PLANNING REPORT & STATEMENT OF ENVIRONMENTAL EFFECTS

Industrial factory, warehouse and office – LDP/LLDP plastic film recycling facility

24 McLaurin Road, Ettamogah NSW (Lot 7 DP1276039)

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EXECUTIVE SUMMARY

This development application is for a plastic recycling facility in Albury/Wodonga at the 'NEXUS' Ettamogah Industrial Precinct located approximately 10 kilometres to the north of Albury in NSW.

The facility will improve Australia's local closed-loop solutions for the recycling and remanufacturing of low-density polyethylene (LDPE) or linear low-density polyethylene (LLDPE) plastic film waste.

The facility aims to divert up to 15,000 tonnes of LDPE/LLDPE film from landfill per year.

Following a Meeting of the Environment Ministers in 2018, the state, territory and federal governments agreed to all four of *Australia's 2025 National Packaging Targets*[1] –

> *The four targets, to be achieved by 2025, are:*
> - *100% reusable, recyclable or compostable packaging*
> - *70% of plastic packaging being recycled or composted*
> - *50% of average recycled content included in packaging*
> - *The phase out of problematic and unnecessary single-use plastics packaging.*

This agreement has provided a clear mandate to deliver a new, sustainable path for packaging. Achieving these targets requires the collaboration of stakeholders involved in designing, managing and governing the packaging supply chain in Australia.

Recycled content has the potential to unlock countless opportunities for change within Australia's packaging industry. Targets for recycled content are set to increase to 50% with further targets for each material stream. The volume of plastics is growing in total packaging given their low cost, light weight and versatility in meeting diverse requirements.

Locally sourcing, recycling and manufacturing LDPE/LLDPE plastic film means that Australia will have a part self-sustaining recycling stream rather than relying on exporting waste overseas only to import recycled materials later. It will also result in job creation.

The facility will generate 30 employment opportunities and will support multiple local and regional electrical, plumbing and fitter and turner trade contractors. In addition, approximately 100 temporary employment opportunities will be required during the estimated 12-month construction and plant commissioning period, with site and building construction work costs estimated at approximately $20.1M and plant and equipment costs estimated at approximately a further $26.3M.

The project has the support of the Federal Government and has received a $13.9M grant from the *Modern Manufacturing Initiative – Recycling & Clean Energy*.[2]

The facility will create environmental, financial and social benefits that will not only serve the local and regional community but also wider Australia and Australians for generations to come.

[1] https://www.packagingcovenant.org.au/who-we-are/australias-2025-national-packaging-targets

[2] https://business.gov.au/grants-and-programs/mmi-manufacturing-integration-stream-recycling-and-clean-energy-round-2/grant-recipients

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1.0 INTRODUCTION

1.1 Purpose of report

The purpose of this report is to provide information in accordance with the *Environmental Planning and Assessment Act 1979* (EP&A Act), the *Environmental Planning and Assessment Regulation 2021* (EP&A Regs), and relevant land use and development policies and guidelines to inform the statutory development application and development assessment process.

More specifically, this report has been prepared in accordance with clause 24(1) of the EP&A Regs and is to be included in a development application (DA) to the Albury City Council (Council) and the Southern Regional Planning Panel (SRPP) seeking development consent.

Firstly, this report discusses the location of the proposed development and then an overview of surrounding land uses is provided. The statutory town planning development assessment framework applicable to the land and the development is then introduced, followed by a description of the land and the development. Then assessment responses to relevant land use and development planning polices and guidelines is provided followed by a Statement of Environmental Effects (SEE) and a section summarising information set out in this report.

1.2 The Proposal

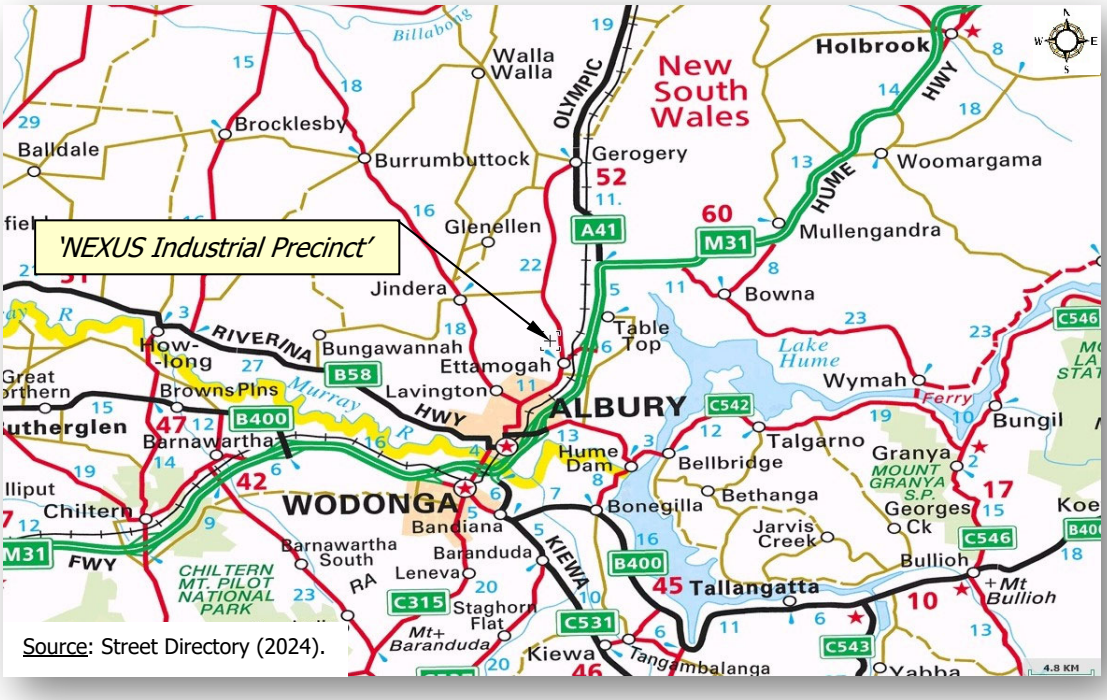
This DA, in general terms, is for construction of an industrial factory, warehouse and offices for a low-density polyethylene (LDPE) and linear low-density polyethylene (LLDPE) plastic film recycling facility (the Proposal). The Proposal is more fully described at **Section 3.0** and is shown in the **attached** DA concept plans (DA plan set).

1.3 The Site

The land is located at 24 McLaurin Road, Ettamogah NSW in the 'NEXUS Industrial Precinct'[3] (NEXUS) which is situated to the north of the cities of Albury (NSW) and Wodonga (Vic) as shown in **Figure 1**, and is otherwise known as Lot 7 DP1276039 (the Site). A location map of the Site is shown at **Figure 1** and an aerial photograph is shown at **Figure 2**. Title details of the Site are shown in **Appendix A**.

[3] https://www.nexusalbury.com.au

Figure 1: Regional location of the 'NEXUS Industrial Precinct'



Source: Street Directory (2024).

NEXUS is accessed via Gerogery Road via Wagga Road and the Hume Highway and is located approximately 7 kilometres to the northeast of the Lavington CBD (a suburb of Albury) or 5-7 minutes' driving time.

A description of the Site and a description of surrounding land use and development context is provided at **Section 2.0**.

1.4 The Landowner

The current owner of the Site is Albury City Council ABN 92 965 474 349 (the Council).

1.5 The Proponent

The proposed owner of the Site is Kin Group Pty Ltd ABN 11 095 313 714 (the Proponent) and the proposed occupier of the Site is Pro Pac Group Pty Ltd[4,5] ABN 50 095 393 776. The Proponent proposes to purchase the Site from the Council.

[4] https://www.ppgaust.com.au

[5] https://www.asx.com.au/markets/company/ppg

1.6 Background

1.6.1 Waste reduction and plastic recycling policy

The Proposal is the result of Federal and State government policy aimed at increasing the recycling of plastic waste in Australia. Specifically, at State government level, the *NSW Waste Avoidance and Resource Recovery Strategy 2014–21* (EPA, 2014) (WARR Strategy) provides the following context (p. Foreword) –

> NSW has a proud history of recycling; indeed, recycling rates in NSW have never been higher. We are, however, generating more waste than ever before. This places increased pressure on our environment to not only absorb disposed waste, but also to provide more natural resources for new materials. Government, businesses, households and communities will need to continue to work together to identify opportunities for waste reduction and resource recovery in all areas of our lives.
>
> The *NSW Waste Avoidance and Resource Recovery Strategy 2014–21* provides a clear framework for waste management over the next seven years and aligns with the NSW Government's waste reforms in *NSW 2021: A plan to make NSW number one*. The key result areas identified in the WARR Strategy will support investment in much-needed infrastructure, encourage innovation and improve recycling behaviour. They will also promote the development of new markets for recycled materials and reduce litter and illegal dumping. Support from the Government for the waste management industry and councils will in turn create more jobs and build better communities.
>
> Businesses and community groups are encouraged to continue to draw upon the NSW Government's $465.7 million *Waste Less, Recycle More*[6] initiative, which has already supported significant new recycling and waste infrastructure, litter programs and illegal dumping strategies across the state.

More specifically, the objectives and targets of the WARR Strategy relating to plastic recycling include (p. iii) –

> ***Avoid and reduce waste generation***
> By 2021–22, reduce the rate of waste generation per capita.
>
> ***Increase recycling***
> By 2021–22, increase recycling rates for:
> - municipal solid waste from 52% (in 2010–11) to 70%,
> - commercial and industrial waste from 57% (in 2010–11) to 70%,
> - construction and demolition waste from 75% (in 2010–11) to 80%.
>
> ***Divert more waste from landfill***
> By 2021–22, increase the waste diverted from landfill from 63% (in 2010–11) to 75%.

[6] https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/waste-less-recycle-more

1.6.2 Media releases

The Proposal has been the subject of a media release on 12 April 2024 –

> **LEADING SOFT PLASTICS RECYCLING PLANT TO BE BUILT IN ALBURY**
>
> Albury Council's Nexus industrial precinct at Ettamogah is quickly becoming a recycling hub as another $50+ million plastic recycling plant has been flagged to join the area.
>
> ASX-listed Pro-Pac Packaging Group is leading the project and is seeking development approval in conjunction with Kin Group, who is taking on the role of landowner and site developer. The development application was lodged today.
>
> The facility is designed to process up to 15,000 tonnes annually of soft plastic waste such as pallet and silage wrap. The output of the plant will be high-quality recycled resin capable of going back into the same product applications creating a truly circular economy for soft plastics.
>
> The proposed facility site is co-located alongside the Circular Plastics Australia plastic recycling facility which produces recycled PET. It will expand the technology and capability of the precinct to create a world-class circular economy hub for plastics.
>
> Pro-Pac Group CEO and Managing Director, John Cerini, says the facility is critical to meet the 2025 National Packaging Targets.
>
> "*This project is the next step in Pro-Pac's commitment to playing a leading role in the circular economy and being a steward of the products it produces. We know Albury City Council shares our view that there is a real imperative to drive packaging sustainability, and we look forward to working with the team over the coming years.*"
>
> The federal Department of Industry, Science and Resources is also supporting the project through a $13.9 million Modern Manufacturing Initiative grant.

