Mining, control factors for mining operations.

- A reduction factor of 0.1 has been applied to activities undertaken within the building (enclosure 2 or 3 walls).

6.4 Emission Rate Derivation

All dust generating activities that occur within the building have been cumulatively modelled as a volume source from the building including wind erosion from the stockpiles which has been calculated based on the approved area of the 1222 m^2, as shown in Figure 2-4.

Based on the material composition breakdown anticipated, it has been conservatively assumed that 90% of the total materials are to be crushed and screened.

As is the nature of waste transfer facilities, the amount of waste processed on a daily basis can fluctuate depending on supply. Therefore, we have conservatively assumed a maximum quantity

of materials to be crushed and screened in one 24 hour period as 495 tonnes and for all other activities a maximum quantity of 550 tonnes. These quantities have been adopted in order to more accurately predict the peak emission rates for $PM_{2.5}$ and PM_{10} under a 24 hour averaging period.

Sources within the building are assumed to be emitting for the duration of the approved operating hours, being Monday to Friday, 7 am to 6 pm and Saturday 7 am to 5 pm.

The emission rates for each source were estimated using the following equation by multiplying the emission factors previously discussed by the quantity of materials handled at the relevant activities for the corresponding activity period of time. Appropriate reduction factors were then applied.

$$ER = \frac{1000 \times EF \times Q \times RF}{OpHrs}$$

Where:
ER = Emission Rate (g/s)
EF = Emission Factor (kg/tonne)
OpHrs = Annual operational time (s/year) or (s/day)
Q = Materials processed (tonnes/year) or (tonnes/day)
RF = Reduction Factor (if applicable)

6.5 AIR EMISSIONS PARAMETERS

The calculated emission rates for $PM_{2.5,}$ PM_{10} and TSP are given in Table 6-2 and Table 6-3 for the annual and 24 hour averaging periods respectively.

Table 6-2: Emission Rates – Annual Averaging Period

Source	$PM_{2.5}$ Emission Rate (g/s)	PM_{10} Emission Rate (g/s)	TSP Emission Rate (g/s)
Building	0.00427	0.02333	0.05117

Table 6-3: Emission Rates – 24 Hour Averaging Period

Source	$PM_{2.5}$ Emission Rate (g/s)	PM_{10} Emission Rate (g/s)	TSP Emission Rate (g/s)
Building	0.00752	0.04097	NA

Emissions from the building have been modelled as a volume source assumed to be released at a height of 5 m, which is the approximate height of the open roller doors on the southern wall of the shed.

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 approved 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 approved development can be considered to have been adequately represented using the modelling program.

7.2 MODELLING RESULTS

The estimated impact results for TSP, PM_{10} and $PM_{2.5}$ over the corresponding averaging periods are given in Table 7-1 to Table 7-5 for the identified sensitive receptors. Incremental isopleths for each averaging period are also provided. For the 24 hour averaging periods, 'background' denotes the highest 24 hour background concentration which does not already exceed the criteria.

Table 7-1: Estimated Impact Results for TSP, Annual Averaging Period

Receptors	Incremental Impact (µg/m³)	Background (µg/m³)	Cumulative Impact (µg/m³)	100th Percentile Limit (µg/m³)	Pass (Yes/No)
R1	0.034	33.18	33.21	90	Yes
R2	0.032		33.21		Yes
R3	0.142		33.32		Yes
R4	0.122		33.30		Yes
R5	0.044		33.22		Yes
R6	0.059		33.24		Yes
R7	0.106		33.29		Yes
R8	0.053		33.23		Yes
R9	0.085		33.26		Yes
R10	0.091		33.27		Yes
R11	0.386		33.57		Yes
R12	0.242		33.42		Yes
R13	0.181		33.36		Yes
R14	0.060		33.24		Yes
R15	0.167		33.35		Yes
R16	0.119		33.30		Yes
R17	0.087		33.27		Yes
R18	0.123		33.30		Yes
R19	0.034		33.21		Yes
R20	0.156		33.34		Yes

Figure 7-1: Isopleth for TSP, Annual Averaging Period (Incremental Impact)

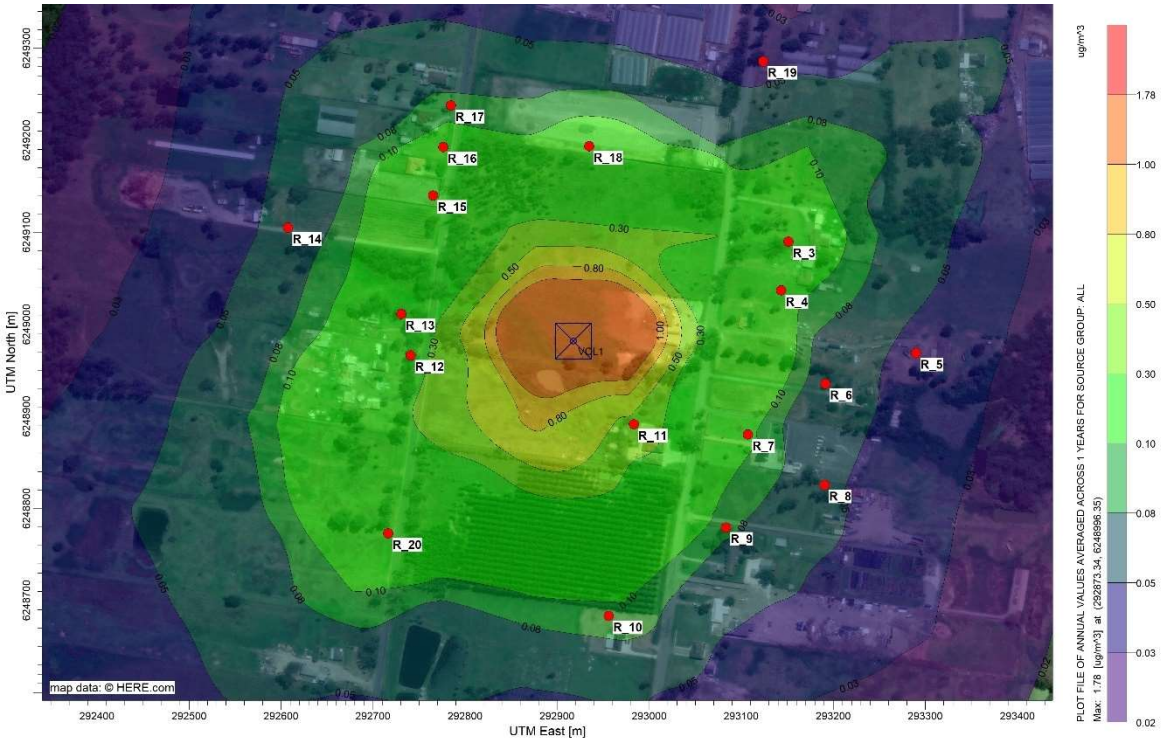


Table 7-2: Estimated Impact Results for PM_{10}, 24 Hour Averaging Period

Receptors	Incremental Impact (µg/m³)	Background (µg/m³)	Cumulative Impact (µg/m³)	100th Percentile Limit (µg/m³)	Pass (Yes/No)
R1	1.48	61.6	63.08	50	No
R2	1.40		63.00		No
R3	1.76		63.36		No
R4	1.03		62.63		No
R5	1.14		62.74		No
R6	1.26		62.86		No
R7	3.28		64.88		No
R8	1.86		63.46		No
R9	2.64		64.24		No
R10	2.69		64.29		No
R11	7.10		68.70		No
R12	2.42		64.02		No
R13	2.33		63.93		No
R14	1.83		63.43		No
R15	2.83		64.43		No
R16	2.26		63.86		No
R17	1.91		63.51		No
R18	3.23		64.83		No
R19	0.44		62.04		No
R20	2.74		64.34		No

Figure 7-2: Isopleth for PM_{10}, 24 Hour Averaging Period (Incremental Impact)

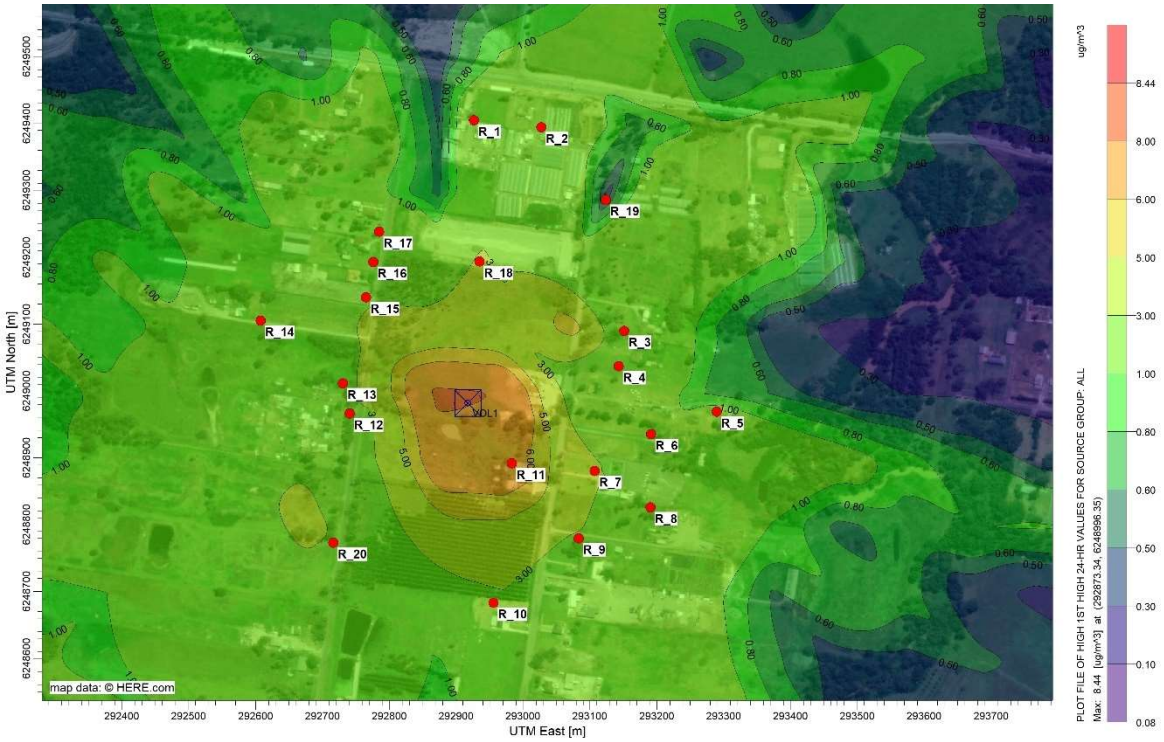


Table 7-3: Estimated Impact Results for PM_{10}, Annual Averaging Period

Receptors	Incremental Impact (µg/m³)	Background (µg/m³)	Cumulative Impact (µg/m³)	100th Percentile Limit (µg/m³)	Pass (Yes/No)
R1	0.016	16.92	16.94	25	Yes
R2	0.015		16.93		Yes
R3	0.065		16.98		Yes
R4	0.056		16.98		Yes
R5	0.020		16.94		Yes
R6	0.027		16.95		Yes
R7	0.049		16.97		Yes
R8	0.024		16.94		Yes
R9	0.039		16.96		Yes
R10	0.042		16.96		Yes
R11	0.176		17.10		Yes
R12	0.110		17.03		Yes
R13	0.082		17.00		Yes
R14	0.027		16.95		Yes
R15	0.076		17.00		Yes
R16	0.054		16.97		Yes
R17	0.040		16.96		Yes
R18	0.056		16.98		Yes
R19	0.016		16.94		Yes
R20	0.071		16.99		Yes

Figure 7-3: Isopleth for PM_{10}, Annual Averaging Period (Incremental Impact)