1.6.3 NEXUS Industrial Precinct

The Invest Albury Wodonga website[7] provides the following information about NEXUS –

> *NEXUS is a 450 hectare industrial precinct zoned to support large or heavy industrial development.*
>
> ***Competitive Advantage***
> - *75% of Australian population can be serviced by next day delivery.*
> - *Common user rail hub operating on site.*
> - *Suitable for 24/7 operations.*
> - *Existing industrial base with specialisations in manufacturing, transport and logistics.*

[7] https://www.investalburywodonga.com.au/commercial-real-estate/nexus

- *Customisable land options to suit all development needs.*
- *Businesses benefit from access to domestic and international markets through existing transport infrastructure, including the Hume Freeway with easy access via the Davey Road and Thurgoona Drive interchanges.*
- *Albury Airport is just 12km from the NEXUS precinct offering up to 180 flights per week to Melbourne and Sydney, serviced by three commercial carriers.*

Further information is provided at **Section 1.7.2**.

1.6.4 Pre-DA lodgement consultation

Consultation with Albury City Council (senior staff) and the Environment Protection Authority (EPA) took place on 4 March 2024 to discuss the Proposal in general and the preliminary results of the draft air quality impact assessment report and the draft trade waste discharge to sewer estimate, with comments provided by the EPA and Council incorporated into the final Air Quality Impact Assessment report provided at **Appendix C** and the Process Water and Trade Waste Treatment System report provided at **Appendix D**.

<u>Figure 2</u>: Aerial photograph of the Site and surrounding area

1.7 Statutory development assessment framework

1.7.1 Legislation

Environmental Planning and Assessment Act 1979

Part 4 of the EP&A Act applies to the Proposal.

Pursuant to section 4.10 of the EP&A Act, the Proposal is not identified as "designated development" as processing of plastic waste would be less than 30,000 tonnes per annum consistent with 'waste management facilities or works' clause 45(2)(b)(iii) of Part 2 of Schedule 3 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regs). For completeness it is confirmed that the location of the Proposal within the Site is not located within –

- 100 metres of a "natural waterbody"[8] (with reference to the existing intermittent creek adjoining the Site to the west as documented in the survey plan in the DA plan set) as referred to in clause 45(4)(a) of Part 2 and defined in the Dictionary of the *Standard Instrument—Principal Local Environmental Plan*, or
- a "floodplain"[9] as referred to in clause 45(4)(a) of Part 2 and defined in 'definitions' clause 1 of Part 1 of Schedule 3 of the EP&A Regs. (The fact that the Site is not located on a "floodplain" should not be confused with the fact that the Site is currently located within a "flood planning area". This issue is discussed at **Section 4.5**.)

Pursuant to section 4.46 of the EP&A Act, the Proposal is identified as "integrated development" as an Environment Protection Licence (EPL) is required for the Proposal under sections 43(a), 47 and 55 of the *Protection of the Environment Operations Act 1997* (POEO Act) in regard to 'resource recovery'[10] clause 34 of Part 1 of Schedule 1 of the POEO Act as the Proposal involves processing more than 12,000 tonnes of plastic waste per year (up to 15,000 tonnes per year). For completeness, it is noted that the other relevant threshold of having on site at any time more than 2,500 tonnes of plastic waste is not relevant to the Proposal (approximately 600 tonnes).

Pursuant to section 4.5(b) of the EP&A Act and section 2.19(1) and schedule 6 of *State Environmental Planning Policy (Planning Systems) 2021*, the Proposal is identified as 'regionally significant development' for the following reasons –

---

[8] **waterbody (natural)** or **natural waterbody** means a natural body of water, whether perennial or intermittent, fresh, brackish or saline, the course of which may have been artificially modified or diverted onto a new course, and includes a river, creek, stream, lake, lagoon, natural wetland, estuary, bay, inlet or tidal waters (including the sea).

[9] **floodplain** means—
(a) the floodplain level nominated in a local environmental plan, or
(b) if no level has been nominated—the areas inundated as a result of a 1 in 100 flood event.

[10] **recovery of general waste**, meaning the receiving of waste (other than hazardous waste, restricted solid waste, liquid waste or special waste) from off site and its processing, otherwise than for the recovery of energy.

- the Proposal has an "estimated development cost" of more than $30 million ($42.1M),
- the Proposal has an "estimated development cost" of more than $5 million and –
  - a local government council (ACC) is the owner of the land comprising the Site at the time the DA is lodged, and
  - a local government council (ACC) is a party to an agreement or arrangement relating to the Proposal (a contract for the sale of land), and
- the Proposal has an "estimated development cost" of more than $5 million for "waste or resource management facilities" (refer to relevant definition provided at **Section 1.7.2**).

Therefore, the DA is required to be determined by a Regional Planning Panel (not the Council) – in this case the SRPP.

Environmental Planning and Assessment Regulation 2021

The Proposal is identified as "biodiversity compliant development" (within the meaning of section 28 of the EP&A Regs) as the *Albury Local Environmental Plan 2010* (LEP) is a "biodiversity certified EPI" (within the meaning of Part 8 of Schedule 7 of the *Threatened Species Conservation Act 1995*) and the Site is not an 'area excluded from biodiversity certification'.

State Environmental Planning Policy

The Proposal is affected by considerations within –
- *State Environmental Planning Policy (Industry and Employment) 2021*,
- *State Environmental Planning Policy (Resilience and Hazards) 2021*, and
- *State Environmental Planning Policy (Transport and Infrastructure) 2021*.

Local Environmental Plan

The Site is affected by considerations within the LEP.

1.7.2 Policy and guidelines

State Environmental Planning Policy

SEPP Industry and Employment

The following provisions of SEPP Industry and Employment are considered relevant to assessment of the business identification signage parts of the Proposal –
- Clause 3.1: *Aims, objectives etc*,
- Clause 3.4: *Signage to which this Chapter applies*,
- Clause 3.6: *Granting of consent to signage*, and
- Schedule 5: *Assessment criteria*.

An assessment table which lists relevant content of these provisions and detailed responses is provided at **Appendix G**.

SEPP Resilience and Hazards

The following provision of SEPP Resilience and Hazards is considered relevant to assessment of the dangerous goods, quantities, storage and transportation parts of the Proposal –

- Clause 3.7: *Consideration of Departmental guidelines*.

An assessment table which lists relevant content of this provision and detailed responses is provided at **Table 9** in context with the dangerous goods, quantities, storage and transportation screening thresholds assessment at **Appendix F**.

The following provision of SEPP Resilience and Hazards is also considered relevant to assessment of the potential for land contamination of the Site –

- Clause 4.6: *Contamination and remediation to be considered in determining development application*.

An assessment table which lists relevant content of this provision and detailed responses is provided at **Table 9**.

SEPP Transport and Infrastructure

The following provision of SEPP Transport and Infrastructure is considered relevant to assessment of the traffic engineering and safety parts of the Proposal –

- Clause 2.122: *Traffic-generating development*.

An assessment table which lists relevant content of this provision and detailed responses is provided at **Table 9** in context with the Traffic Impact Assessment report at **Appendix E**.

Local Environmental Plan

The following provisions of the LEP are considered relevant to assessment of the Proposal–

- Land Use Table – Zone SP4 Enterprise: *Objectives of zone*,
- Clause 7.1: *Earthworks*, and
- Clause 7.6: *Essential services*.

An assessment table which lists relevant content of these provisions and detailed responses is provided below at **Table 10**.

SEPP Industry and Employment definitions

For the purposes of this report the following definitions listed in section 3.2 of SEPP Industry and Employment are considered relevant with ~~strikethrough~~ shown for context to assist understanding about definitions or matters which are considered relevant and not relevant to the Proposal –

signage *means all signs, notices, ~~devices~~, representations and advertisements that advertise or promote any goods services ~~or events~~ and any structure or ~~vessel~~ that is principally designed for, or that is used for, the display of signage and includes—*
(a) ~~building identification signs~~, and
(b) business identification signs, and
(c) ~~advertisements to which Part 3.3 applies~~,
but does not include traffic signs or traffic control facilities.

advertising structure *means a structure or ~~vessel~~ that is principally designed for, or that is used for, the display of an advertisement.*

business identification sign *has the same meaning as in the Standard Instrument.*

business identification sign *means a sign—*
(a) that indicates—
(i) the name of the ~~person~~ or business, and
(ii) the nature of the business carried on ~~by the person~~ at the premises or place at which the sign is displayed, and
(b) that may include the address of the premises or place and a logo or other symbol that identifies the business,
but that does not contain any advertising relating to a person who does not carry on business at the premises or place.

LEP definitions

The Proposal, having regard to the information comprising the DA, is considered best characterised[11] as a "waste or resource management facility" defined in the Dictionary of the LEP as follows, with ~~strikethrough~~ shown for context to assist understanding about definitions or matters which are considered relevant and not relevant to the Proposal –

waste or resource management facility *means any of the following—*
(a) a resource recovery facility,
~~(b) a waste disposal facility,~~
~~(c) a waste or resource transfer station,~~
~~(d) a building or place that is a combination of any of the things referred to in paragraphs (a)–(c).~~

As can be seen, included within the definition of "waste or resource management facility" is a "resource recovery facility" which is defined in the Dictionary of the LEP as follows –

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

[11] *Planning Circular: PS 13-001 – How to characterise development* (Department of Planning & Infrastructure, 21 February 2013).

Land use zoning

The Site is zoned "SP4 Enterprise Zone" (SP4 zone) under the LEP, which is shown in the Land Zoning Map excerpt detailed below in **Figure 3**.

In the Land Use Table for the SP4 zone under the LEP a "waste or resource management facility" (including a "resource recovery facility") is 'permitted with consent'[12] meaning that development consent is required for the Proposal. Further comment is made at **Table 10**.

The SP4 zone and the Site is located within the Albury Regional Jobs Precinct[13] which is supported by the *Albury Regional Job Precinct Master Plan* (Regional Growth NSW Development Corporation, August 2023),[14] where the Site is identified as having a 'land use direction' of 'high impact industrial' as shown in **Figure 4**.

Heritage conservation and Aboriginal cultural heritage

The Site is not located within a heritage conservation area or known to be affected by a heritage item or a building, work, relic or tree within the meaning of clause 5.10 of the LEP.

It is noted that the whole of the Site (and adjoining land) benefits from Aboriginal Heritage Impact Permit No. C0002785 dated 19 June 2017 under section 90C(4) of the *National Parks and Wildlife Act 1974* which was issued to the Council.