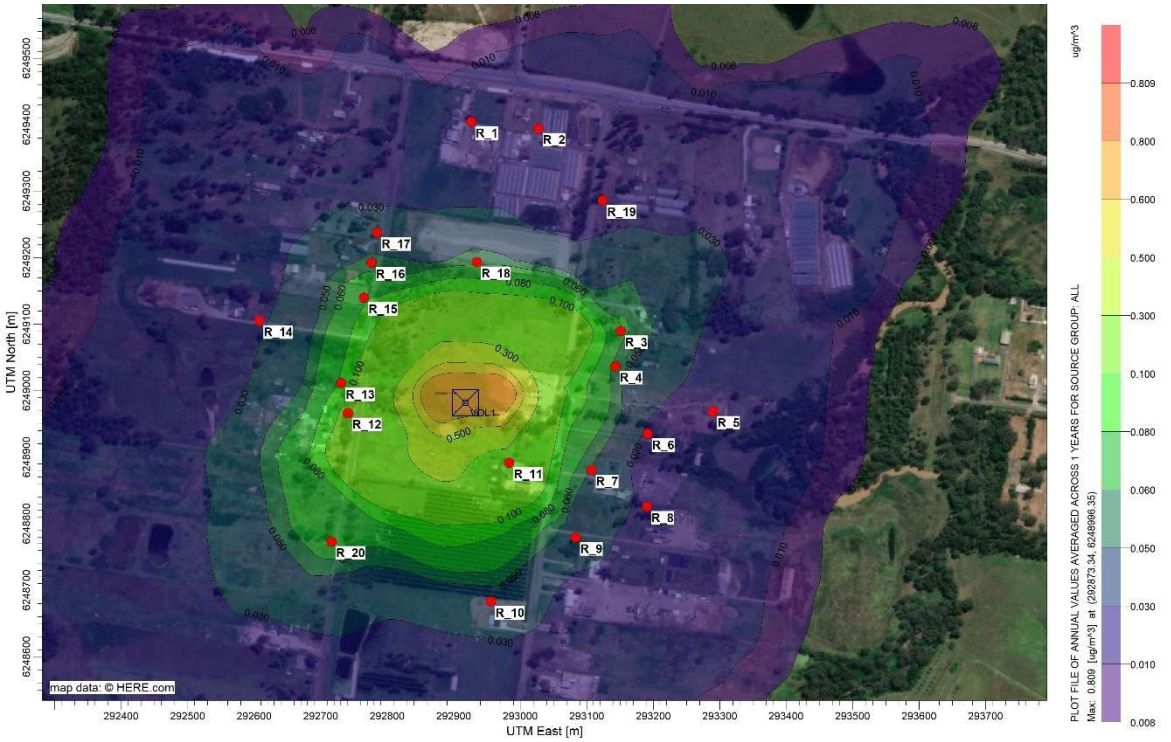


Table 7-4: Estimated Impact Results for $PM_{2.5}$, 24 Hour Averaging Period

Receptors	Incremental Impact (µg/m³)	Background (µg/m³)	Cumulative Impact (µg/m³)	100th Percentile Limit (µg/m³)	Pass (Yes/No)
R1	0.27	21.6	21.87	25	Yes
R2	0.26		21.86		Yes
R3	0.32		21.92		Yes
R4	0.19		21.79		Yes
R5	0.21		21.81		Yes
R6	0.23		21.83		Yes
R7	0.60		22.20		Yes
R8	0.34		21.94		Yes
R9	0.48		22.08		Yes
R10	0.49		22.09		Yes
R11	1.30		22.90		Yes
R12	0.44		22.04		Yes
R13	0.43		22.03		Yes
R14	0.34		21.94		Yes
R15	0.52		22.12		Yes
R16	0.41		22.01		Yes
R17	0.35		21.95		Yes
R18	0.59		22.19		Yes
R19	0.08		21.68		Yes
R20	0.50		22.10		Yes

Figure 7-4: Isopleth for $PM_{2.5}$, 24 Hour Averaging Period (Incremental Impact)

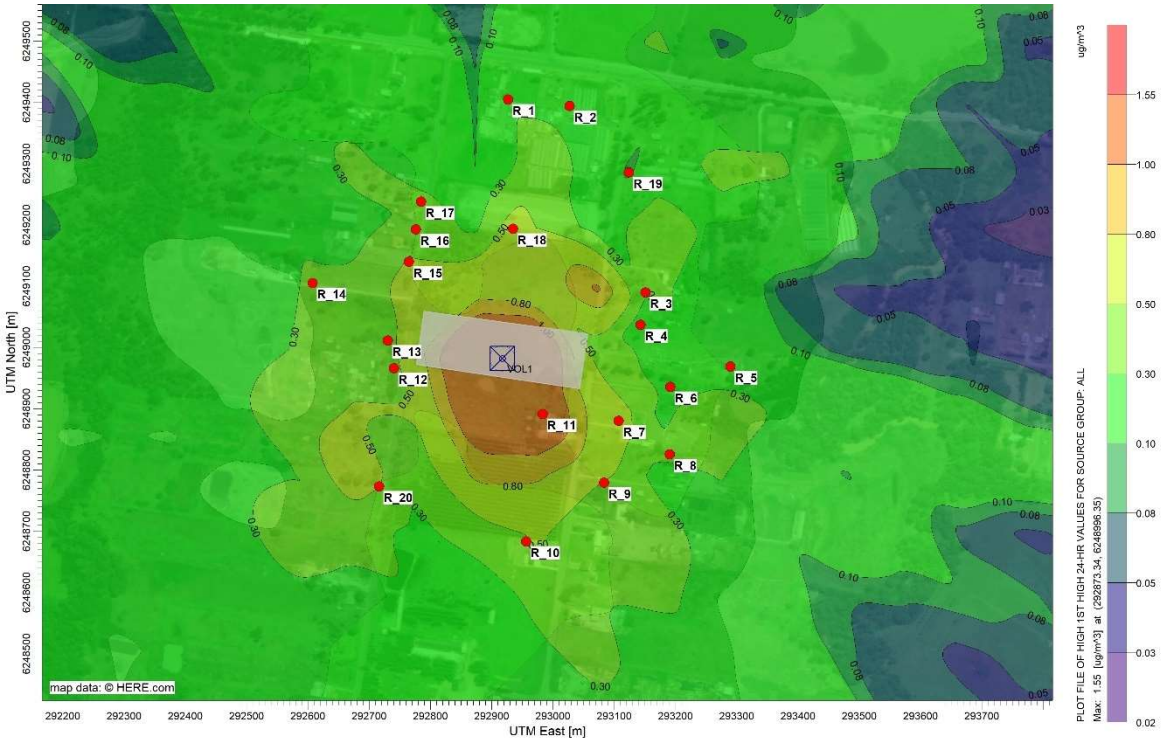
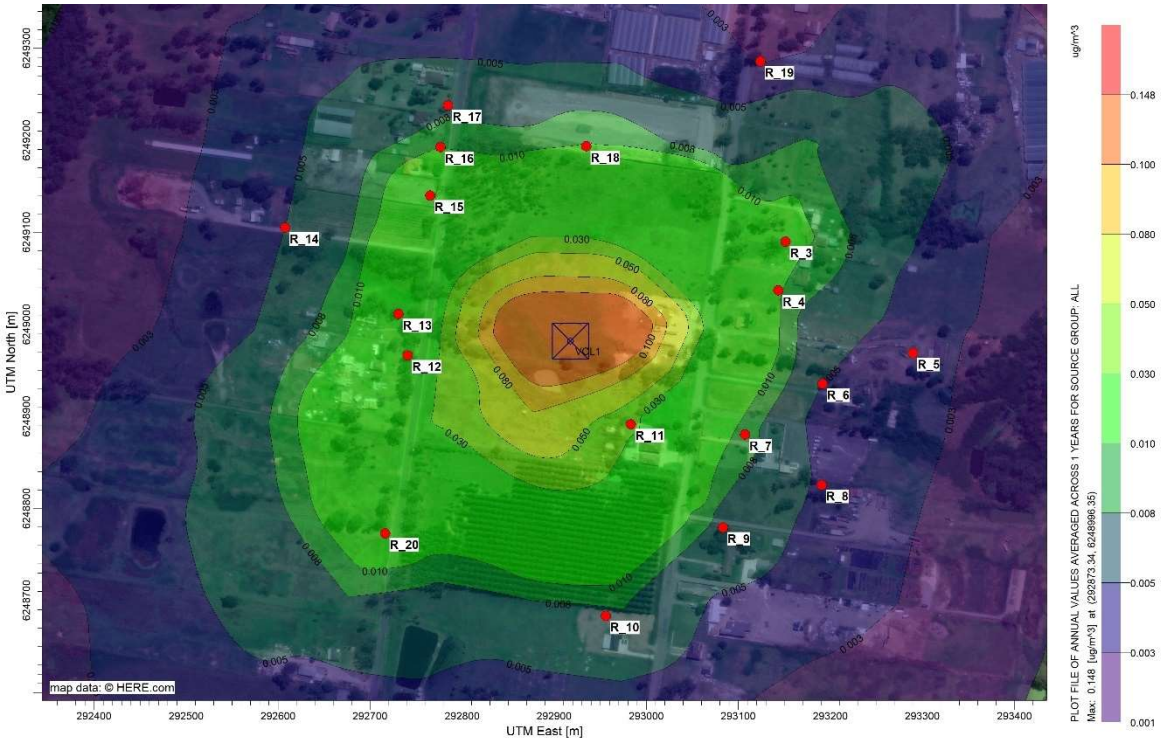


Table 7-5: Estimated Impact Results for $PM_{2.5}$, Annual Averaging Period

Receptors	Incremental Impact (µg/m³)	Background (µg/m³)	Cumulative Impact (µg/m³)	100th Percentile Limit (µg/m³)	Pass (Yes/No)
R1	0.003	7.64	7.643	8	Yes
R2	0.003		7.643		Yes
R3	0.012		7.652		Yes
R4	0.010		7.650		Yes
R5	0.004		7.644		Yes
R6	0.005		7.645		Yes
R7	0.009		7.649		Yes
R8	0.004		7.644		Yes
R9	0.007		7.647		Yes
R10	0.008		7.648		Yes
R11	0.032		7.672		Yes
R12	0.020		7.660		Yes
R13	0.015		7.655		Yes
R14	0.005		7.645		Yes
R15	0.014		7.654		Yes
R16	0.010		7.650		Yes
R17	0.007		7.647		Yes
R18	0.010		7.650		Yes
R19	0.003		7.643		Yes
R20	0.013		7.653		Yes

Figure 7-5: Isopleth for $PM_{2.5}$, Annual Averaging Period (Incremental Impact)



7.3 CONTEMPORANEOUS ASSESSMENT - PREDICTED DAYS OF CUMULATIVE EXCEEDANCE

Due to the high background levels of PM_{10} applied to the site based on data from the nearest monitoring station at Richmond, the *Approved Methods* require a demonstration that no additional exceedances of the impact assessment criteria will occur as a result of the approved site activities.

Table 7-6 summarises the contemporaneous impact and background of the highest background concentrations and the highest predicted increments for top days of for PM_{10} for the highest impacted offsite receptor (R11 - 65 Martin Road, Badgerys Creek).

No additional days of exceedance were predicted.

Table 7-6: Summary of Top Ten Days of Contemporaneous PM_{10} Impact and Background at Receiver R11 (*Approved Methods* Criterion = 50 µg/m^3)

Date	PM_{10} 24 Hour Average (µg/m^3)			Date	PM_{10} 24 Hour Average (µg/m^3)		
	Highest Background	Predicted Increment	Total		Background	Highest Predicted Increment	Total
7/05/2016	61.6	0.129	61.7	30/06/2016	18	7.10	25.10
22/05/2016	59.4	0.000	59.4	25/05/2016	35.7	3.86	39.56
8/05/2016	58.8	0.000	58.8	9/08/2016	-	3.52	3.52
9/05/2016	40.4	0.043	40.4	26/05/2016	20.6	2.89	23.49
19/11/2016	37.5	0.044	37.5	28/07/2016	10.3	2.78	13.08
25/05/2016	35.7	3.862	39.6	14/06/2016	22.3	2.23	24.53
8/11/2016	34.9	0.153	35.1	20/07/2016	5.9	2.16	8.06
29/04/2016	33.5	0.063	33.6	8/06/2016	16.1	2.00	18.10
20/11/2016	32.1	0.000	32.1	30/09/2016	9.2	1.94	11.14
27/11/2016	31.8	0.000	31.8	2/09/2016	8.5	1.93	10.43

✓Complies ✖ Non-compliance

8. STATEMENT OF AIR QUALITY IMPACTS

TSP, PM_{10} and $PM_{2.5}$ emissions were modelled for the operation of the approved resource recovery facility in accordance with the "*Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*" (EPA 2022). Odour is not considered as a potential emission that would be generated from the approved development and therefore was not assessed. The predicted cumulative impacts of TSP, PM_{10} and $PM_{2.5}$ at all identified receptors for an annual averaging period and for $PM_{2.5}$ 24 hour period were below the specified criteria.

The subject site is located in a region that can experience 24 hour periods of elevated background PM_{10} levels. As demonstrated in section 7.3 contemporaneous additions were undertaken in accordance with the *Approved Methods*. The results of air dispersion modelling demonstrate that no additional exceedances occur under a 24 hour averaging period as a result of the approved development. Additionally, there are various dust controls planned that were not included in the model, such as water and mist sprays inside the building and onto the stockpiles. These controls would further reduce particulate matter generation at the site.

Therefore, the *Approved Methods* criteria are satisfied at all residential receptors for all particulate air pollutants modelled. No further controls are recommended.

This concludes the report.

Emma Hansma
Senior Engineer

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 AMJ Demolition and Excavations and Claron Consulting, as per our agreement for providing environmental services. Only AMJ Demolition and Excavations and Claron Consulting 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 AMJ Demolition and Excavations and Claron Consulting 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: DA-263-2018-A

LIVERPOOL CITY COUNCIL

Our Ref: DA-263/2018/A
Contact: Adam Flynn
Ph: 8711 7765
Date: 16 June 2020

CLARON CONSULTING PTY LTD
PO BOX 542
LINDFIELD NSW 2070

Dear Sir/Madam,

55 MARTIN ROAD, BADGERYS CREEK NSW 2555, (LOT 4 DP 611519), SECTION 4.55(2) MODIFICATION TO DEVELOPMENT CONSENT DA-263/2018

I am pleased to advise that on 12 June 2020, the Sydney Western City Planning Panel has approved your Section 4.55(2) Application seeking to amend Development Consent DA-263/2018 which granted approval *to establish a resource recovery facility for 95,000 tonnes per annum of construction and demolition waste including the installation of a weighbridge, hardstand, retaining walls and erection of a rural shed.*

The modification seeks *alterations to the site layout, including an enlarged slab, altered internal vehicle movements, and noise barriers; an increase in building height and footprint and the addition of an awning; the replacement of the existing dwelling with a purpose built single storey office building; the relocation of the car park and the provision of an additional vehicle access; changes to the drainage and easements across the site.*

The modification is approved under Section 4.55(2) of the *Environmental Planning and Assessment Act 1979*.

Development Consent DA-263/2018 is amended as follows ***(amendments to conditions are underlined and italicised):***

A. Condition 1 of Development Consent No. DA-263/2018 is amended to read as follows:

Approved Plans

1. Development the subject of this determination notice must be carried out strictly in accordance with the following plans/reports marked, except where modified by the undermentioned conditions.

Plan Name	Plan Number	Rev	Date	Prepared By
Location Plan	*P513-DA-01*	*D*	*23/09/2019*	*PTI Architecture*
Site Plan	*P513-DA-03*	*J*	*23/09/2019*	*PTI Architecture*
Detailed Shed Plan	*P513-DA-04*	*E*	*23/09/2019*	*PTI Architecture*
Detailed Site Plan (Part A)	*P513-DA-05*	*N*	*23/09/2019*	*PTI Architecture*
Detailed Site Plan (Part B)	*P513-DA-06*	*J*	*23/09/2019*	*PTI Architecture*
Shed Amenities Floor Plans	*P513-DA-07*	*B*	*23/09/2019*	*PTI Architecture*
Processing Shed Elevations	*P513-DA-08*	*E*	*23/09/2019*	*PTI Architecture*
Section thru Processing Shed	*P513-DA-09*	*C*	*23/09/2019*	*PTI Architecture*
Section thru Stockpile Bunker	*P513-DA-10*	*G*	*23/09/2019*	*PTI Architecture*
New Office Building Ground Floor Plan	*P513-DA-11*	*C*	*23/09/2019*	*PTI Architecture*
New Office Building Elevations East & West	*P513-DA-12*	*C*	*23/09/2019*	*PTI Architecture*
New Office Building Elevations North & South	*P513-DA-13*	*C*	*23/09/2019*	*PTI Architecture*
Truck Entry Driveway Ramp Sections	*P513-DA-14*	*B*	*23/09/2019*	*PTI Architecture*
Staff Carpark Driveway Ramp Sections	*P513-DA-15*	*B*	*23/09/2019*	*PTI Architecture*
Fence Elevations for Acoustic	*P513-DA-16*	*B*	*23/09/2019*	*PTI Architecture*
Fence Elevations for Acoustic	*P513-DA-17*	*B*	*23/09/2019*	*PTI Architecture*
Visual Impact Assessment – Location Plan	*P513-DA-18*	*C*	*23/09/2019*	*PTI Architecture*
Visual Impact Assessment – View 1	*P513-DA-19*	*C*	*23/09/2019*	*PTI Architecture*
Visual Impact Assessment – View 2	*P513-DA-20*	*C*	*23/09/2019*	*PTI Architecture*
Visual Impact Assessment – View 3	*P513-DA-21*	*C*	*23/09/2019*	*PTI Architecture*
Visual Impact Assessment – View 4	*P513-DA-22*	*C*	*23/09/2019*	*PTI Architecture*

Visual Impact Assessment – View 5	*P513-DA-23*	*C*	*23/09/2019*	*PTI Architecture*
Visual Impact Assessment – View 6	*P513-DA-24*	*C*	*23/09/2019*	*PTI Architecture*
Sediment Control Plan	*D1-17-040*	*C*	*11/09/2019*	*TOP Consulting Group*
Stormwater Pit Collection	*D2-17-040*	*B*	*06/09/2019*	*TOP Consulting Group*
Stormwater Plan	*D3-17-040*	*B*	*06/09/2019*	*TOP Consulting Group*
Roof Stormwater Plan	*D4-17-040*	*B*	*06/09/2019*	*TOP Consulting Group*
Leachate Collection Plan	*D5-17-040*	*B*	*06/09/2019*	*TOP Consulting Group*
Concrete Layout Plan	*S1-17-040*	*B*	*06/09/2019*	*TOP Consulting Group*

Report Name	**Date**	**Reference**	**Prepared By**
Environmental Impact Statement, including Appendices (and revisions):	22/03/2018	1771127-EIS-Rev2	Benbow Environmental
2. Geotechnical Investigation, Preliminary Acid Sulfate Soils Assessment, Salinity Assessment, and Wastewater Assessment	December 2018	17/3905 A	STS Geo-Environmental
3. Stormwater Management Plan and Report	17/01/2019	2017/01	Ultramark
4. Traffic Impact Assessment Report	February 2018	17149r	Transport & Urban Planning
5. Waste Management Plan	February 2018	171127-WMP-Rev1	Benbow Environmental
6. Air Quality Impact Assessment	February 2018	171127-AQIA-Rev3	Benbow Environmental
7. Community Consultation Leaflet	February 2018	-	Benbow Environmental
9. Flora & Fauna Survey and Impact Assessment	March 2018	55 Martin Road	Ecological Consultants Australia
10. Arboriculture Impact Assessment Report	13/03/2018	Revision B	Glenyss Laws
11. Preliminary Site Investigation	January 2018	18/0089	STS Geo-Environmental
13. Landscaping Plan	December 2018	55 Martin Road	Ecological Consultants Australia
Addendum to the Environmental impact Statement, including Appendices:	*24/09/2019*	*18580 Rev. 1*	*Benbow Environmental*

D. Architectural Plans and Visual Impact Assessment	*(see above)*		
E. Landscaping Plan Updates	*September 2019*	*55 Martin Road*	*Ecological Consultants Australia*
F. Civil and Stormwater Plans	*(see above)*		
G. Traffic Impact Letter	*29/08/2019*	*19115L1*	*Transport & Urban Planning*
H. Noise Impact Assessment	*September 2019*	*191238-NIA-Rev3*	*Benbow Environmental*
I. Air Quality Statement Letter	*13/09/2019*	*EH/snb*	*Benbow Environmental*
J. Revised Stormwater Management Letter	*24/09/2019*	*2017-01*	*Ultramark*
Construction Noise and Vibration Management Plan	December 2018	171127-02-CNVMP-Rev3	Benbow Environmental
Response to Submissions	18/07/2018	55 Martin Road	Claron Consulting
Response to Matters Raised	06/12/2018	55 Martin Road	Claron Consulting

B. Condition 2 of Development Consent No. DA-263/2018 is amended to read as follows:

General Terms of Approval

2. All the General Terms of Approval issued by NSW Environmental Protection Authority (EPA) shall be complied with prior, during, and at the completion of construction, as required in accordance with the General Terms of Approval dated *2 December 2019*. A copy of the General Terms of Approval is attached to this decision notice.

C. Condition 20 of Development Consent No. DA-263/2018 is amended to read as follows:

Recommendations of Acoustic Report

20. The recommendations provided within the Noise Impact Assessment for AMJ Demolition and Excavation 55 Martin Road, Badgerys Creek (Report no. *191238-NIA-Rev3*) prepared by Benbow Environmental dated *September 2019* and the Construction Noise and Vibration Management Plan 55 Martin Road Badgerys Creek (Report no. 171127-02_CNVMP_Rev3) prepared by Benbow Environmental dated December 2018 are to be complied with. This includes, but is not limited to:

- A 2.1m colourbond fence to be constructed surrounding the perimeter of the site.
- The front end loader is to have a sound power level of 97 dB (A) or lower.
- Pedestrian doors are to be self-closing
- Crusher/s, generator/s, screen/s and excavator/s are restricted to indoors only.

- When either crusher or excavator is operating, one roller shutter door is to be open for only 3 minutes out of a 15minute scenario.
- Automated roller shutter doors be installed
- Roller shutters selected should be for their acoustic performance with regards to minimising breakout noise and minimising noise generated from opening and closing operations
- Mobile equipment regularly used onsite such as excavators and front end loaders are to be fitted with reversing lights or a white noise reversing alarm

D. Condition 24 of Development Consent No. DA-263/2018 is amended to read as follows:

On-Site Detention

24. On-Site Detention shall be provided generally in accordance with the concept plan/s lodged for development approval, prepared by T.O.P Consulting Group Pty Ltd, reference number 17-040, revision *B*, dated *06/09/2019*.

The proposed development and stormwater drainage system shall be designed to ensure that stormwater runoff from upstream properties is conveyed through the site without adverse impact on the development or adjoining properties.

Engineering plans and supporting calculations for the on-site detention system are to be prepared by a suitably qualified person and shall accompany the application for a Construction Certificate.

Prior to the issue of a Construction Certificate the Certifying Authority shall ensure that the on-site detention system has been designed in accordance with Liverpool City Council's Design Guidelines and Liverpool City Council's On-Site Stormwater Detention policy and Technical Specification.

E. Condition 102 of Development Consent No. DA-263/2018 is amended to read as follows:

Site to be concreted

102. All areas to be trafficable by vehicles (being the area *annotated with 'Concrete Driveway & Manoeuvring Area' and 'driveway',* and the car spaces depicted on the plans prepared by 'PTI Architecture', *Sheets DA 05 Revision N and DA 06 Revision J, dated 23/09/2019),* are to be concreted to an appropriate engineering specification prior to the issuing of an Occupation Certificate.

F. Condition 110 of Development Consent No. DA-263/2018 is amended to read as follows:

EPA General terms of Approval

110. The facility shall operate in accordance with the General Terms of Approval (Notice No. *1589160*) issued by the NSW EPA. This includes, but is not limited to:

- Noise limits of 42 dB(A) (LAeq, 15minute) during the day at 40 & 65 Martin Road, 75 & 55 Lawson Road.
- Noise Monitoring Report within 60 days of the commencement of operation
- Use of water sprinklers and/or mist sprays in the enclosed building and outside undercover storage area so that no visible dust leaves the premises
- Development of an Air Quality Management Plan.

G. Attachment 2 of Development Consent No. DA-263/2018 is amended to include the updated General Terms of Approval from the NSW Environmental Protection Authority (EPA) dated 02/12/2019.

All other conditions of Development Consent No. DA-263/2018 remain unchanged.

ADVISORY NOTES:

(a) Section 4.55 of the Environmental Planning and Assessment Act, 1979 gives you the right to request the Council to review this determination within six months of the date of determination.
(b) Section 8.7 & 8.10 of the Environmental Planning and Assessment Act, 1979 gives you the right to appeal to the NSW Land and Environment Court within six (6) months after:

(a) the date on which the applicant received notice, given in accordance with the regulations, of the determination of that application or, if an application for review under section 96AB has been decided, the date on which the applicant received notice, in accordance with the regulations, of the decision, or
(b) the date on which the applicant's application is taken to have been determined in accordance with regulations made under section 8.5 (3), 4.55 (6) or 4.55AA (3).

(c) The Section 4.55 Modification Application does not extend the timeframe of the development consent initially granted by Council.
(d) Modification of the development consent in accordance with Section 4.55 of the Environmental Planning and Assessment Act, 1979 shall not be construed as the granting of development consent, but reference to a development consent, is a reference to a development consent so modified.
(e) Modification of the development consent does not remove the need to obtain any other statutory consent necessary under the Act.

If you have any questions please contact Adam Flynn on the number at the top of this letter.

Yours faithfully

Lina Kakish
Manager
DEVELOPMENT ASSESSMENT

For Information – Revised conditions of approval in full

ATTACHMENT 1: Conditions of Approval

CONDITIONS:

The following conditions have been imposed to achieve the objectives of the relevant planning instruments and policies:

A. THE DEVELOPMENT

Approved Plans (amended under DA-263/2019/A)

1. Development the subject of this determination notice must be carried out strictly in accordance with the following plans/reports marked, except where modified by the undermentioned conditions.