Flood prone land

The Site is currently located within a "flood planning area" within the meaning of clause 5.21 of the LEP, however the Site will not be located within a "flood planning area" after Council completes flood levy bank works along the eastern side of the adjoining intermittent creek adjoining the Site. Further comment is made at **Section 4.5**.

Natural Resources Sensitivity

The Site is not located within a "sensitive area" within the meaning of clause 7.2 of the LEP.

River front area

The Site is not located within a "river front area" within the meaning of clause 7.5 of the LEP.

[12] Via the words "Any other development not specified in item 2 or 4."

[13] https://www.nsw.gov.au/regional-nsw/regional-business-and-economy-nsw/regional-job-precincts

[14] https://www.nsw.gov.au/regional-nsw/regional-business-and-economy-nsw/regional-job-precincts/albury-job-precinct

Bush fire prone land

The location of the Proposal within the Site is <u>not</u> located within "bush fire prone land" within the meaning of the EP&A Act.

<u>Figure 3</u>: Excerpt of LEP Land Zoning Map

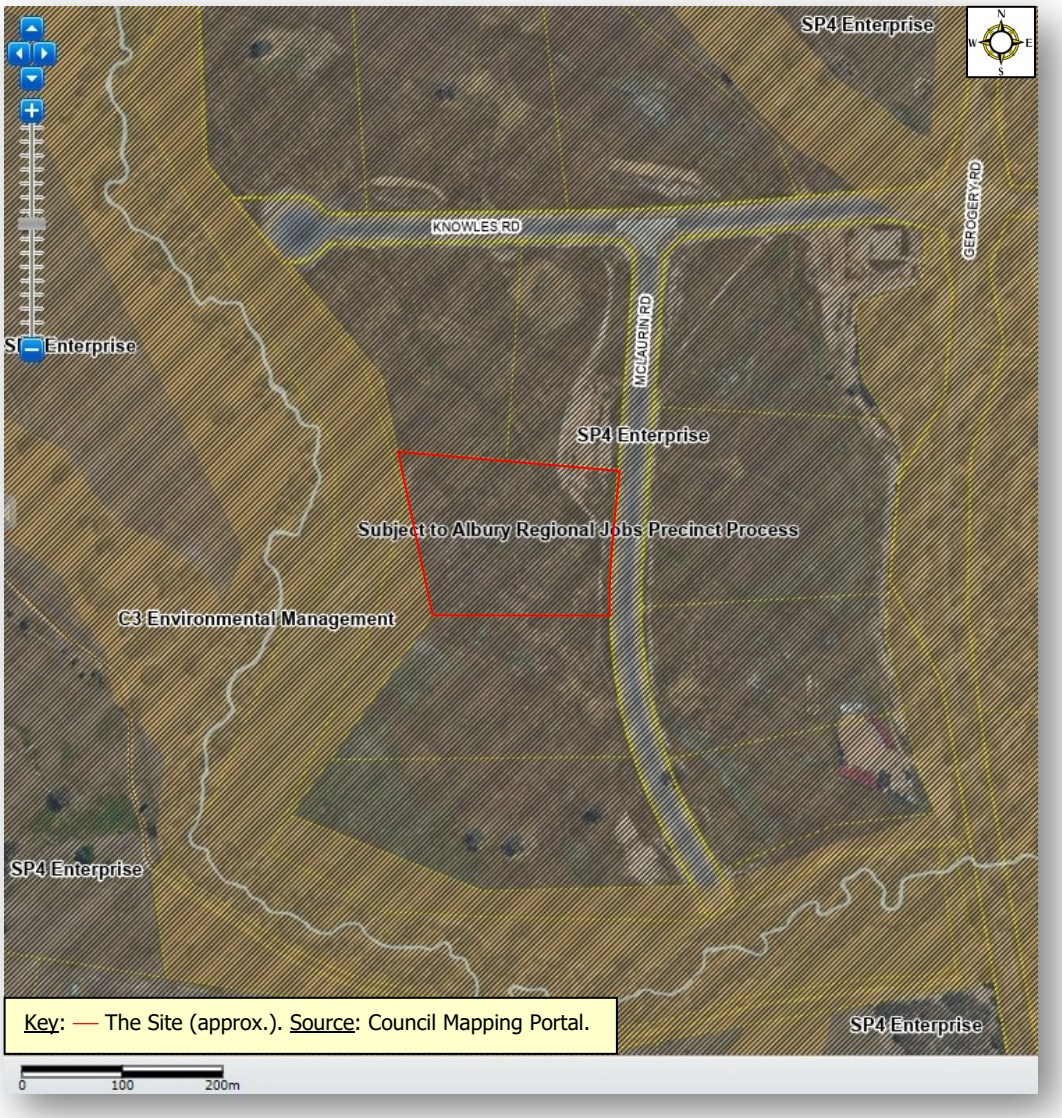
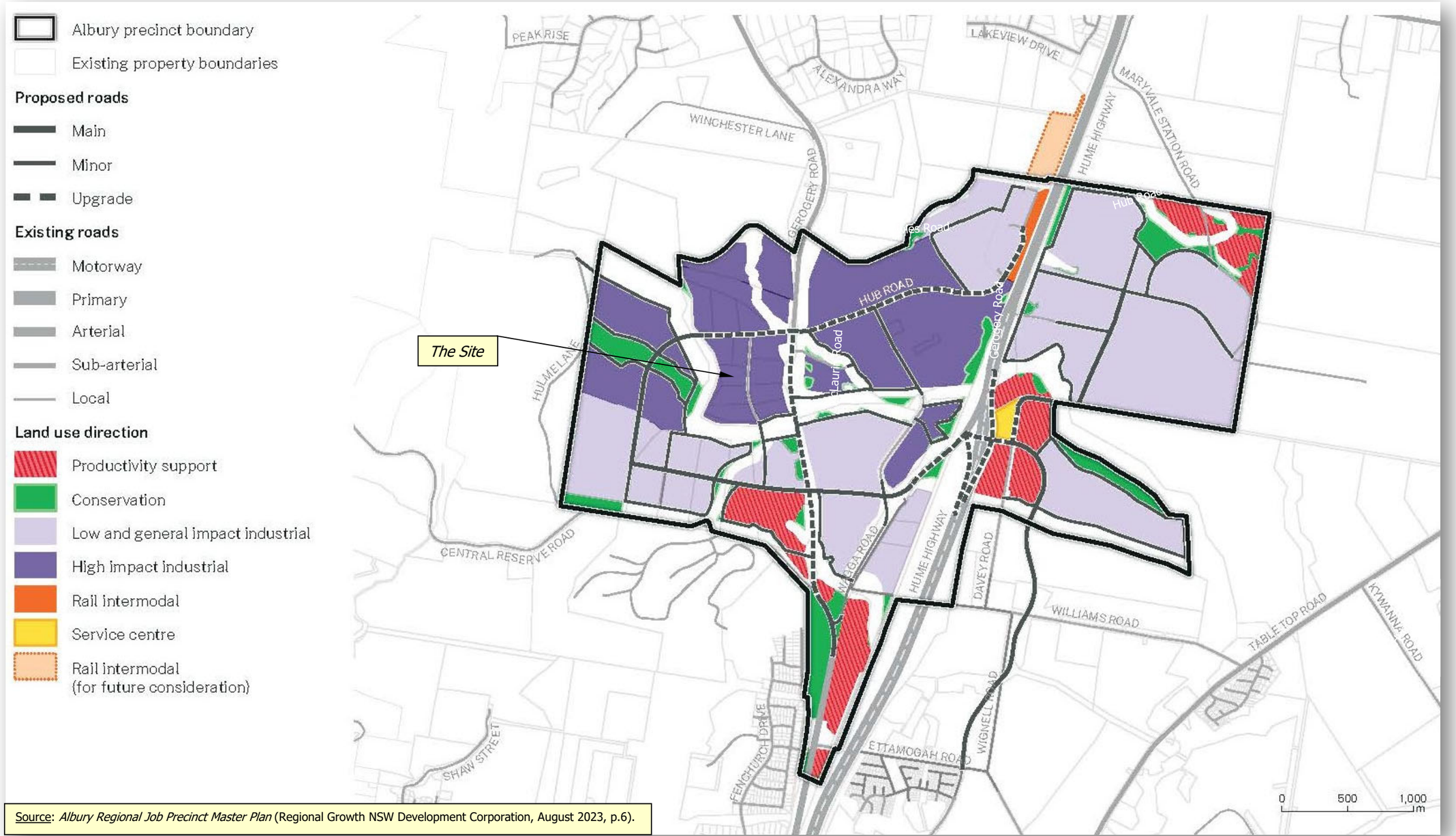


Figure 4: Albury Regional Job Precinct Master Plan



Source: *Albury Regional Job Precinct Master Plan* (Regional Growth NSW Development Corporation, August 2023, p.6).

Development Control Plan

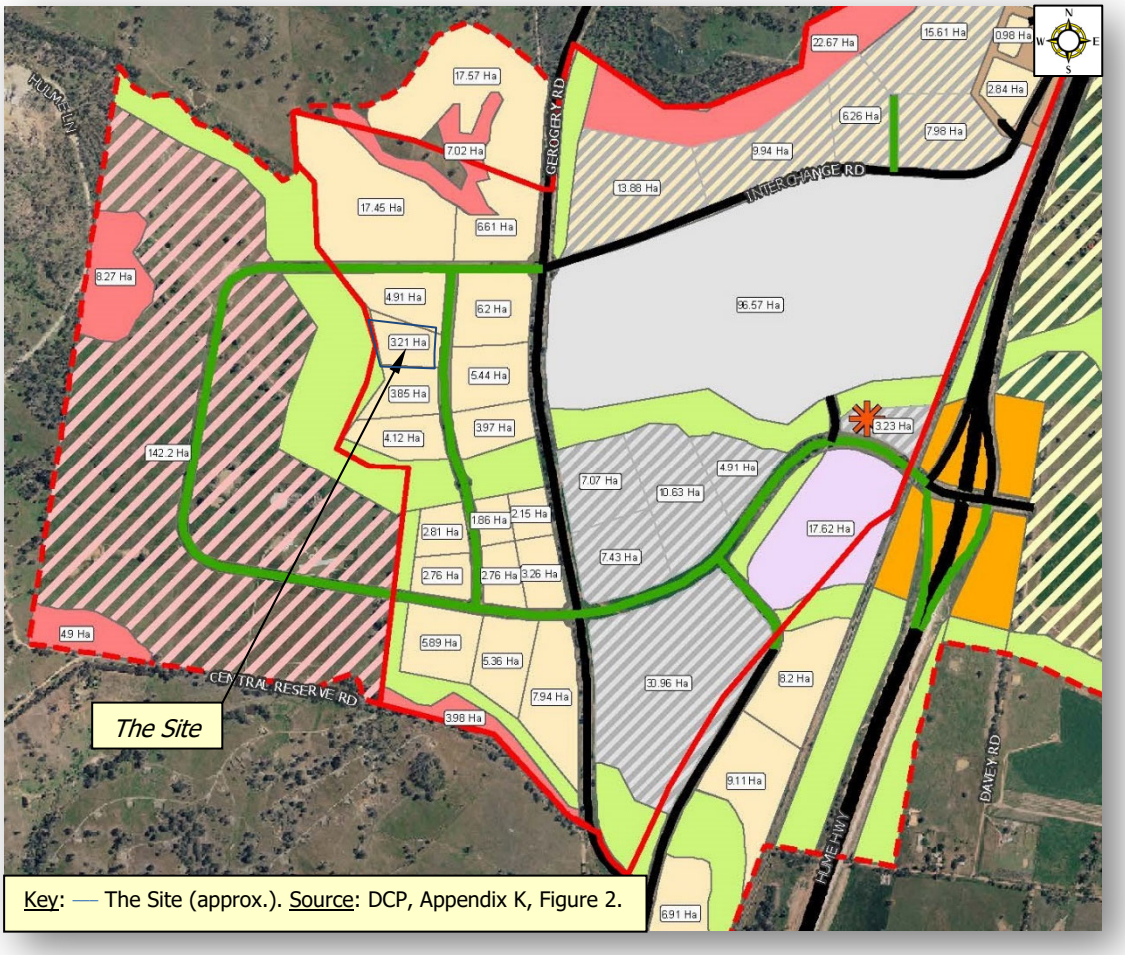
The Site is affected by the *Albury Development Control Pan 2010* (DCP) and the following provisions are considered relevant to assessment of the Proposal –