Plan Name	Plan Number	Rev	Date	Prepared By
Location Plan	P513-DA-01	D	23/09/2019	PTI Architecture
Site Plan	P513-DA-03	J	23/09/2019	PTI Architecture
Detailed Shed Plan	P513-DA-04	E	23/09/2019	PTI Architecture
Detailed Site Plan (Part A)	P513-DA-05	N	23/09/2019	PTI Architecture
Detailed Site Plan (Part B)	P513-DA-06	J	23/09/2019	PTI Architecture
Shed Amenities Floor Plans	P513-DA-07	B	23/09/2019	PTI Architecture
Processing Shed Elevations	P513-DA-08	E	23/09/2019	PTI Architecture
Section thru Processing Shed	P513-DA-09	C	23/09/2019	PTI Architecture
Section thru Stockpile Bunker	P513-DA-10	G	23/09/2019	PTI Architecture
New Office Building Ground Floor Plan	P513-DA-11	C	23/09/2019	PTI Architecture
New Office Building Elevations East & West	P513-DA-12	C	23/09/2019	PTI Architecture
New Office Building Elevations North & South	P513-DA-13	C	23/09/2019	PTI Architecture
Truck Entry Driveway Ramp Sections	P513-DA-14	B	23/09/2019	PTI Architecture
Staff Carpark Driveway Ramp Sections	P513-DA-15	B	23/09/2019	PTI Architecture

Fence Elevations for Acoustic	P513-DA-16	B	23/09/2019	PTI Architecture
Fence Elevations for Acoustic	P513-DA-17	B	23/09/2019	PTI Architecture
Visual Impact Assessment – Location Plan	P513-DA-18	C	23/09/2019	PTI Architecture
Visual Impact Assessment – View 1	P513-DA-19	C	23/09/2019	PTI Architecture
Visual Impact Assessment – View 2	P513-DA-20	C	23/09/2019	PTI Architecture
Visual Impact Assessment – View 3	P513-DA-21	C	23/09/2019	PTI Architecture
Visual Impact Assessment – View 4	P513-DA-22	C	23/09/2019	PTI Architecture
Visual Impact Assessment – View 5	P513-DA-23	C	23/09/2019	PTI Architecture
Visual Impact Assessment – View 6	P513-DA-24	C	23/09/2019	PTI Architecture
Sediment Control Plan	D1-17-040	C	11/09/2019	TOP Consulting Group
Stormwater Pit Collection	D2-17-040	B	06/09/2019	TOP Consulting Group
Stormwater Plan	D3-17-040	B	06/09/2019	TOP Consulting Group
Roof Stormwater Plan	D4-17-040	B	06/09/2019	TOP Consulting Group
Leachate Collection Plan	D5-17-040	B	06/09/2019	TOP Consulting Group
Concrete Layout Plan	S1-17-040	B	06/09/2019	TOP Consulting Group

Report Name	**Date**	**Reference**	**Prepared By**
Environmental Impact Statement, including Appendices (and revisions):	22/03/2018	1771127-EIS-Rev2	Benbow Environmental
2. Geotechnical Investigation, Preliminary Acid Sulfate Soils Assessment, Salinity Assessment, and Wastewater Assessment	December 2018	17/3905 A	STS Geo-Environmental
3. Stormwater Management Plan and Report	17/01/2019	2017/01	Ultramark
4. Traffic Impact Assessment Report	February 2018	17149r	Transport & Urban Planning

5. Waste Management Plan	February 2018	171127-WMP-Rev1	Benbow Environmental
6. Air Quality Impact Assessment	February 2018	171127-AQIA-Rev3	Benbow Environmental
7. Community Consultation Leaflet	February 2018	-	Benbow Environmental
9. Flora & Fauna Survey and Impact Assessment	March 2018	55 Martin Road	Ecological Consultants Australia
10. Arboriculture Impact Assessment Report	13/03/2018	Revision B	Glenyss Laws
11. Preliminary Site Investigation	January 2018	18/0089	STS Geo-Environmental
13. Landscaping Plan	December 2018	55 Martin Road	Ecological Consultants Australia
Addendum to the Environmental impact Statement, including Appendices:	24/09/2019	18580 Rev. 1	Benbow Environmental
D. Architectural Plans and Visual Impact Assessment	(see above)		
E. Landscaping Plan Updates	September 2019	55 Martin Road	Ecological Consultants Australia
F. Civil and Stormwater Plans	(see above)		
G. Traffic Impact Letter	29/08/2019	19115L1	Transport & Urban Planning
H. Noise Impact Assessment	September 2019	191238-NIA-Rev3	Benbow Environmental
I. Air Quality Statement Letter	13/09/2019	EH/snb	Benbow Environmental
J. Revised Stormwater Management Letter	24/09/2019	2017-01	Ultramark
Construction Noise and Vibration Management Plan	December 2018	171127-02-CNVMP-Rev3	Benbow Environmental
Response to Submissions	18/07/2018	55 Martin Road	Claron Consulting
Response to Matters Raised	06/12/2018	55 Martin Road	Claron Consulting

General Terms of Approval (amended under DA-263/2019/A)

2. All the General Terms of Approval issued by NSW Environmental Protection Authority (EPA) shall be complied with prior, during, and at the completion of construction, as required in accordance with the General Terms of Approval dated 2 December 2019. A copy of the General Terms of Approval is attached to this decision notice.

RMS Conditions

3. The swept path of the longest vehicle (including garbage trucks, building maintenance vehicles and removalists) entering and exiting the subject site, as well as manoeuvrability through the site, shall be in accordance with AUSTROADS. In this regard, a plan shall be submitted to Council for approval, which shows that the proposed development complies with this requirement.

4. The layout of the proposed car parking areas associated with the subject development (including, driveways, grades, turn paths, sight distance requirements in relation to landscaping and/or fencing, aisle widths, aisle lengths, and parking bay dimensions) should be in accordance with AS 2890.1- 2004, AS2890.6-2009 and AS 2890.2 – 2002 for heavy vehicle usage. Parking Restrictions may be required to maintain the required sight distances at the driveway.

5. All vehicles are to enter and exit the site in a forward direction.

6. All vehicles are to be wholly contained within the site before being required to stop.

Works at no cost to Council

7. All roadworks, drainage works and dedications, required to effect the consented development shall be undertaken at no cost to Liverpool City Council.

B. PRIOR TO ISSUE OF A CONSTRUCTION CERTIFICATE

The following conditions are to be complied with or addressed prior to issue of a Construction Certificate by the Principal Certifying Authority:

Comply with EP&A Act

8. The requirements and provisions of the *Environmental Planning & Assessment Act 1979* and *Environmental Planning & Assessment Regulation 2000*, must be fully complied with at all times.

   Failure to comply with these legislative requirements is an offence and may result in the commencement of legal proceedings, issuing of 'on-the-spot' penalty infringements or service of a notice and order by Council.

Prescribed condition

9. In accordance with Section 4.17(11) of the *Environmental Planning & Assessment Act 1979* and clause 98 of the *Environmental Planning & Assessment Regulation 2000*, it is a prescribed condition that all building work must be carried out in accordance with the applicable Performance Requirements of the *National Construction Code*. Compliance with the Performance Requirements can only be achieved by:

a) Complying with the Deemed to Satisfy Provisions, or
b) Formulating an Alternative Solution, which complies with the Performance Requirements or is shown to be at least equivalent to the Deemed to Satisfy Provision, or a combination of (a) and (b).

Provision of Services

10. An application to obtain a Section 73 Compliance Certificate under the Sydney Water Act 1994, must be lodged with Sydney Water. To facilitate this, an application must be made through an authorised Water Servicing Coordinator. Please refer to the "building and developing" section of Sydney Water's web site at www.sydneywater.com.au, or telephone 13 20 92.

    Following receipt of the application, a 'Notice of Requirements' will detail water and sewer extensions to be built and charges to be paid. Please make early contact with the Coordinator, since building of water/sewer extensions can be time consuming and may impact on other services and building, driveway or landscape design. A copy of the 'Notice of Requirements' must be submitted to the PCA.

11. Written clearance from Endeavour Energy, stating that electrical services have been made available to the development or that arrangements have been entered into for the provision of services to the development must be submitted to the PCA.

12. Prior to the issue of a Construction Certificate, the Principal Certifying Authority shall be satisfied that telecommunications infrastructure may be installed to service the premises which complies with the following:
    - The requirements of the Telecommunications Act 1997:
        - For a fibre ready facility, the NBN Co's standard specifications current at the time of installation; and
        - For a line that is to connect a lot to telecommunications infrastructure external to the premises, the line shall be located underground.

    Unless otherwise stipulated by telecommunications legislation at the time of construction, the development must be provided with all necessary pits and pipes, and conduits to accommodate the future connection of optic fibre technology telecommunications.

13. Written approval must be gained from Transgrid stating they have reviewed the proposed engineering design plans and that they consent to the issue of a CC by the PCA.

Fee Payments

14. Unless otherwise prescribed by this consent, all relevant fees or charges must be paid. Where Council does not collect these payments, copies of receipts must be provided. For the calculation of payments such as Long Service Levy, the payment must be based on the value specified with the Development Application/Construction Certificate.

    The following fees are applicable and payable:

a) Damage Inspection Fee – relevant where the cost of building work is $20,000 or more, or a swimming pool is to be excavated by machinery,
b) Fee associated with Application for Permit to Carry Out Work Within a Road, Park and Drainage Reserve, and
c) Long Service Levy payment is applicable on building work having a value of $25,000 or more, at the rate of 0.35% of the cost of the works. The required Long Service Levy payment, under the *Building and Construction Industry Long Service Payments Act 1986*, is to be forwarded to the Long Service Levy Corporation or the Council, prior to the issuing of a Construction Certificate, in accordance with Section 6.8 of the *Environmental Planning & Assessment Act 1979*.

These fees are reviewed annually and will be calculated accordingly.

15. All fees associated with a road opening permit required for the connection, extension or amplification of any services within Council's road reserve must be paid to Council and receipts provided to the PCA. A separate form must be submitted in conjunction with payment of the fees. The fees include the standard road opening permit fee and any restoration fees that may be required as a result of the works.

Substation

16. Should an Electrical Substation be required and should this be located outside the building envelope, the location and any associated fire separation walls must comply with Integral Energy Substation Design Instruction Document No SDI 104 (Current Version).

Access

17. Access must be provided to the building for people with a disability in accordance with the relevant requirements of the Building Code of Australia, Disability (Access to Premises – Buildings) Standard 2010 and Australian Standard – AS1428.1 (2009), Design for Access and Mobility – General requirements for new building work, to the satisfaction of the Certifying Authority.

Cladding

18. Prior to issue of a construction certificate the certifier must be satisfied that all proposed attachments, cladding material and systems forming part of external walls comply with the NCC BCA and relevant Australian Standards. The certifier must be able to demonstrate compliance with evidence of suitability as per clause A2.2 of the BCA for all products/systems proposed.

On-Site Sewerage Management System

19. An application for Approval to Install an On-site Sewage Management System pursuant to Section 68 of the *Local Government Act* is to be submitted to Council for consideration and approval. The application is to be accompanied by a Waste Water Report prepared by a suitably qualified consultant, specifications of the proposed system and NSW Health accreditation details of proposed system.

Recommendations of Acoustic Report (amended under DA-263/2019/A)

20. The recommendations provided within the Noise Impact Assessment for AMJ Demolition and Excavation 55 Martin Road, Badgerys Creek (Report no. 191238-NIA-Rev3) prepared by Benbow Environmental dated September 2019 and the Construction Noise and Vibration Management Plan 55 Martin Road Badgerys Creek (Report no. 171127-02_CNVMP_Rev3) prepared by Benbow Environmental dated December 2018 are to be complied with. This includes, but is not limited to:
    - A 2.1m colourbond fence to be constructed surrounding the perimeter of the site.
    - The front end loader is to have a sound power level of 97 dB (A) or lower.
    - Pedestrian doors are to be self-closing
    - Crusher/s, generator/s, screen/s and excavator/s are restricted to indoors only.
    - When either crusher or excavator is operating, one roller shutter door is to be open for only 3 minutes out of a 15minute scenario.
    - Automated roller shutter doors be installed
    - Roller shutters selected should be for their acoustic performance with regards to minimising breakout noise and minimising noise generated from opening and closing operations
    - Mobile equipment regularly used onsite such as excavators and front end loaders are to be fitted with reversing lights or a white noise reversing alarm

Special Infrastructure Contribution

21. The applicant is to make a special infrastructure contribution in accordance with any determination made by the Minister administering the *Environmental Planning and Assessment Act 1979* under Section 7.23 of that Act and is in force on the date of this consent, and must obtain a certificate to that effect from the Department of Planning (Growth Centres Commission) before a Construction Certificate is issued in relation to any part of the development to which this consent relates.

S138 Roads Act – Minor Works in the public road

22. Prior to the issue of a Construction Certificate a S138 Roads Act application/s, including payment of fees shall be lodged with Liverpool City Council, as the Roads Authority for <u>any works required</u> in a public road. These works may include but are not limited to:

    - Vehicular crossings (including kerb reinstatement of redundant vehicular crossings)
    - Road opening for utilities and stormwater (including stormwater connection to Council infrastructure)
    - Road occupancy or road closures

    All works shall be carried out in accordance with the Roads Act approval, the development consent including the stamped approved plans, and Liverpool City Council's specifications.

Note: Approvals may also be required from the Roads and Maritime Service (RMS) for classified roads.

S138 Roads Act – Stormwater drainage works

23. Prior to the issue of a Construction Certificate, the Principal Certifying Authority and/ or Certifying Authority shall ensure that an application under Section 68 of the *Local Government Act*, including the payment of application and inspection fees, has been lodged with, and approved by Liverpool City Council for easement relocation.

    Engineering plans are to be prepared in accordance with the development consent, Liverpool City Council's Design Guidelines and Construction Specification for Civil Works and best engineering practice.

On-Site Detention (amended under DA-263/2019/A)

24. On-Site Detention shall be provided generally in accordance with the concept plan/s lodged for development approval, prepared by T.O.P Consulting Group Pty Ltd, reference number 17-040, revision B, dated 06/09/2019.

    The proposed development and stormwater drainage system shall be designed to ensure that stormwater runoff from upstream properties is conveyed through the site without adverse impact on the development or adjoining properties.

    Engineering plans and supporting calculations for the on-site detention system are to be prepared by a suitably qualified person and shall accompany the application for a Construction Certificate.

    Prior to the issue of a Construction Certificate the Certifying Authority shall ensure that the on-site detention system has been designed in accordance with Liverpool City Council's Design Guidelines and Liverpool City Council's On-Site Stormwater Detention policy and Technical Specification.

25. Subject to a detailed hydraulic assessment; detail onsite detention must be provided in accordance with Council's Onsite Detention (OSD)Policy and Construction Specification and to Council's satisfaction. Details are to be included with any application for a Construction Certificate. The proposed development and stormwater drainage system shall be designed to ensure that stormwater runoff from upstream properties is conveyed through the site without adverse impact on the development or adjoining properties.

Water Quality

26. Prior to the issue of a Construction Certificate the Certifying Authority shall ensure that details of a stormwater pre-treatment system have been provided on the stormwater plans and that the design meets pollutant retention criteria in accordance Council's Development Control Plan.

    The Construction Certificate must be supported by:
    - Specification & installation details of the stormwater pre-treatment system
    - The approval of an operation and maintenance manual/ schedule for the stormwater pre-treatment system

A copy of the approved operation and maintenance manual/ schedule shall be submitted to Liverpool City Council with notification of the Construction Certificate issue.

Water Pollution Control Measures

27. Detailed specifications, floor and section plans for the proposal shall be submitted to the Principal Certifying Authority for review and approval prior to the issue of a Construction Certificate. The plans to be submitted with the application for the Construction Certificate shall make provision for the following:

- Trafficable bunds shall be installed at the entry and exits of the batching house building, storage facilities and wash bays to contain all substances and prevent ingress of stormwater, and
- The location of spill kits, stormwater pits and stormwater drainage infrastructure.

Traffic Management Plan

28. A traffic management plan is to be submitted to Liverpool City Council's Traffic Committee for approval. Works within the road reserve shall not commence until the traffic management plan has been approved.

The traffic management plan is to be prepared by an accredited designer and submitted to and stamp approved by Council via a standard Section 138 Roads Act Permit application available at Council's customer service counter. The stamped approved Roads Act Permit is to be obtained by the PCA. A copy of the stamped approved Roads Act Permit and traffic management plan is to be available on the works site for inspection at any time by an authorised Council officer.

Traffic

29. Detail design drawings of access driveways, parking facilities and any required road improvements will have to be submitted to Traffic and Transport Section for review and endorse. The designs which will also include swept path analysis will have to be in accordance with Council's and Austroads design guidelines and should take into account heavy vehicles. Line marking and signage to be incorporated with the road design for the development.

30. Prior to the issue of a Construction Certificate the Certifying Authority shall ensure that vehicular access, circulation, manoeuvring, pedestrian and parking areas associated with the subject development are in accordance with AS 2890.1, AS2890.2, AS2890.6 and Liverpool City Council's Development Control Plan.

31. The developer shall provide an appropriate level of lighting to the vehicular entry and exit location.

32. The access driveway along Martin Road must be designed to cater for heavy rigid vehicles in accordance with AS 2890.2 – 2002.

Construction Environmental Management Plan

33. Prior to issue of a construction certificate, a Construction Environmental Management Plan (CEMP) for the development must be provided to the Principal Certifying Authority for approval. The environmental site management measures must remain in place and be maintained throughout the period of the development. The CEMP must address all environmental aspects of the development's construction phases, and include, where relevant, but not be limited to, the following:

    a) Asbestos Management Plan;
    b) Project Contact Information;
    c) Site Security Details;
    d) Timing and Sequencing Information;
    e) Site Soil and Water Management Plan;
    f) Noise and Vibration Control Plan;
    g) Dust Control Plan;
    h) Air Monitoring;
    i) Odour Control Plan;
    j) Health and Safety Plan;
    k) Waste Management Plan;
    l) Incident management Contingency; and
    m) Unexpected Finds Protocol.

    The CEMP must be kept on site for the duration of the works and must be made available to Council Officers upon request.

Retaining walls on Boundaries

34. All retaining walls shall be of masonry construction and must be wholly within the property boundary, including footings and agricultural drainage lines. Construction of retaining walls or associated drainage works along common boundaries shall not compromise the structural integrity of any existing structures.

    Where a retaining wall exceeds 600mm in height, the wall shall be designed by a practicing structural engineer and a construction certificate must be obtained prior to commencement of works on the retaining wall.

No loading on easements

35. Prior to the issue of a Construction Certificate the Certifying Authority shall ensure that the foundations of proposed structures adjoining the drainage and/ or services easement have been designed clear of the zone of influence.

Dilapidation report

36. Prior to the Commencement of Works a dilapidation report of all infrastructure fronting the development in Martin Road and Lawson Road is to be submitted to Liverpool City Council. The report is to include, but not limited to, the road pavement, kerb and gutter, footpath, services and street trees and is to extend 100m either side of the development.

C. PRIOR TO WORKS COMMENCING

The following conditions are to be complied with or addressed prior to works commencing on the subject site/s:

Construction Certificates

37. Building work shall not commence prior to the issue of a Construction Certificate. Building work as defined under Section 4 of the EP&A Act means any physical activity involved in the erection of a building and includes but is not limited to, the placement of any site shed/s or builders facilities, site grading, retaining walls, excavation, cutting trenches, installing formwork and steel reinforcement or, placing of plumbing lines.

38. Prior to the commencement of any building works, the following requirements must be complied with:

    a) Construction Certificate must be obtained from the Council or an Accredited Certifier, in accordance with the provisions of the *Environmental Planning & Assessment Act 1979,*
    b) Where a Construction Certificate is obtained from an Accredited Certifier, the applicant shall advise Council of the name, address and contact number of the Accredited Certifier, in accordance with Section 4.19, 6.6, 6.7, 6.12, 6.13, 6.14 of the Act,
    c) A copy of the Construction Certificate, the approved development consent plans and consent conditions must be kept on the site at all times and be made available to the Council officers and all building contractors for assessment,
    d) A Principal Certifying Authority (PCA) must be appointed to carry out the necessary building inspections and to issue an occupation certificate, and
    e) The PCA must advise Council of the intended date to commence work which is the subject of this consent by completing a notice of commencement of building works or subdivision works form, available from Council's Customer Service Centre. A minimum period of two (2) working days' notice must be given.

Notification/Principal Certifying Authority

39. The PCA must advise Council of the intended date to commence work which is the subject of this consent by completing a notice of commencement of building works or subdivision works form, available from Council's Customer Service Centre. A minimum period of two (2) working days' notice must be given.

40. Written notice of intention shall be given to the owner of the adjoining allotments of land, outlining the particulars of the proposed work, which involves:

    (a) Any excavation, below the base of the footings of a building on an adjoining allotment of land.
    (b) The notice shall be given seven (7) days prior to the commencement of work.

Notification

41. The certifying authority must advise Council, in writing of:

(a) The name and contractor licence number of the licensee who has contracted to do or intends to do the work, or
(b) The name and permit of the owner-builder who intends to do the work.

If these arrangements are changed, or if a contact is entered into for the work to be done by a different licensee, Council must be immediately informed.

Notification of Service Providers

42. The approved development must be approved through the 'Sydney Water Tap in' service to determine whether the development will affect any Sydney Water wastewater and water mains, stormwater drains and/or easements, and if any requirements need to be met. A receipt must be provided to Council.

Please refer to the website www.sydneywater.com.au for more information.

Dial Before You Dig

43. Underground assets may exist in the area that is subject to your application. In the interest of health and safety and in order to protect damage to third party assets please contact Dial before you dig at www.1100.com.au or telephone 1100 before excavating or erecting structures (This is the law in NSW). If alterations are required to the configuration, size, form or design of the development upon contact the Dial before You Dig service, an amendment to the development consent (or a new development application) may be necessary. Individuals owe asset owners a duty of care that must be observed when working in the vicinity of plant or assets. It is the individual's responsibility to anticipate and request the nominal location of plant or assets on the relevant property via contacting the Dial before you dig service in advance of any construction or planning activities.

Sediment & Erosion Control

44. Prior to commencement of works sediment and erosion control measures shall be installed in accordance with the approved Construction Certificate and to ensure compliance with the *Protection of the Environment Operations Act* 1997 and Landcom's publication *"Managing Urban Stormwater – Soils and Construction (2004)"* – also known as "The Blue Book".

The erosion and sediment control measures shall remain in place and be maintained until all disturbed areas have been rehabilitated and stabilised.

D. DURING CONSTRUCTION

The following conditions are to be complied with or addressed during construction:

Building work

45. The building works must be inspected by the Principal Certifying Authority, in accordance with Sections 6.5 (3) of the *Environmental Planning & Assessment Act 1979*and Clause 162A of the *Environmental Planning & Assessment Regulation 2000*, to monitor compliance with the relevant standards of construction, Council's development consent and the construction certificate.

46. The *Principal Certifying Authority* (PCA) must specify the relevant stages of construction to be inspected and a satisfactory inspection must be carried out, to the satisfaction of the PCA, prior to proceeding to the subsequent stages of construction or finalisation of the works.

47. The building and external walls are not to proceed past ground floor/reinforcing steel level until such time as the PCA has been supplied with an identification survey report prepared by a registered surveyor certifying that the floor levels and external wall locations to be constructed, comply with the approved plans, finished floor levels and setbacks to boundary/boundaries. The slab shall not be poured, nor works continue, until the PCA has advised the builder/developer that the floor level and external wall setback details shown on the submitted survey are satisfactory.

    In the event that Council is not the PCA, a copy of the survey shall be provided to Council within three (3) working days.

48. On placement of the concrete, works again shall not continue until the PCA has issued a certificate stating that the condition of the approval has been complied with and that the slab has been poured at the approved levels.

Signage

49. A sign must be erected in a prominent position on the premises on which work is to be carried out. The sign is to be maintained during work, and removed at the completion of work. The sign must state:

    a) the name, address and telephone number of the principal certifying authority for the work,
    b) 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
    c) unauthorised entry to the premises is prohibited.

Excavation

50. In the event the development involves an excavation that extends below the level of the base of the footings of a building, structure or work (including any structure or work within a road or rail corridor) on adjoining land, the person having the benefit of the development consent must, at the person's own expense:

    a) protect and support the adjoining premises from possible damage from the excavation,

b) where necessary, underpin the adjoining premises to prevent any such damage, and
c) a and b above does not apply if the person having the benefit of the development consent owns the adjoining land or the owner of the adjoining land has given consent in writing to that condition not applying.
d) retaining walls or other approved methods necessary to prevent the movement of excavated or filled ground, together with associated subsoil drainage and surface stormwater drainage measures, shall be designed strictly in accordance with the manufacturers details or by a practising structural engineer.

Toilet facilities

51. Toilet facilities must be available or provided at the work site and must be maintained until the works are completed at a ratio of one toilet plus one additional toilet for every 20 persons employed at the site. Each toilet must:

a) be a standard flushing toilet connected to a public sewer, or
b) have an on-site effluent disposal system approved under the *Local Government Act 1993*, or
c) be a temporary chemical closet approved under the *Local Government Act 1993*.

Craning and Hoardings

52. Lifting or craning materials over a public footway or roadway is not permitted unless a "B" class construction hoarding has been installed in compliance with work cover authority requirements.

53. If the work is likely to cause pedestrian or vehicular traffic in a public area to be obstructed or rendered inconvenient; or if craning of materials is to occur across a public or road reserve area, a separate Road Occupancy Certificate and/or Hoarding approval must be obtained from Liverpool City Council prior to undertaking the works.

Security Fence

54. A temporary security fence to WorkCover Authority requirements is to be provided to the property during the course of construction.

Note. Fencing is not to be located on Council's reserve area.

Refuse Disposal

55. Adequate refuse disposal methods and builders storage facilities shall be installed on the site. Builders' wastes, materials or sheds are not to be placed on any property other than that which this approval relates to.

Aboriginal Cultural Heritage – Staff and Contractors

56. All relevant on-site staff and contractors should be made aware of their statutory obligations for heritage under NSW National Parks and Wildlife Act 1974 and the NSW Heritage Act 1977. They are to be informed of what the potential heritage on the site will be and its significance. The site supervisor is to maintain a record of who has completed the heritage induction and this is to be provided to Council prior to Issue of Occupation Certificate.

Aboriginal Cultural Heritage – Unexpected Finds

57. As required by the *National Parks and Wildlife Service Act 1974* and the *Heritage Act 1977*, in the event that Aboriginal cultural heritage or historical cultural fabric or deposits are encountered/discovered where they are not expected, works must cease immediately and Council and the Heritage Division of the Office of Environment and Heritage (OEH) must be notified of the discovery.

In the event that archaeological resources are encountered, further archaeological work may be required before works can re-commence, including the statutory requirement under the Heritage Act 1977 to obtain the necessary approvals/permits from the Heritage Division of the OEH.

Note: The National Parks and Wildlife Service Act 1974 and the Heritage Act 1977 impose substantial penalty infringements and / or imprisonment for the unauthorised destruction of archaeological resources, regardless of whether or not such archaeological resources are known to exist on the site.

Skeletal Remains

58. In the event that skeletal remains are uncovered, work must cease immediately in that area and the area secured. NSW Police must be contacted and no further action taken until written advice has been provided by the NSW Police. If the remains are determined to be of Aboriginal origin, the Office of Environment and Heritage must be notified by ringing the Enviroline 131 555 and a management plan prior to works re-commencing must be developed in consultation with relevant Aboriginal stakeholders.