- Part 12: *Development in the Industrial Zones*,
- Part 16: *Outdoor Advertising*,
- Part 17: *Off Street Car Parking*, and
- Appendix K: *Albury Industrial Hub Masterplan*.

Similarly for provisions of the LEP, an assessment table which lists relevant content of these provisions and detailed responses, is provided below at **Table 11**.

With regard to the Albury Regional Jobs Precinct, Appendix K of the DCP also provides the *Albury Industrial Hub Masterplan* which is shown at **Figure 5** with the location of the Site shown for reference.

Figure 5: Excerpt of Albury Industrial Hub Masterplan from the DCP



Key: — The Site (approx.). Source: DCP, Appendix K, Figure 2.

2.0 SITE CONTEXT

2.1 Site location, surrounding development, built form, and existing character

The location of the Site was briefly described in **Section 1.3** and graphically in the location plan in **Figure 1** and the aerial photograph in **Figure 2**; however, more specifically, the Site is located in a 'greenfield' industrial area in the recently subdivided[15] 'NEXUS Industrial Precinct' at Ettamogah, with occupied industrial land adjoining the Site to the north at 10 McLaurin Road comprising the existing Circular Plastics Australia (CPA) facility[16] and vacant industrial land surrounding the Site to the northwest, south and east.

Other existing industrial land uses and activities are located adjoining or nearby NEXUS to the east (Visy Industries formally owned by Norske-Skog), northeast (Ettamogah Rail Hub), north (Rockwood Quarry), west-northwest (Burgess Quarry) and southeast (Overall Forge).

Whilst the NEXUS precinct is still developing, the existing built form and character of the area is heavily influenced by the visual presence of the Visy Industries industrial complex, and therefore the existing character of the area including the Site can be reasonably described as an 'existing and developing industrial area'.

Built form in the vicinity of the Site comprises one to three-storey industrial buildings consisting of detached development.

2.2 Future character

Given the location of the Site and adjoining land and their uses and development, it is expected that the future character of the area will gradually change more towards a consolidated industrial area in the short and medium-term, especially now that NEXUS has been further subdivided with additional lots currently on the market for sale[17].

It is noted that the *Rural Lands Strategy for Table Top and Splitters Creek 2015* (Planisphere, 2015) envisages an increase in population growth for the R5 Large Lot Residential Zone areas of Table Top located at the closest to the Site approximately 1.7-1.9 kilometres to the north over existing undulating terrain however these areas and NEXUS are located in clearly defined separate visual and view landscapes and therefore

[15] Development Consent No. 10.2019.368771.1 dated 28 September 2020 for a 12 lot industrial subdivision, including Lot 7 which comprises the Site.

[16] https://circularplasticsaustralia.com/our-projects/pet

[17] https://www.nexusalbury.com.au

do not have overlapping land use or development character elements. In this regard real estate marketing material for NEXUS[18] provides –

> ***Suitable for 24/7 operations****: NEXUS is located in a natural amphitheatre, providing both visual cover and a physical buffer from residential areas.*

The Traffic Impact Assessment report at **Appendix E** includes due consideration to traffic growth (industrial, residential as well as general though-traffic) when assessing the traffic impacts of the Proposal.

2.3 Site description

2.3.1 Cadastre and topography

The Site is shown graphically in the Title survey plan at **Appendix A**, in the feature and level survey plan in the **attached** DA plan set, and in photographs at **Appendix B** (Site context descriptions provided).

The Site comprises one lot, has a general rectangular shape, an east-west axis, and has dimensions of approximately 146 metres along its eastern lot boundary with McLaurin Road, approximately 221 metres along its northern lot boundary with adjoining occupied industrial land, approximately 167 metres along its western lot boundary with adjoining reserve land and approximately 178 metres along its southern lot boundary with adjoining vacant industrial land, with an overall area of approximately 3 hectares.

The Site has an even slope of approximately 2.4% or 1.4° and a southeast aspect. Overall drainage influences are to the south. Part of the northern lot boundary with adjoining CPA Lot 8 is currently fenced.

2.3.2 Vehicle and pedestrian access

The Site has vehicle and pedestrian access from McLaurin Road.

2.3.3 Surrounding road network

The road network and traffic conditions surrounding the Site are described in the Traffic Impact Assessment report at **Appendix E** (pp. 3-5) as follows –

[18] https://www.investalburywodonga.com.au/commercial-real-estate/nexus (NEXUS. Planned for today. Prepared for tomorrow., p. 9).

Wagga Road

Wagga Road forms part of the former Hume Highway route. It currently runs from the "Fiveways" intersection with Union Road and Mate Street in Lavington, northwards past Gerogery Road to the Hume Highway at the Davey Road interchange. Wagga Road is the responsibility of Albury City Council. With limited direct property access, and approval as a B-Double route, Wagga Road prioritises through-movement over access.

In the vicinity of Gerogery Road, Wagga Road is a two-lane, two-way rural sealed road. With a variable road reserve width (minimum 70m), Wagga Road has two 3.5m wide travel lanes with 1.5m-2.0m wide sealed shoulders. Grassed verges on either side contain table drains for conveying stormwater runoff, as well as a mixture of native and introduced vegetation. Street lighting is present only at key intersections. The speed limit along Wagga Road near the intersection with Gerogery Road is 80 km/h.

Gerogery Road

Gerogery Road forms part of the former Olympic Way route. It currently runs from Wagga Road at Ettamogah, northwards past the Nexus Industrial Precinct to the town of Gerogery where it meets the Olympic Highway. Gerogery Road in the vicinity of the site is the responsibility of Albury City Council. With limited direct property access, and having approval for B-Doubles to travel from Wagga Road to the Nexus Industrial Estate, Gerogery Road prioritises through-movement over access.

In the vicinity of the site, Gerogery Road is a two-lane, two-way rural sealed road. With a variable road reserve width (minimum 30m), Gerogery Road has two 3.5m wide travel lanes with sealed shoulders of varying width (typically 0.5-1.0m). Verges on either side contain table drains for conveying stormwater runoff, with mature native vegetation present within the road reserve. Street lighting along the route is currently limited to major intersections. The speed limit from Wagga Road to Knowles Road is 80km/h, while north of Knowles Road the speed limit is 100km/h.

Knowles Road and McLaurin Road

McLaurin Road and Knowles Road are both located in the Nexus Industrial Precinct. McLaurin Road runs south from its intersection with Knowles Road for a distance of approximately 700m before terminating in a dead end. Knowles Road runs west from its intersection with Gerogery Road for a distance of approximately 600m before terminating in a circular cul-de-sac.

Knowles Road and McLaurin Road are the responsibility of Albury City Council. Both roads balance through movement with property access.

In the vicinity of the site, McLaurin Road and Knowles Road are two-lane, two-way sealed roads. Both have carriageways defined by upright kerb and gutter, with a carriageway width of 12.0m (comprising a 3.5m through lane and 2.5m parking lane in each direction). Street lighting and overhead power lines are present on both roads. No speed zone signage is in place, and hence the speed limit is the default urban speed limit of 50km/h.

2.3.4 Existing improvements

The Site comprises vacant industrial land with no built improvements.

2.3.5 Easements, covenants and restrictions

The Title survey plans at **Appendix A** show that the Site has infrastructure easements but no rights-of-way within the meaning of the *Conveyancing Act 1919.* The easements relate to sewer along part of the Site's northern lot boundary and all of its eastern lot boundary and an easement for stormwater along part of its northern lot boundary. The Site has a covenant relating to reticulated water supply, industrial wastewater treatment, stormwater detention and stormwater treatment. The Proposal has given due consideration to these matters.

2.3.6 Reticulated services

The Site is currently connected to reticulated water, sewer, stormwater, electricity (three-phase), natural gas and telecommunications (NBN cable and wireless) services.

2.3.7 Vegetation

The Site contains mown exotic grass vegetation only.

2.3.8 Environmental investigations

Previous investigations of the Site and adjoining land carried out as a part of Development Application numbers 10.2015.34157.1 and 10.2019.36877.1 revealed that the Site has no potential land contamination issues, and therefore no land contamination investigations have been carried out as a part of this DA.

2.3.9 Site analysis

A feature and level survey plan is provided in the **attached** DA plan set.

<u>Available reticulated services and infrastructure</u>

NEXUS is serviced with the following reticulated services and infrastructure of adequate capacity to service the Site –

- water,
- sewer,
- stormwater,
- electricity (three-phase)[19],
- telecommunications (NBN cable and wireless), and
- natural gas.

NEXUS is serviced with sealed public roads. All roads which externally service NEXUS are approved B-double heavy vehicle routes. NEXUS has access to and from the Hume Highway at the following locations –

- to and from the north and south via the Wagga Road/Davey Road on and off ramps (located approximately 3.7 road kilometres from NEXUS), and
- to and from the north and south via the Thurgoona Drive on and off ramps (located approximately 5.8 road kilometres from NEXUS).

Infrastructure project/s which will be of benefit to the Proposal

Essential Energy is currently investigating the upgrade of reticulated electrical capacity to support the full development of the NEXUS Industrial Estate.