Hours of Construction Work and Deliveries

59. Construction work/civil work/demolition work, including the delivery of materials, is only permitted on the site between the hours of 7:00am to 6:00pm Monday to Friday and 8:00am to 1:00pm Saturday. No work will be permitted on Sundays or Public Holidays, unless otherwise approved by Council.

Sediment

60. The development, including construction, shall not result in any increase in sediment deposition into any water body, wetland, bushland or environmentally significant land.

Removal of dangerous/hazardous waste

61. All dangerous and/or hazardous material shall be removed by a suitably qualified and experienced contractor licensed by SafeWork NSW. The removal of such material shall be carried out in accordance with the requirements of SafeWork NSW and the material shall be transported and disposed of in accordance with NSW Environment Protection Authority requirements

Car Parking Areas

62. Car parking spaces and driveways must be constructed of a minimum of two coat finish seal or better. The spaces must be clear of obstructions and columns, permanently line marked and provided with adequate manoeuvring facilities. The design of these spaces must comply with Council's DCP 2008, and Australian Standard 2890.1 Parking Facilities – Off Street Car Parking.

All car parking areas to be appropriately line marked and sign posted in accordance with the approved plans. All customer/visitor/staff parking areas are to be clearly signposted limiting car parking for customers/visitors/staff only. The applicant is to cover the costs of installation and maintenance of the signage.

The on-site parking spaces shown in the approved plans must be identified in accordance with A.S.2890.1 Parking Facilities – Off-Street Car Parking.

Traffic Management

63. All works within the road reserve are to be at the applicant cost and all signage is to be in accordance with the RTA's Traffic Control at Worksites Manual and the RTA's Interim Guide to Signs and Markings.

64. If a Works Zone is required, an application is to be made to Council's Traffic & Transport Section for approval. The application form can be found at https://www.liverpool.nsw.gov.au/council/Fees-Forms-Policies-and-Enforcement/forms

65. Applications must be made to Council's Traffic & Transport Section for temporary road closures. Applications prepared by a suitably qualified person, are to specify the date and times of proposed closures, traffic control plans, insurances and any other relevant information. This activity may require a seven (7) days advance notice to be installed near the site and/or advertisement in local newspapers and websites to Council's satisfaction.

Vegetation

66. All existing trees and areas of native vegetation not identified for removal on approved plans of the proposed development shall be protected from damage during site works. This protection shall consist of 1800mm high protective fencing, securely installed beneath the outer canopy of any tree to be retained. Trees may be fenced off in clusters where it is not practical to fence off individual trees. There shall be no storing materials, washing machinery or changes to existing soil levels within the fenced areas.

67. Any works or activities shall adhere to the recommendations outlined in the approved Flora and Fauna Report prepared for the site.

68. No known environmental or noxious weeds or known invasive plant species shall be included in the landscaping/revegetation.

69. Mulch generated from exotic trees or other weed species cleared shall not be used on site. It shall be removed from the site and disposed of appropriately and in accordance with legislative requirements.

Landscaping Works

70. Planting is to be carried out generally in accordance with the Council approved landscaping proposal with reference to planting locations/ planting densities and general landscaping site management. Species chosen for planting shall be consistant with naturally occurring species of the surrounding area ie Cumberland Plain Bushland species. All landscaping work is to be overseen by a suitably qualified expert holding appropriate qualifications in bush regenerations and horticulture.

Imported Fill

71. Filling material must be limited to the following:

    a) Virgin excavated natural material (VENM)
    b) Excavated natural material (ENM) certified as such in accordance with *Protection of the Environment Operations (Waste) Regulation 2014*; and/or
    c) Material subject to a Waste Exemption under Clause 91 and 92 *Protection of the Environment Operations (Waste) Regulation 2014* and recognised by the NSW Environment Protection Authority as being "fit for purpose" with respect to the development subject of this application.

    Certificates proving that the material imported is ENM or VENM must be provided to the Principal Certifying Authority prior to filling. Certificates are to be provided to Council officers if and when requested.

    Fill imported on to the site must be compatible with the existing soil characteristic for site drainage purposes.

72. Records of the following must be submitted to the principal certifying authority monthly and at the completion of earth works:

    (a) The course (including the address and owner of the source site), nature and quantity of all incoming loads including the date, the name of the carrier, and the vehicle registration;
    (b) The results of a preliminary contamination assessment carried out on any fill material used in the development.
    (c) The results of any chemical testing of fill material.

Unidentified contamination

73. Any new information which comes to light during remediation, demolition or construction works which has the potential to alter previous conclusions about site contamination and remediation must be immediately notified to Council and the Principal Certifying Authority in writing.

    A Section 4.55 Application under the EP&A Act shall be made for any proposed works outside the scope of the approved development consent.

Air Quality

74. Dust screens shall be erected and maintained in good repair around the perimeter of the subject land during land clearing, demolition, and construction works.

75. Where operations involve excavation, filling or grading of land, or removal of vegetation, including ground cover, dust is to be suppressed by regular watering until such time as the soil is stabilised to prevent airborne dust transport. Where wind velocity exceeds five knots the PCA may direct that such work is not to proceed.

76. All vehicles involved in the delivery, demolition or construction process departing from the property shall have their loads fully covered before entering the public roadway.

Water quality

77. All topsoil, sand, aggregate, spoil or any other material shall be stored clear of any drainage line, easement, water body, stormwater drain, footpath, kerb or road surface and there shall be measures in place in accordance with the approved erosion and sediment control plan.

Pollution Control

78. Building operations such as brick cutting, mixing mortar and the washing of tools, paint brushes, form-work, concrete trucks and the like shall not be performed on the public footway or any other locations which may lead to water pollution.

79. The loading and unloading of all vehicles associated with the development must be undertaken within the property boundary of the premises subject to this consent.

    Measures must be implemented to prevent tracking of sediment by vehicles onto roads.

    Vehicle loads must be covered when entering and exiting the site with material.

Erosion and sediment control

80. All disturbed areas shall be progressively stabilised and/or revegetated so that no areas remain exposed to potential erosion damage for a period of greater than 14 days.

81. Erosion and sediment control measures shall remain in place and be maintained until all disturbed areas have been rehabilitated and stabilised.

82. Sediment and erosion control measures are to be adequately maintained during the works until the establishment of grass.

83. Vehicular access to the site shall be controlled through the installation of wash down bays or shaker ramps to prevent tracking of sediment or dirt onto adjoining roadways. Where any sediment is deposited on adjoining roadways is shall be removed by means other than washing. All material is to be removed as soon as possible and the collected material is to be disposed of in a manner which will prevent its mobilisation.

Construction noise and management plan

84. The recommendations provided in the Construction Noise and Vibration Management Plan 55 Martin Road Badgerys Creek (Report no. 171127-02_CNVMP_Rev3) prepared by Benbow Environmental dated December 2018 are to be implemented and complied with throughout the construction phase.

E. PRIOR TO ISSUE OF OCCUPATION CERTIFICATE

The following conditions are to be complied with or addressed prior to issue of either an Interim or Final Occupation Certificate by the Principal Certifying Authority:

Certificates

85. The premises must not be utilised until an Occupation Certificate is issued by the Principal Certifier. A single and complete Fire Safety Certificate certifying the operation of all of the fire safety measures within the building must be submitted to Council with the Occupation Certificate.

86. Details of *critical* stage inspections carried out by the principal certifying authority together with any other certification relied upon must be provided to Council with the occupation certificate.

87. A Section 73 Compliance Certificate under the *Sydney Water Act 1994* must be obtained for submission to the PCA prior to issue of Occupation Certificate

88. Prior to issuing an occupation certificate the principal certifier must be satisfied that suitable evidence has been provided to demonstrate that the external wall cladding material and system is consistent with the consent documentation, NCC and relevant Australian Standards.

Environmental Protection Licence

89. An Occupation Certificate shall not be issued for any part of the development until an Environment Protection Licence (EPL) is issued by the NSW Environment Protection Authority and a copy of the EPL has been provided to Council.

Landscaping

90. Upon completion of the approved landscape works associated with the development and prior to the issue of any OC, an Implementation Report is to be submitted to the PCA attesting to the satisfactory completion of the landscape works in accordance with the approved landscape plan. The report is to be prepared by a suitably qualified person.

Recommendations of Acoustic Report

91. A Compliance Certificate or other documentation deemed suitable demonstrating compliance with the following is to be submitted to the Principal Certifying Authority:

a) The building has been constructed to meet the relevant noise criteria's in accordance with the approved acoustic report; and
b) All recommendations within the approved acoustic report have been adopted.

Noise Management

92. A Noise Management Plan and complaints handling procedure shall be prepared for the industry in consultation with a suitably qualified and experienced acoustic consultant. The Noise Management Plan is to incorporate the additional management practices as per the approved Noise Impact Assessment and Construction Noise and Vibration Management Plan, which include but are not limited to:

- Prohibition of extended periods of revving/idling
- Minimisation of the use of truck exhaust brakes onsite
- Low onsite speed limits
- Preventative maintenance program for onsite vehicles
- Vehicles waiting to be loaded and unloaded shall be parked onsite with their engines off
- Regularly train workers and contractors to use equipment in ways that minimise noise
- Avoid the use of radios, stereos and speakers
- Use of quieter equipment
- Monitor vehicle movements to ensure recommended practices are being implemented
- Appropriate complaints procedure
- The front end loader is to have a sound power level of 97 dB (A) or lower.
- Pedestrian doors are to be self-closing
- Crusher/s, generator/s, screen/s and excavator/s are restricted to indoors only.
- When either crusher or excavator is operating, one roller shutter door is to be open for only 3 minutes out of a 15minute scenario.
- Automated roller shutter doors be installed
- Roller shutters selected should be for their acoustic performance with regards to minimising breakout noise and minimising noise generated from opening and closing operations
- Mobile equipment regularly used onsite such as excavators and front end loaders are to be fitted with reversing lights or a white noise reversing alarm

On-Site Sewerage Management System

93. Prior to the issue of any OC an Approval to operate for the On-Site Sewerage Management System is to be issued by Council in accordance with Section 68 of the Local Government Act.

Liverpool City Council clearance – Roads Act/ Local Government Act

94. Prior to the issue of an Occupation Certificate, the Principal Certifying Authority shall ensure that all works associated with a S138 Roads Act approval or S68 Local Government Act approval have been inspected and signed off by Liverpool City Council.

Works as executed – General

95. Prior to the issue of an Occupation Certificate, works-as-executed drawings and compliance documentation shall be submitted to the Principal Certifying Authority in accordance with Liverpool City Council's Design Guidelines and Construction Specification for Civil Works.

An original set of works-as-executed drawings and copies of compliance documentation shall also be submitted to Liverpool City Council with notification of the issue of the Occupation Certificate where Council is not the Principal Certifying Authority.

Stormwater Compliance

96. Prior to the issue of an Occupation Certificate the Principal Certifying Authority shall ensure that the:

a) On-site detention system/s
b) Stormwater pre-treatment system/s
c) Overland flowpath works

- Have been satisfactorily completed in accordance with the approved Construction Certificate and the requirements of this consent.
- Have met the design intent with regard to any construction variations to the approved design.
- Any remedial works required to been undertaken have been satisfactorily completed.

Details of the approved and constructed system/s shall be provided as part of the Works-As-Executed drawings.

Restriction as to User and Positive Covenant

97. Prior to the issue of an Occupation Certificate a restriction as to user and positive covenant relating to the following shall be registered on the title of the property:

a) On-site detention system/s
b) Stormwater pre-treatment system/s
c) Overland flowpath works

The restriction as to user and positive covenant shall be in Liverpool City Council's standard wording as detailed in Liverpool City Council's Design and Construction Guidelines and Construction Specification for Civil Works.

Rectification of Damage

98. Prior to the issue of an Occupation Certificate any damage to Council infrastructure not identified in the dilapidation report, as a result of the development shall be rectified at no cost to Liverpool City Council.

Any rectification works within Martin Road and Lawson Road will require a Roads Act application. The application is to be submitted and approved by Liverpool City Council prior to such works commencing.

Dilapidation Report

99. Any rectification works required by Council regarding the condition of Council infrastructure shall be undertaken, at full cost to the developer.

Directional signage

100. Prior to the issue of an Occupation Certificate, directional signage and linemarking shall be installed indicating directional movements and the location of customer parking to the satisfaction of the Principal Certifying Authority.

Bonds

101. A maintenance bond in the form of a bank Guarantee or cash bond ($TBA), shall be lodged with Council prior to the issue of an Occupation Certificate. The bond shall cover maintenance and any damage to roads, drainage lines, public reserves or other council property or works required as a result of work not in accordance with Council's standards, and /or development consent conditions. The bond will be held by Council for a minimum period of 12 months from the date of Council acceptance of final works.

Site to be concreted

102. All areas to be trafficable by vehicles (being the area annotated with 'Concrete Driveway & Manoeuvring Area' and 'driveway', and the car spaces depicted on the plans prepared by 'PTI Architecture', Sheets DA 05 Revision N and DA 06 Revision J, dated 23/09/2019), are to be concreted to an appropriate engineering specification prior to the issuing of an Occupation Certificate.

G. CONDITIONS RELATING TO USE

The following conditions relate to the ongoing use of the premises:

Occupational Health & Safety

103. Within 3 months of the commencement of the activity, an Occupational Noise and Hygiene Assessment shall be completed and submitted for approval. This assessment shall be prepared in accordance with the *Work Health and Safety Act (2011),* the *Work Health and Safety Regulation (2017*), and *AS/NZS 1269.1:2005 (Occupational noise management—Measurement and assessment of noise emission and exposure),* and should include an assessment of, but not limited to, the following:
    - Inhalable Dust
    - Respirable Dust
    - Silica
    - Asbestos

104. The proposed operation of the resource recovery facility shall thereafter be conducted in accordance with the approved Occupational, Noise, Health, Air Quality and Hygiene Assessments.

Waste

105. All waste soils and material(s), liquid and solid, to be removed from the site, excluding materials that can be recycled or reused in accordance with a Resource Recovery Order and/or exemption, must be analysed and classified by an appropriately qualified and certified consultant, in accordance with the *Protection of the Environment Operations (Waste) Regulation 2014* and related guidelines, in particular the *NSW EPA Waste Classification Guidelines*, prior to off-site disposal.

    All Waste material(s) must be disposed of at an appropriately licensed waste facility for the specific waste. Receipts for the disposal of the waste must be submitted to the Principal Certifying Authority within 30 days of the waste being disposed of.

    All waste must be transported by a contractor licenced to transport the specific waste, and in vehicles capable of carting the waste without spillage, and meeting relevant requirements and standards. All loads must be covered prior to vehicles leaving the site.

Car Parking/Loading

106. A total of 13 off street car parking spaces must be provided in accordance with Council's relevant development control plan. 2 of the spaces must be designed and signposted/marked for the specific use of persons with a disability.

107. All parking areas shown on the approved plans must be used solely for this purpose.

108. The operator of the development must not permit the reversing of vehicles onto or away from the road reserve, with the exception of garbage and recycling collection vehicles. All vehicles must be driven forward onto and away from the development and adequate space must be provided and maintained on the land to permit all vehicles to turn in accordance with AS 2890.1 Parking Facilities – Off Street Car Parking.

Environment Protection License

109. The use of the premises shall operate in accordance with the Environment Protection License issued by the NSW EPA.

EPA General terms of Approval (amended under DA-263/2019/A)

110. The facility shall operate in accordance with the General Terms of Approval (Notice No. 1589160) issued by the NSW EPA. This includes, but is not limited to:
    - Noise limits of 42 dB(A) (LAeq, 15minute) during the day at 40 & 65 Martin Road, 75 & 55 Lawson Road.
    - Noise Monitoring Report within 60 days of the commencement of operation
    - Use of water sprinklers and/or mist sprays in the enclosed building and outside undercover storage area so that no visible dust leaves the premises
    - Development of an Air Quality Management Plan.

Acoustic Report

111. Within 60 days of commencement of the approved operation, an acoustic report is to be prepared by an appropriately qualified acoustic engineer independent of Benbow Environmental, including a test of the acoustic performance of the facility, with an assessment of all the equipment used in the yard and the processing equipment with the door of the building open. The approved use is to be suspended after that 60 day period until written confirmation by the acoustic engineer is provided to the Council confirming that the development complies with all relevant acoustic conditions.

Bunding

112. All work and storage areas where spillage may occur shall be bunded. The capacity of the bunded area shall be calculated as being equal to 110% of the largest storage or process vessel/container in the area or 10% of the total volume of vessels/containers accommodated in the area, whichever is the greater.

    All bunded areas shall be graded to a blind sump or sewer to facilitate collection and disposal of wastewater in accordance with Sydney Water's requirements. All bunded areas shall be suitably treated to prevent ingress of stormwater.

Air Quality

113. All activities and operations shall not give rise to air pollution (including odour), offensive noise or pollution of land and/or water as defined under the *Protection of the Environment Operations Act 1997*.

Lighting

114. Illumination of the site is to be arranged in accordance with the requirements and specifications of Australian Standard 4282:1997 so as not to impact upon the amenity of the occupants of adjoining and nearby premises.

Noise – Silent Alarm System

115. Any alarm installed on the site is to be “silent back to base” type.

Offensive Noise – Acoustic Report

116. The proposed use of the premises and/or machinery equipment must not create offensive noise so as to interfere with the amenity of the neighbouring properties. Should an offensive noise complaint be received and verified by Council an acoustic assessment is to be undertaken (by an appropriately qualified consultant, and an acoustic report is to be submitted to Liverpool City Council for review. Any noise attenuation recommendations approved by Council must be implemented. The assessment is to obtain relevant background readings for the approved Noise Impact Assessment.

Hours of Operation

117. The hours of operation of the premises are limited to:

- Processing and delivery activities, as well as the movement, loading and unloading of trucks, and cleaning activities using mechanical equipment that is audible from any residential boundary:
  - Monday to Friday 7:00am to 6:00pm
  - Saturdays 8:00am to 1:00pm
  - At no time on Sundays or Public Holidays

- Administrative activities
  - Monday to Friday 7:00am to 6:00pm
  - Saturdays 8:00am to 5:00pm
  - At no time on Sundays or Public Holidays

Storage of flammable and combustible liquids

118. Flammable and combustible liquids shall be stored in accordance with AS 1940:2017– The Storage and Handling of Flammable and Combustible Liquids.

Landscaping

119. Landscaping shall be maintained in accordance with the approved plan, in a healthy state and in perpetuity by the existing or future owners and occupiers of the development.

If any of the vegetation comprising the landscaping dies or is removed, it is to be replaced with vegetation of the same species, and similar maturity as the vegetation which has died or was removed.

An annual report shall be submitted to Council, for the 3 years following issue of the OC, certifying that the landscaping works have been satisfactorily maintained.

Industrial Use

120. The premises must not be used for the display or sale of goods to the public (i.e., a shop).

H. ADVISORY

a) If you are dissatisfied with this notice of determination or the conditions contained within this notice of determination, Sections 8.2, 8.3, 8.4 and 8.5 of the Environmental Planning and Assessment Act 1979 gives you the right to request a review of the determination within six months after the date on which the application is taken to have been determined.

b) If you are dissatisfied with this decision, Sections 8.7 and 8.10 of the Environmental Planning and Assessment Act 1979 gives you the right to appeal to the Land and Environment Court within six months after the date on which the application is taken to have been determined.

c) In accordance with Section 4.53 of the Environmental Planning and Assessment Act 1979, unless otherwise stated by a condition of this consent, this consent will lapse unless the development is commenced within five (5) years of the date of this notice.

d) The approval of this application does not imply or infer compliance with the Disability Discrimination Act and that the developer should investigate their liability under the Act.

e) "DIAL BEFORE YOU DIG" DIAL 1100

Underground assets may exist in the area that is subject to your application. In the interest of health and safety and in order to protect damage to third party assets please contact Dial before you dig at www.1100.com.au or telephone 1100 before excavating or erecting structures (This is the law in NSW). If alterations are required to the configuration, size, form or design of the development upon contact the Dial before You Dig service, an amendment to the development consent (or a new development application) may be necessary. Individuals owe asset owners a duty of care that must be observed when working in the vicinity of plant or assets. It is the individual's responsibility to anticipate and request the nominal location of plant or assets on the relevant property via contacting the Dial before you dig service in advance of any construction or planning activities.

f) TELECOMMUNICATIONS ACT 1997 (COMMONWEALTH)

Telstra (and its authorised contractors) are the only companies that are permitted to conduct works on Telstra's network and assets. Any person interfering with a facility or installation owned by Telstra is committing an offence under the Criminal Code Act 1995 (Cth) and is liable for prosecution.

Furthermore, damage to Telstra's infrastructure may result in interruption to the provision of essential services and significant costs. If you are aware of any works or proposed works which may affect or impact on Telstra's assets in any way, you are required to contact: Telstra's Network Integrity Team on Phone Number 1800 810 443.

g) The obligation to comply with the Category 1 fire safety provisions may require building work to be carried out even though none is proposed or required by other conditions of this consent.

h) The Liverpool City Council Local Government area soils and ground water may be subject to varying levels of Salinity. Whilst Council may require applicants to obtain Salinity reports relating to some developments, no assessment may be made by Council in that regard. Soil and ground water salinity levels can change over time due to varying factors. It is recommended that all applicants make their own independent inquiries as to appropriate protection against the current and future potential affect of Salinity to ensure the ongoing structural integrity of any work undertaken. Liverpool City Council will not accept any liability for damage occurring to any construction of any type affected by soil and or ground water Salinity.

i) The cost of any necessary adjustments to utility mains and services shall be borne by the applicant.

j) Care shall be taken by the applicant and the applicant's agents to prevent any damage to adjoining properties. The applicant or the applicant's agents may be liable to pay compensation to any adjoining owner if, due to construction works, damage is caused to such an adjoining property.

ATTACHMENT 2: NSW EPA General Terms of Approval

Protection of the Environment Operations Act 1997

General Terms of Approval - Issued

Notice No: 1589160

ATTACHMENT A - GENERAL TERMS OF APPROVAL

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 DA-263/2018 submitted to Liverpool City Council, and subsequent approved modifications;
- the environmental impact statement titled "Environmental Impact Statement, Resource Recovery Facility, 55 Martin Road, Badgerys Creek" dated 22 March 2018 and prepared by Benbow Environmental, and as amended by, the document titled, "Addendum to the Environmental Impact Statement for a proposed Amendment to a Development Consent" dated 24 September 2019 and prepared by Claron Consulting Pty Ltd;
- all additional documents supplied to the EPA in relation to the development, including the letter dated 18 July 2018 prepared by Claron Consulting Pty Ltd and the letter dated 17 January 2019 prepared by Ultramark Pty Ltd; and
- all additional documents supplied to the EPA in relation to the modification application (DA-263/2018/a).

Waste

2. The amount of waste received at the Premises cannot exceed 95,000 tonnes in any 12 month period.
3. The types of waste permitted to be received at the premises include:

Code	Waste	Description	Activity	Other Limits
NA	Building & demolition waste	As defined in the Protection of the Environment Operations Act (as in force from time to time)	Resource recovery Waste storage	
NA	Virgin excavated natural material	As defined in the Protection of the Environment Operations Act (as in force from time to time)	Resource recovery Waste storage	
NA	Garden waste	As defined in the Protection of the Environment Operations Act (as in force from time to time)	Resource recovery Waste storage	No more than 2,000 tonnes may be received in any 12 month period. No more than 30 tonnes permitted onsite at any one time.

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4. All waste handling, loading, unloading and processing must be undertaken inside a fully enclosed building.

5. All waste storage must occur in designated bays that are covered with a permanent awning. *Note: The Air Quality Impact Assessment dated February 2018 states, "A Colorbond skillion roof to cover the five (5) stockpile bins" will be installed.*

6. Putrescible waste must not be received or processed at the Premises.

Air quality

7. Water sprinklers and/or misting sprays in the enclosed building must be utilised at all times when plant is operational.

8. Water sprinklers and/or misting sprays must be installed in the outside undercover storage area and operated to prevent dust generation and wind erosion of stored material.

9. Crushing and screening must not be undertaken when any doors, including the roller doors, are open with the exception of one roller door permitted to be open for 3 minutes out of a 15 minute period to permit ingress or egress of a truck.

10. The crushing machine must be operated with a sprinkler system.

11. All roads and carparking areas at the Premises must be sealed with concrete or asphalt.

12. All operating, storage, unloading and loading areas must be sealed with concrete or asphalt.

13. All operations and activities occurring at the premises must be carried out in a manner that prevents and minimises the emission of air pollutants from the Premises.

14. The premises must be maintained in a manner that prevents and minimises the emission of air pollutants.

15. The licensee must ensure no visible dust leaves the Premises.

16. The licensee must ensure that no material including sediment is tracked from the Premises.

17. Air Quality Management Plan: The proponent must develop and implement an air quality management plan prior to the commencement of project operations. The air quality management plan must include both proactive and reactive management measures. As a minimum, the air quality management plan must include the following parts:

- Key performance indicator(s);
- Monitoring method(s);
- Location, frequency and duration of monitoring;
- Record keeping;
- Response mechanisms; and
- Compliance reporting.

Management measures must include:

- a protocol for managing unsuitable material. including contaminated material. setting out the method for storage, the maximum amount stored at any one time, the maximum time for storage, and the measures to ensure these limits are met; and
- a protocol for ensuring odour emissions from green waste stored on-site is minimised including limits on the amount stored, the length of time material is stored, and the means for meeting these limits.

Water

18. Stormwater and leachate management at the Premises should be undertaken in accordance with the "Stormwater Water Management Plan & Report" dated 17 January 2019 and prepared by Ultramark Pty Ltd, and as amended by the letter from Ultramark Pty Ltd dated 24 September 2019 (Job No: 2017-01).

19. Leachate (whether treated or untreated) at the Premises may not be used for dust suppression without written permission from the NSW EPA.

Hours of operation

20. Construction works must only be undertaken:

a. between the hours of 7:00am and 6:00pm Monday to Friday;
b. between the hours of 8:00am and 1:00pm on Saturdays; and
c. at no time on Sundays or public holidays.