Site analysis opportunities and constraints

The following site analysis opportunities and constraints have been identified (listed in no particular order) –

Opportunities

- 24/7 operations in a dedicated industrial estate,
- good heavy vehicle access to the local and regional road network, including north and south on and off ramps to the Hume Highway at the Wagga Road/Davey Road diamond interchange,
- all standard industrial reticulated services available and with adequate capacity (notwithstanding above comments regarding required electrical capacity upgrades),
- relatively flat land with 2/3% slope with southeast aspect, which facilitates site stormwater and sewer gravity drainage,
- wide frontage lot facilitates heavy vehicle ingress and egress and therefore site development layout and design efficiencies,
- no 'sensitive receivers' located nearby which may limit operations of the Project,
- the Site has no biodiversity constraints[20] or Aboriginal cultural heritage constraints[21],
- the Site is not identified or known to be affected[22] by any of the following issues –

[19] It is noted that electrical kW capacity is limited to NEXUS an upgrade work is required.

[20] Any development of the Site is identified as "biodiversity compliant development" (within the meaning of Schedule 1 of the EP&A Regs) as the LEP is a "biodiversity certified EPI" (within the meaning of Part 8 of Schedule 7 of the repealed *Threatened Species Conservation Act 1995*) and the Site is not an 'area excluded from biodiversity certification'.

[21] The whole of the Site benefits from Aboriginal Heritage Impact Permit No. C0002785 dated 19 June 2017 under section 90C(4) of the *National Parks and Wildlife Act 1974*.

[22] Through previous environmental studies, including the *Albury Land Use Strategy* (GHD, 2007) and *Albury Industrial Hub Master Plan* (AECOM, 2010).

- high watertable, highly permeable soils, acid sulphate, sodic or saline soils,
- biodiversity flora or fauna significance,
- land slip or instability, mine or natural subsidence,
- land contamination,
- flooding (refer to **Section 4.5**), springs, seepages, bogs or wetlands,
- bushfire prone land, or
- any other known risk.

Constraints

- the 2/3% slope of the land will necessitate bulk earthworks to a certain extent depending upon chosen site layout and design, which is more costly than if the land were flat, and therefore retaining wall construction is reasonably expected, and
- despite current Council land use planning strategy to provide strategic stormwater detention basins for residential growth areas based on catchments[23], Council has not elected to do the same for its own industrial estate subdivision/development – instead stormwater detention is required to be provided by and on each lot, which is inconsistent with Council's requirements for private subdivision developers, which represents an inconsistent approach and a significant land area consumption and civil construction cost impact.

2.3.10 Adjoining or nearby sensitive receivers

The initial feasibility investigations for the Proposal focussed on the locations and the nature of adjoining or nearby sensitive receivers owing to the potential for adverse amenity impacts to arise from operations of the Proposal, including air quality (odour and air emissions) and noise (general industrial operations and traffic generation).

The Air Quality Impact Assessment report at **Appendix C** contains a map (p. 2) showing the locations and nature of adjoining or nearby sensitive receivers which is reproduced at **Figure 6** and **Table 1**.

The closest residential sensitive receiver is dwelling number SR4 located approximately 845 metres to the west-northwest of the Site at its closest points (the western lot boundary of the Site and the eastern building wall of the dwelling).

[23] *Thurgoona Wirlinga Drainage Strategy* (Spiire, April 2020).

Figure 6: Locations of sensitive receivers

Table 1: Reference list of sensitive receivers

Sensitive receiver	Description
IN1	Commercial (Visy Industries)[24]
IN2	Commercial (Overall Forge)
NSR1	Commercial (Twin Cities Model Aero Club)
NSR2	Commercial (Albury-Wodonga Clay Target Club)[25]
NSR3	Commercial (Ettamogah Rail Hub)[26]
Q1	Burgess Quarry
Q2A/Q2B	Rockwood Quarry[27]
SR1	Residential[28]
SR2	Residential
SR3	Residential
SR4	Residential
SR5	Residential
SR6	Residential[29]
SR7	Residential[30]
SR8	Future residential[31]
SR9	Residential

2.4 The design response and concept

The design response and concept for the Proposal has generated following a thorough site analysis and investigation process: A process which has assisted design principals to comprehensively understand the nature of the Site and the general area, and to provide a design response which responds to the land use and development policies and guidelines detailed in this report and its appendices.

[24] In the same ownership with SR7.

[25] Currently ceased operations.

[26] In the same ownership with SR6.

[27] In the same ownership with SR1.

[28] In the same ownership with Q2A/Q2B.

[29] In the same ownership with NSR3.

[30] In the same ownership with IN1.

[31] The nearest residential subdivision lot to the Site that is approved under current Development Consent No. 10.2012.32005.7.

3.0 THE PROPOSAL

3.1 Industrial process description

The operations of the Proposal are described in the industrial process description prepared by the Proponent at **Appendix H**. This description should be read in conjunction with the industrial process flow diagrams at **Figure 7**.

3.2 Building and site construction works

The building and site construction works comprising the Proposal include construction of an industrial factory and warehouse with ancillary administration offices, including vehicle manoeuvring areas, carpark area, storage areas, business identification signs and landscaping works, as summarised in **Table 2**.

Table 2: Building floor type and area summary

Type	***Parameter***	***Area (m^2)***	
		Item	***Total***
"Resource recovery facility"	Factory and warehouse gross floor area (GFA)	6,544*	**6,949***
	Office (GFA)	405	

Note: *including plant rooms and other areas used exclusively for mechanical services which are normally excluded from GFA calculations[32].

Building construction works are characteristic of large-format industrial development bulk, scale and form being a two-storey building with a long at-grade factory and warehouse floor run. The basic length, width, and height of the factory and warehouse building is approximately 75m by 87m by 12.8m. The attached 'office and administration' building has an overall length, width and height of approximately 38m by 12m by 4.8m.

[32] The Traffic Impact Assessment report at **Appendix E** uses GFA as properly defined.

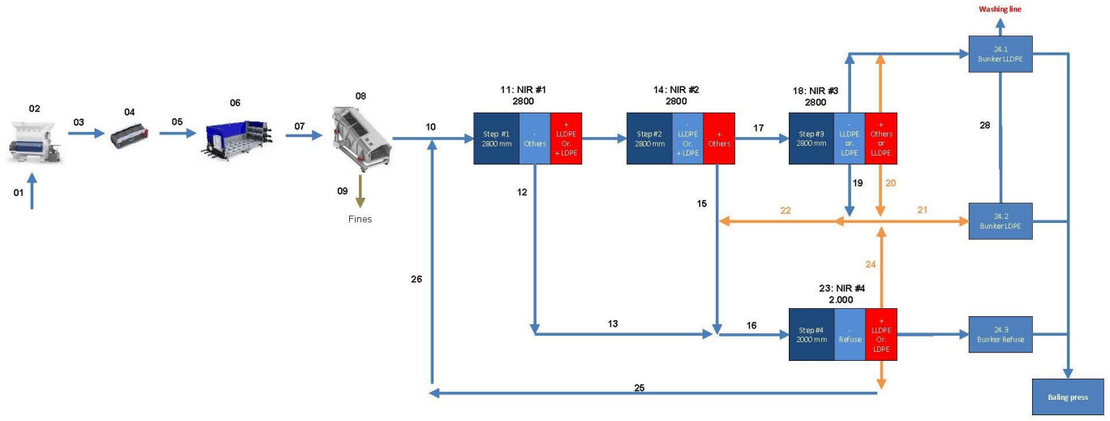
Figure 7: Industrial process flow diagrams

Sorting line

LINDNER WASHTECH

Customer:	Pact Group
Material:	Post-commercial film 98/2 , 95/5
Input capacity:	2.000 - 2.500 kg/h

01: Feeding conveyor	04: Overbelt magnet	07: Conveyor	10: Conveyor – Target Fraction	13: Conveyor - Optical 1 – Refuse 2	16: Conveyor refuse/Colour	19: Conveyor. Neg. NIR 3	22: Conveyor – Transfer NIR 3	25: conveyor – Recirc Transfer 1	27.2: Bunker LPDE
02: Bale opener	05: Conveyor	08: Vibration screen	11: NIR 1 pos. LDPE & LLDPE	14:NIR 2 pos. refuse/colour	17: conveyor	20: Conveyor. Pos. NIR 3	23: NIR 4 (Recovery) LDPE or LLDPE	26: conveyor – Recirc Transfer 2	27.3: Bunker Refuse
03: Discharge belt conveyor	06: Bunker	09: Conveyor – Fines	12: Conveyor – Optical 1 - Refuse	15: Conveyor refuse/ colour	18: NIR 3: pos. trans LLDPE or others	21: Conveyor – Recirc or NIR 4	24: Conveyor – Recirc or LDPE Bunker	27.1: Bunker LLPDE	28: Conveyor – Washing line

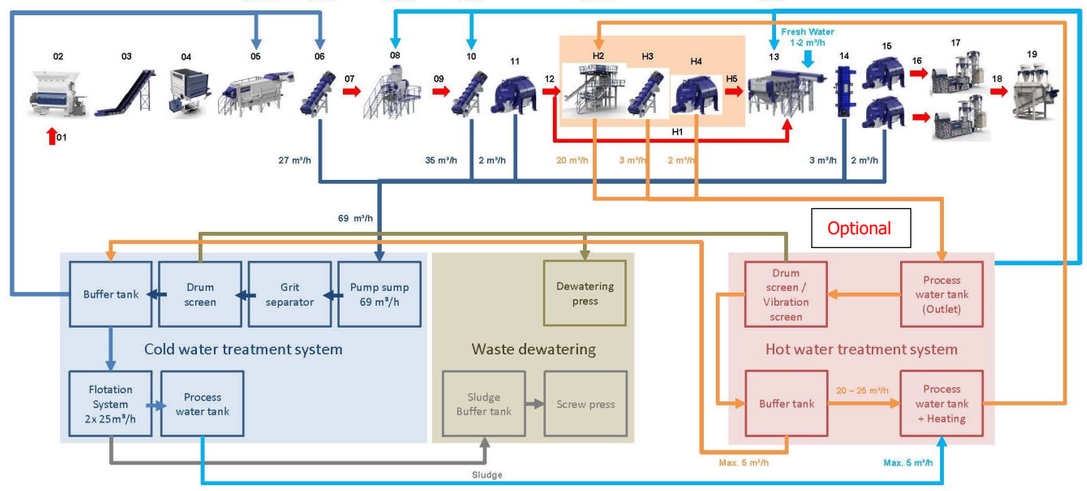


Washing line

LINDNER WASHTECH

Customer:	Pact Group	**Total cold water amount:**	69 m³/h
Material:	Pre-sorted Post-commercial LDPE/LLDPE film	**Chemical water amount:**	2x 25 m³/h
Throughput:	1.200 – 1.500 kg/h	**Fresh water amount:**	1-2 m³/h

01: Pit chain	03: Discharge belt	05: Pre-washing	07: Transport screw	09:Transport screw	11: mech. Dryer	13:Separation tank	15: 2x Mechanical dryer	17: Thermal drying	19: Bunker	H2: Hot wash tower	H3: : Mech. Dryer	
03: Shredder	04: Silo 21 m³	06: Friction washer	08: Wet granulator	10: Friction washer	12: Air blower	14: Pre-dryer	16: Air blower	18: Air blower	H1: By pass hot wash	H5: Friction washer	H4: Air blower	



The **attached** building elevation plans show that building cladding materials are proposed to be a mix of coloured Colorbond and aluminium metal cladding and painted precast concrete panels. The office and administration part of the building is designed with feature articulation and finishes with cladding materials and colours representative of industrial innovation themes which is embodied in the design of the Proposal.