21. Operational activities at the Premises may only be carried out between the following hours:

a. 7:00am to 6:00pm Monday to Friday;
b. between the hours of 7:00am and 5:00pm on Saturdays; and
c. At no time on Sundays or public holidays.

Noise

22. All the noise control measures set out in section 7.3 of the report titled, "Noise Impact Assessment for AMJ Demolition and Excavation, 55 Martin Road, Badgerys Creek" dated 2 September 2019 prepared by Benbow Environmental must be implemented at the facility.

23. All doors, including the roller doors, must be closed while the crushing/sorting/screening plant is operating and trucks are being loaded and unloaded, with the exception of one roller door permitted to be open for 3 minutes out of a 15 minute period to permit ingress or egress of a truck.

24. The following conditions related to noise as set out below must be complied with.

L6.1 Noise generated at the premises must not exceed the noise limits in the Table below.

TABLE 1 - NOISE LIMITS IN dB(A)

Location	Lot and DP number	NOISE LIMITS dB(A)
		Day

		LAeq (15 minute)
40 Martin Road, Badgerys Creek	Lot 7 DP 226448	42
65 Martin Road, Badgerys Creek	Lot 36 DP 3050	42
75 Lawson Road, Badgerys Creek	Lot 5 DP 3050	42
55 Lawson Road, Badgerys Creek	Lot 1 DP 1084967	42

L6.2 For the purposes of condition L6.1:

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.

L6.3 The noise limits set out in condition L6.1 apply under all meteorological conditions except for the following:

a) Wind speeds greater than 0.5 metres/second at 10 metres above ground level.

L6.4 For the purposes of condition L6.3:

a) Data recorded by a Bureau of Meteorology meteorological station at Badgerys Creek must be used to determine meteorological conditions.

L6.5 To determine compliance:

a) with the Leq(15 minute) noise limits in condition L6.1, the noise measurement equipment must be located:

- approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
- within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable
- within approximately 50 metres of the boundary of a National Park or a Nature Reserve.

b) with the noise limits in condition L6.1, the noise measurement equipment must be located:

- at the most affected point at a location where there is no dwelling at the location; or
- at the most affected point within an area at a location prescribed by condition L6.5(a).

L6.6 A non-compliance of condition L6.1 will still occur where noise generated from the premises in excess of the appropriate limit is measured:

- at a location other than an area prescribed by conditions L6.5(a) and L6.5(b); and/or
- at a point other than the most affected point at a location.

L6.7 For the purposes of determining the noise generated at the premises the modification factors in Fact Sheet C of the Noise Policy for Industry must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

M8 Requirement to Monitor Noise

M8.1 Compliance with Condition L6.1 must be assessed by attended noise monitoring in accordance with condition L6.5:

a) at each one of the locations listed in Condition L6.1;
b) occur at the time of commencement of typical processing activity;
c) occur during the day as defined in the Noise Policy for Industry for a minimum of:
    - 30 minutes of duration in the day period for typical processing activity.

Reporting Conditions

R4 Noise Monitoring Report

A noise compliance assessment report must be submitted to the EPA within 60 days of the commencement of operation. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:

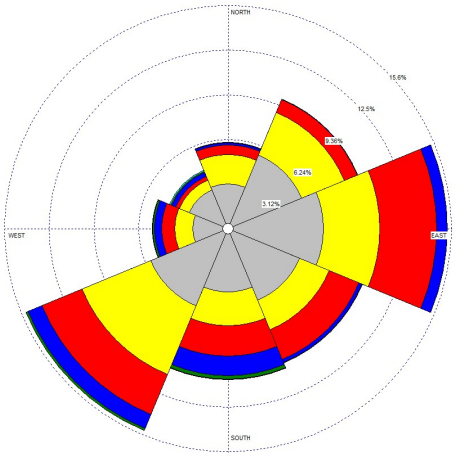
a) an assessment of compliance with noise limits presented in Condition L6.1; and
b) an outline of any management actions taken within the monitoring period to address any exceedances of the limits contained in Condition L6.1.

Additions to Definition of Terms of the licence

- Noise Policy for Industry - the document entitled "Noise Policy for Industry" published by the Environment Protection Authority in October 2017."
- Noise – 'sound pressure levels' for the purposes of conditions L6.1 to L6.7.

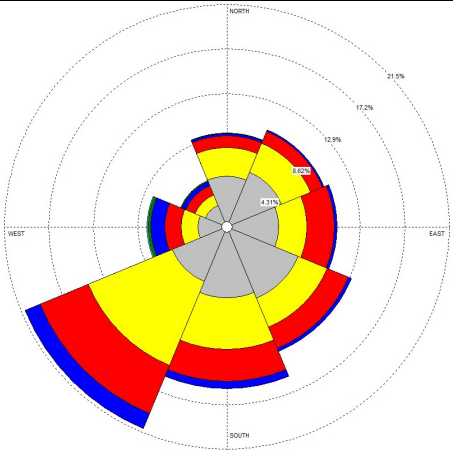
Attachment 2: Comparison of Annual Average Windroses From Badgerys Creek AWS Meteorological Data From 2012, 2014-2017

2023



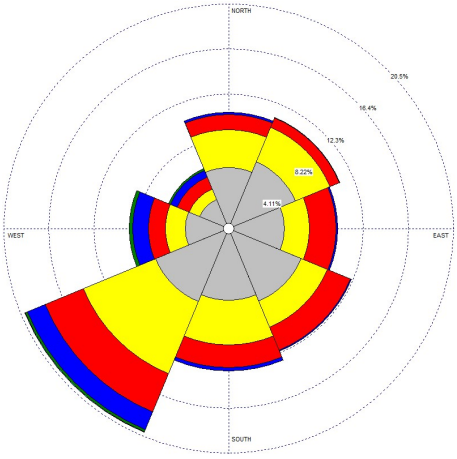
Average Wind Speed: 2.43 m/s
Calms Frequency: 7.63%
Axis Frequencies: : 3.12%, 6.24%, 9.36%, 12.5%, 15.6%

2022



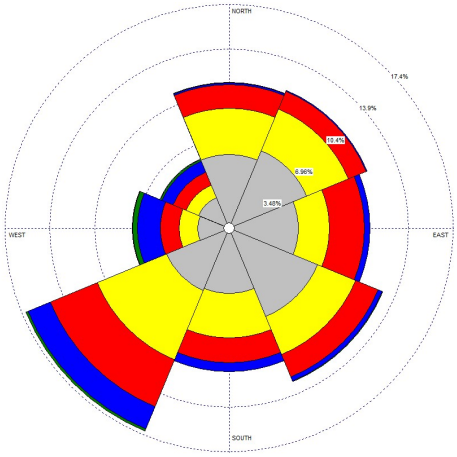
Average Wind Speed: 2.47 m/s
Calms Frequency: 7.62%
Axis Frequencies: 4.31%, 8.62%, 12.9%, 17.2%, 21.5%

2021



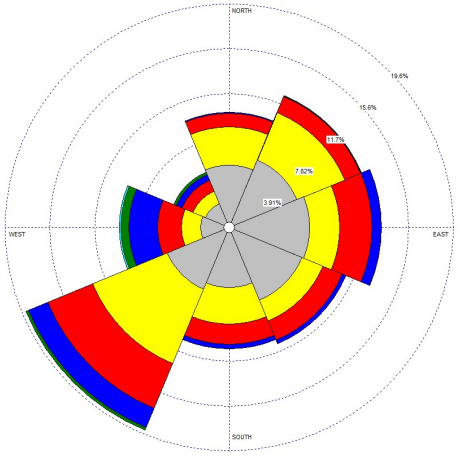
Average Wind Speed: 2.36 m/s
Calms Frequency: 7.98%
Axis Frequencies: 4.11%, 8.22%, 12.3%, 16.4%, 20.5%

2020



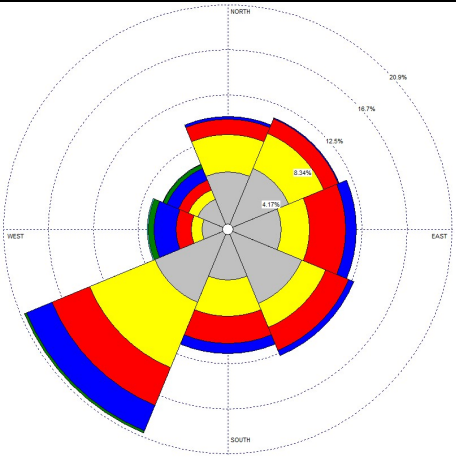
Average Wind Speed: 2.41 m/s
Calms Frequency: 11.69%
Axis Frequencies: 3.48%, 6.96%, 10.4%, 13.9%, 17.4%

2019



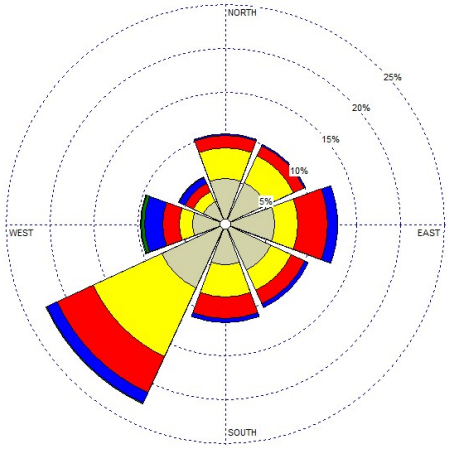
Average Wind Speed: 2.54 m/s
Calms Frequency: 8.55%
Axis Frequencies: 3.91%, 7.82%, 11.7%, 15.6%, 19.6%

2018



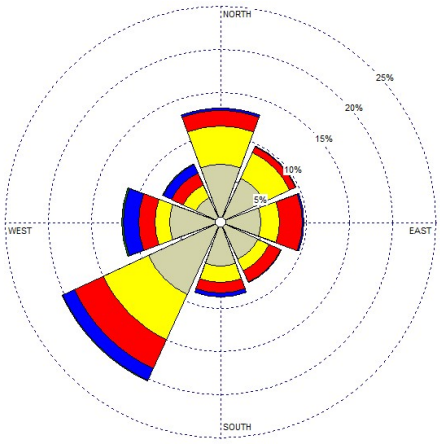
Average Wind Speed: 2.65 m/s
Calms Frequency: 7.42%
Axis Frequencies: 4.7%, 8.34%, 12.5%, 16.7%, 20.9%

2017



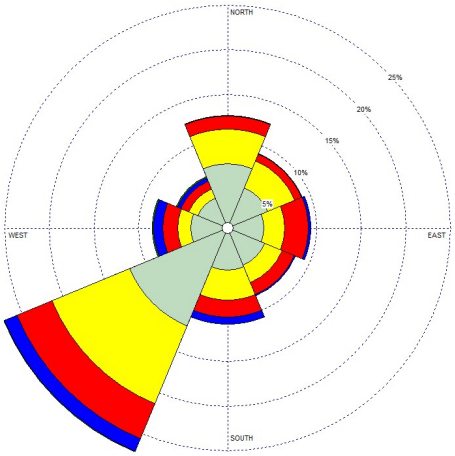
Average Wind Speed: 2.54 m/s
Calms Frequency: 7.12%
Axis Frequencies: : 5%, 10%, 15%, 20%, 25%

2016



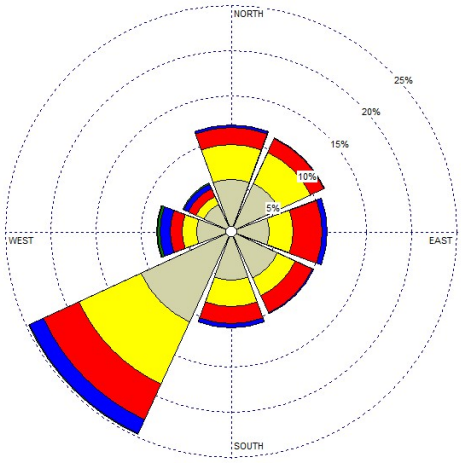
Average Wind Speed: 2.39 m/s
Calms Frequency: 5.67%
Axis Frequencies: 5%, 10%, 15%, 20%, 25%

2015



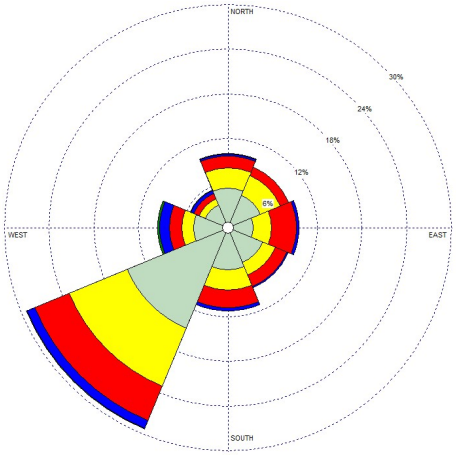
Average Wind Speed: 2.34 m/s
Calms Frequency: 7.06%
Axis Frequencies: 5%, 10%, 15%, 20%, 25%

2014



Average Wind Speed: 2.44 m/s
Calms Frequency: 6.10%
Axis Frequencies: : 5%, 10%, 15%, 20%, 25%

2012



Average Wind Speed: 2.34 m/s
Calms Frequency: 7.55%
Axis Frequencies: 6%, 12%, 18%, 24%, 30%