The **attached** building roof plan shows that all enclosed and unenclosed building areas have Zincalume metal roofing.

The following summarises key building and site development features –

- Building and building entry frontages are oriented east toward McLaurin Road, with street lot boundary setbacks of 10.0m and 22.1m. Lot boundary setbacks to the north are 18.3m.
- Two open-sided canopies for goods collection, wastewater treatment and storage and feed material processing.
- A viewing platform of the factory and warehouse floor at first-floor level is provided with the intention of hosting school, university and special interest group visitor tours and education programs, which would be periodic but infrequent.
- A 32 space ground-level carpark via a separate vehicle crossover to/from McLaurin Road and a separate pedestrian accessway for staff and visitors.
- Retaining wall, batter and landscaping works in accordance with the **attached** DA plan set, with –
  - one retaining wall varying in height from 0.23-1.4m, and
  - maximum 1:3 batters.

3.2.1 Bulk earthworks

The civil engineering cut/fill plan in the **attached** DA plan set shows bulk earthworks and materials required to implement the Proposal. The plan indicates that cut for a volume of 12,366m^3 and fill for a volume of 5,300m^3 – necessitating that 7,066m^3 of earth and building construction materials be imported to the Site. The areas of greatest cut are from the central-northwest and central-west areas of the Site (excluding the stormwater detention basin area) and the areas of greatest fill are in the central-east areas of the Site, which corresponds to the pre-development southeast aspect of the Site. Several batters and retaining wall works are required to provide required finished driveway, floor, car parking, landscaping and stormwater gravity drainage levels. Earthworks have been minimised through concept and detailed civil engineering design investigations supported by detailed feature and level survey and geotechnical work.

3.2.2 Vehicle manoeuvring area and car parking works

Vehicle manoeuvring area and car parking works are shown in the **attached** DA plan set and in **Table 3** and comprise –

- concrete sealed and drained heavy vehicle manoeuvring and temporary parking and loading/unloading areas,

- asphalt sealed and drained staff and visitor passenger vehicle car parking area

Table 3: Carpark summary

Parameter	***Spaces***
Vehicle parking spaces, including 2 disabled	32
Bicycle rack spaces	5

The carpark includes the following design features –
- overall layout and design in accordance with AS2890.1, AS2890.2, and AS2890.6,
- connecting pedestrian safe zone footpath thoroughfare from McLaurin Road to the main building entranceway, including 'way finding' business identification signage and landscaping tree and shrub planting theme,
- shade tree landscaping approximately every 5 car parking spaces,
- stormwater collection, detention, and discharge quality control system, and
- landscaping and building perimeter security lighting sited and designed in accordance with Safer-by-Design principles (refer to **Section 4.4** for further comment).

3.2.3 Plastic waste storage and management

A 'feed material' LDPE/LLDPE plastic film waste bale storage area is proposed to be located internally within the building as shown in the **attached** DA plan set. This combined area will contain approximately 14 days' supply of bale material for the purposes of acting as a 'buffer' from supply chains. Fugitive plastic debris will be controlled through all storage, most handling and all processing being enclosed within the building.

14 days' supply of bale material approximately equates to –
- 600 tonnes of material (i.e. 15,000 tonnes per annum divided by 50 weeks of operation = 300 tonnes per week or 60 tonnes per day) or 1,500 bales (i.e. 600 tonnes divided by 400kg per $1m^3$ bale), and
- each delivered material bale is approximately $1m^3$ and the storage area has a maximum stack height of 4 bales or 4m high (assuming the bale is $1m^3$ square).

However, bale supply chains may provide bales of varying lengths and widths[33] and so bale numbers and tonnages may vary.

The proposed waste material bale storage area has been the subject of specialist fire engineering advice and its layout, design and dimensions comply with permitted storage

[33] Bale weight may vary from 350-650kg with an average weight of 400kg and dimensions may vary from 1,400-1,850mm x 1,050-1,200mm x 700-850mm with an average volume of $1m^3$.

area length, width, height, volume and stack pile angles and separation distances and fire prevention and mitigation measures to 'Acceptable Solution' standards in accordance with the *Fire Safety Guideline – Fire Safety in Waste Facilities* (Version 02.02, Fire and Rescue NSW, 2020)[34].

The bale storage areas are fully enclosed within the building. Perimeter fencing has been implemented for the purposes of minimising windblown and forklift wheel tracked debris escape from the Site.

3.2.4 Stormwater management and rainwater reuse

Stormwater management works include –

- a pit and pipe collection system from all roof and impermeable surfaces,
- overland flow paths to carry major stormwater runoff through the Site,
- a 685m^3 stormwater detention basin, with water quality filter system and gross pollutants traps;
- two 60,000L rainwater reuse tanks (total 120,000L) sized as per the water balance calculations for reuse, with overflow to the stormwater detention basin,

as shown and described in the **attached** DA plans.

3.2.5 Business identification signage

Business identification signage comprising flush wall signs to the north and east building elevations and one free-standing pole or pylon sign are proposed. All signs would be externally illuminated.

The proposed signs are shown and described in **Table 4** and in the **attached** DA plan set as 'Signs No. 1-4'.

[34] https://www.fire.nsw.gov.au/gallery/files/pdf/guidelines/guidelines_fire_safety_in_waste_facilities.pdf

Table 4: Signage summary

Sign No.	***Sign description***	***Sign dimensions***		
		Height (m)	***Width (m)***	***Area (m^2)***
1	Free-standing pylon sign - Business identification signage panel (McLaurin Road)	4.5	1.2	5.4
2	Way finding sign	2.1	0.8	1.7
3	Flush wall sign - Business identification signage panel (north building elevation)	3.0	8.0	24
4	Flush wall sign - Business identification signage panel (north building elevation)	1.0	2.5	2.5

3.3 Operational parameters

Table 5 provides a summary of the operational parameters of the Proposal during construction and **Table 6** and **Table 7** provide a summary of the operational parameters of the Proposal during operation.

Table 5: Operational parameters of the Proposal during construction

Parameter	***Response***
• Days and hours of construction:	in accordance with *AS 2436:2010–Guide to noise control on construction, maintenance and demolition sites*, namely 7:00am to 7:00pm, Monday to Saturday (excluding public holidays)
• Traffic management:	in accordance with a Traffic Management Plan (TMP) for each stage of construction as relevant
• Car parking:	some onsite car parking provided in the 'construction zone'; temporary displacement of public car parking along McLaurin Road during the various stages of construction
• Loading/ unloading:	onsite loading/unloading provided in the 'construction zone' and along McLaurin Road frontages in accordance with the relevant TMP
• Waste management:	waste is stored in dedicated containers within the 'construction zone' and collected by licensed contractors for offsite disposal

Parameter	***Response***
• Safety and security:	relevant WH&S and WorkCover standards and guidelines; hoardings along road frontages designed to facilitate safe pedestrian movement
• Lighting:	standard security lighting
• Plant and machinery:	standard building industry construction equipment
• Noise, dust, and vibration:	standard building industry construction equipment; construction carried out in accordance with *AS2436:2010–Guide to noise control on construction, maintenance and demolition sites*
• Stormwater:	construction works carried out in accordance with – ➢ *The Blue Book–Managing Urban Stormwater: Soils and Construction* (Landcom, 2004); and ➢ *AS 2436:2010–Guide to noise control on construction, maintenance and demolition sites*. a Soil and Water Management Plan will be implemented during construction works.
• Visual:	hoardings and security fencing erected along all construction area boundaries

Table 6: Operational parameters of the Proposal during operation

Parameter	***Response***
• Days and hours of operation:	24 hours/5 weekdays, except shut down for maintenance 2 weeks per year
• Car parking:	32 onsite car parking spaces, including 2 spaces for persons with disabilities
• Motorcycle parking:	provided in onsite car parking spaces
• Bicycle parking:	5 onsite bicycle parking spaces
• Loading/unloading:	onsite loading/unloading via separate McLaurin Road access
• Waste management:	waste is stored in containers within the separate loading/ unloading area and collected by licensed contractors for offsite disposal

Parameter	***Response***
• Safety and security:	complies with 'Safer-by-Design' principles, including: visual surveillance; 'non-concealment' building, car parking and landscaping design; and security lighting – refer to **Section 4.4** below
• Lighting:	standard security lighting
• Plant and machinery:	4 forklifts for unloading/loading vehicles; standard air conditioning, ventilation, and air and water pressure pump equipment
• Noise and vibration:	standard air conditioning and ventilation equipment; days and hours of operation 24 hours/5 weekdays, except shut down for maintenance 2 weeks per year (refer above)
• Services and easements:	all reticulated services are available
• Signage:	as shown on the **attached** DA plan set
• Visual:	high quality external building cladding materials and colours and signage

Table 7: Staff shift arrangements

Position	Location	Shift	Total	8am-5pm	7am-2pm	2pm-10pm	10pm-7am
Shift leader	Factory	Yes	3		**1**	**1**	**1**
Operator sort & wash	Factory	Yes	6		**2**	**2**	**2**
Operator extrusion	Factory	Yes	3		**1**	**1**	**1**
Forklift driver	Factory	Yes	6		**2**	**2**	**2**
Maintenance (fitter & electrician)	Factory	Yes	6		**2**	**2**	**2**
Plant manager	Office	No	1	**1**			
Quality control	Lab	No	1	**1**			
Administration	Office	No	1	**1**			
Accounts clerk	Office	No	1	**1**			
Logistics manager	Office	No	1	**1**			
Area supervisor	Office	No	1	**1**			
Maintenance engineer	Workshop	No	1	**1**			
Temp staff/hot desks	Office	No	2	**2**			
			33	**9**	**8**	**8**	**8**

Notes –

- *Production* –
  - Sorting/washing (Lindner): Run 24/5, starting Monday morning and finishing Saturday morning (3 shifts) stopping during some public holidays.
  - Extrusion (Starlinger): Run 24/5, starting Monday morning and finishing Saturday morning (3 shifts) stopping during some public holidays..
- *Delivery* – Delivery of LDPE/LLDPE plastic film waste and collection of product, Monday to Friday, excluding public holidays, from 6am to 5pm.
- *Office* – Monday to Friday, excluding public holidays.
- *Maintenance* – Maintenance carried out on weekends, with full shutdowns twice per year for a week each time.

3.4 Development guideline variations

Variations to the following development guidelines are proposed as alternative solutions to relevant requirements of the DCP pursuant to section 4.15(3A)(b) of the EP&A Act.

Table 8: Development guideline variation summary

DCP		***Alternative solution***	***Justification of alterative solution*** [35]
Part	***Guideline***		
DCP Part 12.3.4: Landscaping	*viii. Where a development will provide more than 10 parking spaces in any one area, advanced trees are to be planted (at the top corner of the space) at the rate of one tree every third car space.*	Advanced trees are proposed to be planted at a rate of approximately 1 tree every 3-5 spacesconsistent with earlier guideline (v) rather than on a per car space basis.	Refer to **Table 11**
DCP Part 12.3.5: Impacts on Adjoining Land	*i. Development in the Industrial Zones is to have regard to the following matters relating to adjoining land:*	Zincalume is proposed for roof building areas only.	Refer to **Table 11**

[35] In the context of section 4.15(3A)(b) of the EP&A Act –
(3A) If a development control plan contains provisions that relate to the development that is the subject of a development application, the consent authority—
(b) if those provisions set standards with respect to an aspect of the development and the development application does not comply with those standards—is to be flexible in applying those provisions and allow reasonable alternative solutions that achieve the objects of those standards for dealing with that aspect of the development,…

DCP		***Alternative solution***	***Justification of alterative solution*** [35]
Part	***Guideline***		
	• *The development is not to incorporate the use of highly reflective building materials such as zincalume, aluminium and galvanised iron.*		
DCP Appendix K: Albury Industrial Hub Master Plan - Site Planning - Site Coverage	• *Car parking, water tanks, structures and storage areas are not permitted within front setback areas.*	The staff and visitor carpark and part of a storage area is proposed forward of the McLaurin Road building line.	Refer to **Table 11**

4.0 PLANNING ASSESSMENT MATTERS

4.1 State environmental planning policy

Table 9: Assessment Matters – State environmental planning policy

	Response
SEPP Industry and Employment	
Clause 3.1: Aims, objectives etc	Refer to **Appendix G**.
Clause 3.4: Signage to which this Chapter applies	
Clause 3.6: Granting of consent to signage	
Schedule 5: Assessment criteria	
SEPP Resilience and Hazards	
Clause 3.7: Consideration of Departmental guidelines	
In determining whether a development is— *(a) a hazardous storage establishment, hazardous industry or other potentially hazardous industry, or*	Complies – The assessment carried out at **Appendix F** contains tables of all dangerous goods and quantities and their relevant storage and transportation screening thresholds for the Proposal

(b) an offensive storage establishment, offensive industry or other potentially offensive industry, *consideration must be given to current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development.*	and determines that no dangerous good storage or transportation screening threshold will be exceeded under *Applying SEPP 33: Hazardous and Offensive Development Application Guideline* (DUAP, 1994) and therefore the Proposal is not considered hazardous or potentially hazardous and a therefore a preliminary hazard analysis (PHA) is not required to be submitted with the DA.
Clause 4.6: Contamination and remediation to be considered in determining development application	
(1) A consent authority must not consent to the carrying out of any development on land unless—	
(a) it has considered whether the land is contaminated, and	Having regard to previous Council reports[36] regarding the Site and adjoining land in NEXUS and *Managing Land Contamination: Planning Guidelines* (DUAP & EPA, 1998)) which requires that consideration be given to whether or not land proposed to be developed is contaminated and fit for use for its intended purpose, the Proposal is considered to comply with relevant considerations including in relation to relevant considerations under Part 6.3 and Appendix J of the DCP. It is noted that the Site and none of its previous uses are identified under clause 4.6(4) of SEPP Resilience and Hazards or in Table 1 of *Managing Land Contamination: Planning Guidelines* (DUAP & EPA, 1998) and therefore a preliminary investigation of the Site is not required under clause 4.6(2) of SEPP Resilience and Hazards.

[36] Development Consent No. 10.2015.34157.1 dated 30 March 2016 for an 11 englobo lot industrial subdivision and Development Consent No. 10.2019.368771.1 dated 28 September 2020 for a 12 lot industrial subdivision.

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and	Not relevant to the Site.
(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.	Not relevant to the Site.
(2) Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subsection (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.	Not relevant to the Site (refer below).
(3) The applicant for development consent must carry out the investigation required by subclause (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.	
(4) The land concerned is—	
(a) land that is within an investigation area,	Not relevant to the Site.
(b) land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out,	Not relevant to the Site.

(c) to the extent to which it is proposed to carry out development on it for residential, educational, recreational or child care purposes, or for the purposes of a hospital—land—	Not relevant to the Proposal.
(i) in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and	
(ii) on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge).	
SEPP Transport and Infrastructure	
Clause 2.122: Traffic-generating development	
(1) This clause applies to development specified in Column 1 of the Table to Schedule 3 that involves –	
(a) new premises of the relevant size or capacity, or	Relevant as the Proposal is specified in Column 1 of the Table to Schedule 3 of SEPP Transport and Infrastructure.
(b) an enlargement or extension of existing premises, being an alteration or addition of the relevant size or capacity.	Not relevant to the Proposal.
(3) Before determining a development application for development to which this clause applies, the consent authority must –	

(a) give written notice of the application to the RMS within 7 days after the application is made, and	…
(b) take into consideration –	
(i) any submission that the RMS provides in response to that notice within 21 days after the notice was given (unless, before the 21 days have passed, the RMS advises that it will not be making a submission), and	…
(ii) the accessibility of the site concerned, including –	
(A) the efficiency of movement of people and freight to and from the site and the extent of multi-purpose trips, and	Complies – Refer to the Traffic Impact Assessment report at **Appendix E** and the **attached** DA plan set.
(B) the potential to minimise the need for travel by car and to maximise movement of freight in containers or bulk freight by rail, and	Complies – In regard to the potential to minimise the need for travel to and from the Site by car, whilst bicycle and motorcycle spaces are provided for staff and visitors onsite, the Site does not benefit from any existing public bus or dedicated walking or bicycle path network servicing the Site at present. In regard to the potential to maximise movement of freight in containers or bulk freight by rail, the Proposal only proposes heavy vehicle road transport to import and export waste and products from the Site at present, however the proximity of the 'Ettamogah Rail Hub' to the Site may facilitate the use of rail for waste and product movements in the future.
(iii) any potential traffic safety, road congestion or parking implications of the development.	Complies – Refer to the Traffic Impact Assessment report at **Appendix E** and the **attached** DA plan set.

4.2 Local environmental plan

Table 10: Assessment Matters – Local environmental plan

	Response
LEP Land Use Table – Zone SP4 Enterprise: Objectives of zone	
• *To provide for development and land uses that support enterprise and productivity.*	Complies – The Proposal is an industrial and warehouse land use for a plastic recycling enterprise which will fill a productivity need for addressing waste plastic film.
• *To provide for development and land uses that encourage regional enterprise and innovation in industry and environmental management.*	
• *To effectively manage land uses of varying intensities or environmental sensitivities, and to minimise the risk of conflict associated with incompatible land uses.*	Complies – The Proposal will have acceptable adverse effects to the sensitive receivers identified in **Figure 6** due to the significant existing buffer distances of NEXUS. Such buffer distances nullify or minimise adverse effects such as noise from industry and traffic generation and air quality (odour and emissions).
• *To facilitate industries that contribute to and benefit from being close to major freight transport networks.*	Complies – The Site is located in close proximity to transport infrastructure, including the Gerogery Road, Wagga Road and the Hume Highway.
• *To encourage the development of innovative circular economy resource and waste management.*	Complies – The Proposal is an industrial and warehouse land use for plastic film recycling.

• *To protect and enhance the unique qualities and character of the Albury Regional Jobs Precinct.*	Complies – The Proposal will provide approximately 100 temporary jobs during construction and 30 permanent jobs during operation. The economic multiplier-effects of the Proposal will also support many existing jobs in the waste collection, management and processing industry.
• *To support rural industries and service the broader urban and rural economy.*	The Proposal does not derogate this objective.
LEP Clause 7.1: Earthworks	
(1) The objectives of this clause are as follows:	
(a) to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land,	Earthworks which alter the ground level (existing) by more than 600mm will not have a detrimental impact on environmental functions and processes, neighbouring uses, items or features. The civil engineering cut/fill plan in the **attached** DA plan set shows bulk earthworks required to implement the Proposal. The plan indicates that cut for a volume of 12,366m^3 and fill for a volume of 5,300m^3 – necessitating that 7,066m^3 of earth and building construction materials be imported to the Site. The areas of greatest cut are from the central-northwest and central-west areas of the Site (excluding the stormwater detention basin area) and the areas of greatest fill are in the central-east areas of the Site, which corresponds to the pre-development southeast aspect of the Site. Several batters and retaining wall works are required to provide required finished driveway, floor, car parking, landscaping and stormwater gravity drainage levels. Earthworks have been minimised through concept and detailed civil engineering design investigations supported by detailed feature and level survey and geotechnical work.
(3) Before granting development consent for earthworks, the consent authority must consider the following matters:	

(a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality,	The civil engineering plans in the **attached** DA plan set show proposed stormwater drainage, stormwater detention, cut/fill, drainage catchment, and sediment and erosion control measures during construction works.
(b) the effect of the proposed development on the likely future use or redevelopment of the land,	
(c) the quality of the fill or the soil to be excavated, or both,	Cut/fill earthworks require that a base 7,066m^3 of fill be imported to the Site. Any material imported to the Site will be from approved sources or will comply with "virgin excavated natural material" (VENM) requirements under the *Protection of the Environment Operations Act 1997*.
(d) the effect of the proposed development on the existing and likely amenity of adjoining properties,	
(e) the source of any fill material and the destination of any excavated material,	The proposed earthworks will have sediment and erosion control measures during construction works and will implement dust control measures in accordance with standard construction industry practices.
(f) the likelihood of disturbing relics,	The Site is not located within a heritage conservation area or known to be affected by a heritage item, or a building, work, relic or tree within the meaning of clause 5.10 of the LEP. The whole of the Site (and adjoining land) benefits from Aboriginal Heritage Impact Permit No. C0002785 dated 19 June 2017 under section 90C(4) of the *National Parks and Wildlife Act 1974*.
(g) the proximity to and potential for adverse impacts on any watercourse, drinking water catchment or environmentally sensitive area.	The proposed earthworks will have sediment and erosion control measures during construction works. The proposed stormwater detention and quality control system will ensure that stormwater discharged from the Site will be to pre-development levels and meet water quality guidelines.
LEP Clause 7.6: Essential services	

(2) Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the proposed development are available or that adequate arrangements have been made to make them available when required: *(a) the supply of water,* *(b) the supply of electricity,* *(c) the disposal and management of sewage,* *(d) stormwater drainage or on-site conservation,* *(e) suitable road access.*	Complies – The Site is currently connected to reticulated water, sewer, stormwater, electricity (three-phase), natural gas and telecommunications (NBN cable and wireless) services. Connection of services to the Proposal will be carried out by licenced trades in accordance with relevant trade standards and guidelines.

4.3 Development guidelines

Table 11: Assessment Matters – Development guidelines

	Response
DCP Part 12.3: Industrial Development	
DCP Part 12.3.1: Building Setbacks	
Objectives	
1. To ensure that adequate land is available for landscaping, parking and vehicle circulation.	Complies – The Proposal provides adequate land for landscaping, parking, and vehicle circulation, with car

	parking space provision justified in the Traffic Impact Assessment report at **Appendix E**.
2. To enable flexibility in building location.	Complies.
3. To provide a buffer to adjoining land uses, reducing adverse impacts on surrounding land uses and residential amenity.	Complies.
Controls	
i. The primary setback to the street frontage is to be a minimum of 7 metres or the average of the setbacks of adjoining buildings, whichever is the greater.	Complies, however the minimum 10 metre street setback of DCP Appendix K: *Albury Industrial Hub Master Plan* prevails, which also complies (refer below).
ii. The secondary setback (for corner sites) is to be a minimum of 3 metres.	Not relevant to the Site.
iii. Side and rear setbacks (where a building adjoins a residence, community facility, public park or Residential Zone) are to be a minimum of 5 metres.	Complies, however the minimum 5 metre side and rear setback of DCP Appendix K: *Albury Industrial Hub Master Plan* prevails (for adjoining land no matter the use), which also complies (refer below).
DCP Part 12.3.2: Car Parking and Vehicular Access	
Objectives	
1. To ensure that adequate areas are provided for off-street car parking, vehicular access, on-site circulation and loading facilities.	Complies – The Proposal provides adequate and integrated areas for off-street car parking, vehicular access, on-site circulation, and loading facilities, with car parking space provision justified in the Traffic Impact Assessment report at **Appendix E**.
2. To ensure car parking, circulation and loading areas are integrated with the form and layout of buildings on the site.	

3. To ensure all vehicles can enter and exit a site in a forward direction.	Complies – All vehicles can enter and exit the Site in a forward direction.
4. To avoid road conflicts and traffic congestion.	Complies – Refer to the **attached** DA plan set and to the Traffic Impact Assessment report at **Appendix E**.
5. To ensure the safe movement of vehicles and pedestrians.	
6. To ensure parking and access ways do not become unsightly or affect the amenity of the area by way of dust or uncontrolled run-off.	Complies – All parking and accessways will be sealed. Refer to the **attached** DA plan set.
Controls	
i. Part 17 of this DCP contains the full set of requirements for off street car parking, including land use related parking rates, turning circles, aisle widths and parking bay configurations.	Complies – Refer to the **attached** DA plan set with car parking space provision justified in the Traffic Impact Assessment report at **Appendix E**.
ii. Disabled persons and visitor car parking spaces are to be clearly marked or signposted.	Complies – Refer to the **attached** DA plan set.
iii. All car spaces are to be clearly linemarked.	
iv. The preferred location for car parking is between the front landscaped area and the proposed building. Unless located in a zone other than IN1 General Industrial and IN2 Light Industrial where off street car parking is to be provided behind the front building line. This is to encourage employees to park off the street. The car parking area should be separated from the activity areas on site (e.g. loading, storage, heavy vehicle manoeuvring).	
v. All vehicles are to enter and exit the site in a forward direction.	

vi. The heavy vehicle manoeuvring areas, especially at loading and unloading points should be designed to accommodate a three-point turn or semi-circular turn. As a general rule, the minimum (unobstructed) width of a manoeuvring area should be at least as wide as the anticipated heavy vehicle where the vehicle fully enters the building.	
vii. Where the vehicle meets an external loading point or partially recessed dock, the Council may request the submission of vehicle movement templates. In these cases, the unobstructed three-point turn/semi-circular turn rule will apply. The Council will generally refer to the vehicle movement templates published by the RTA.	
viii. Internal roadways and driveways utilised by heavy vehicles are to be a minimum of 7 metres wide (two way movement) or 5 metres (one way movement). Internal roadways/driveways for non-heavy vehicles are to be 6 metres and 3.5 metres wide respectively.	
ix. All internal roadways, and loading areas are to be fully sealed and drained via a system of surface inlet pits.	
x. Refuelling and workshop areas are to be adequately sealed and bunded and are not to be connected to the stormwater system.	Not relevant to the Proposal/Site.
xi. New vehicular access to classified/main roads will require the prior approval of the RTA.	
xii. All vehicular manoeuvring areas must permit forward vehicle ingress and egress to a public road.	Complies – Refer to the **attached** DA plan set.

xiii. All loading and unloading operations shall be carried out wholly within the confines of the site at all times.	
xiv. All loading docks, car parking spaces and access driveways shall not be used for storage purposes, including garbage storage and must be kept clear of goods at all times.	To be complied with.
DCP Part 12.3.3: Building Design	
Objectives	
1. To promote the development of buildings which enhance the quality of the streetscape when viewed from public land and adjoining properties.	Complies – The Proposal will contribute to streetscape and improvements in the built environment through appropriate siting and design of building works, carpark works, landscaping, and signage. In particular, the orientation of the office administration part of the main building toward McLaurin Road, combined with the relatively large road reserve widths of these adjoining roads and surrounding industrial land with future default 10 metre building setbacks facilitate good urban design outcomes (in an industrial development sense) through use of space, setbacks, and landscaping.
2. To encourage innovative, contemporary and sustainable building designs.	
3. To encourage the quality design of buildings, including the use of low maintenance building materials and energy efficient designs and layout.	
4. To encourage design that is of a type, scale, height, bulk and character that is compatible with and will enhance the streetscape characteristics of the surrounding area.	
5. To ensure building materials mitigate noise impacts to adjoining developments, particularly residential areas.	Complies – The Proposal will not generate noise of a type or level that would be out of character for an industrial area. The NEXUS Industrial Precinct in which the Site is located has significant buffer distances to sensitive receivers.

6. To protect and enhance the visual amenity of the major entry points to the City.	Not relevant to the Site.
Controls	
i. The Council will require a high standard of appearance for buildings within the Industrial Zones. Monotonous front facades consisting of one plane and colour are discouraged.	Complies – The Proposal provides a high standard of appearance for all building works, including clear articulation of building entrances, through the use of corporate building design and features, finished colour scheme, and signage provision.
ii. Building entrances should be clearly defined and well articulated through form, materials and colour and provide level or ramped access.	
iii. Building walls to the primary street frontage shall have a minimum 3 metre return and must be constructed of face brick, decorative concrete blocks or suitable treated and painted concrete panels (for example "granosite" or similar product).	
iv. Office components shall be located at the street frontage of the structure to enable the placement of windows and doors to break up the façade.	Complies.
v. The office and/or administration areas of any building are to be architecturally differentiated from the remainder of the building by the use of fenestration, materials of construction and differing horizontal/vertical planes. The Council will not permit office/administration areas clad in metal, or designs with little fenestration, colour, or dimensional detail.	
vi. Highly reflective materials are to be avoided.	Does not comply – The proposed building roof is to be constructed of 'Zincalume' Colorbond® which is consistent with the existing industrial character of the adjoining CPA, VISY and Overall Forge developments. The intent of this development guideline is met because all building walls

	will not be constructed of reflective materials or finishes and to the extent that the roof may be reflective such is not out of character with existing development and the initial silver finish would dull to grey over time through natural oxidisation with air and water elements. A lighter colour roof is also more building energy-efficient.
vii. Factory units are to be designed with particular attention to materials, the articulation of the façade, the practical placement of loading areas and the location of car parking close to each particular unit.	Not relevant to the Proposal which does not comprise factory units.
viii. Buildings should incorporate energy-saving measures, where possible, in the design to reduce the possible environmental impacts of that development.	Complies – Refer to this report in general and to the lodged *NABERS Embodied Emissions Materials Form*. Recycled stone and aggregate will be used for concrete construction; energy-efficient lighting and proximity activation technology will be used; advanced mechanical ventilation design and construction technology will be used; solar PV panels and battery storage and smart technology will be used to offset electricity consumption; rainwater tank water storage from roof supply will be used to reduce reticulated water consumption; and, main plant and equipment has smart electric motor technology to reduce electricity consumption.
DCP Part 12.3.4: Landscaping	
Objectives	

1. To require a high standard of landscaping for the environmental quality of developments, whilst enhancing the general streetscape and amenity of industrial areas.	Complies – Refer to the Landscaping Plan in the **attached** DA plan set.
2. To provide landscaped areas that screen and shade storage, parking and loading areas.	
3. To enhance the appearance of well-designed buildings and lessen the impact of less attractive existing developments.	
4. To enhance the streetscape by unifying buildings of diverse function and appearances.	
5. To provide a landscape buffer between industrial developments and adjoining or adjacent non-industrial land uses.	
6. To enhance the appearance of developments when viewed from public places including the street, open space areas, adjacent railway lines or transport corridors.	
7. To enhance stormwater management by minimising hard non-porous surfaces.	
Controls	
i. Landscaping areas are to be identified on development application plans submitted to Council, with comprehensive landscape plans required to show all areas of vegetation, pathways, ground-based lighting and vehicle access areas.	Complies – Refer to the Landscaping Plan in the **attached** DA plan set.
ii. Pursuant to the AlburyCity Tree Preservation Order existing trees should be retained on site wherever possible. Refer to Clause 5.9 of the LEP and Part 5 of this DCP that relate to the preservation of trees or vegetation for more information.	Not relevant to the Proposal.

iii. A minimum 3-metre wide landscape strip is to be located immediately inside the front property boundary. The Council encourages this area to be mounded, whilst the remainder of the setback to the building not occupied by car parking or other vehicular access areas is to be grassed.	Complies – Refer to the Landscaping Plan in the **attached** DA plan set.
iv. Site areas not containing hardstand areas or not used for vehicle access areas should be grassed.	
v. Advanced (minimum 1.2 metres in height) trees are to be planted in the front landscaping strip at the rate of 1 tree every 4 metres. These trees are to be accompanied by plantings of shrubs and/or groundcovers.	
vi. Native species are preferred, and generally the species chosen should be fast growing, low maintenance and water hardy.	
vii. Secondary street frontages are required to be landscaped in accordance with the above controls, although the extent of landscaping required will be assessed on merit.	
viii. Where a development will provide more than 10 parking spaces in any one area, advanced trees are to be planted (at the top corner of the space) at the rate of one tree every third car space.	Does not comply – Advanced trees are to be planted at a rate of approximately 1 tree every 3-5 car parking spaces as an alternative solution to guideline (v) above. In support of the alternative solution proposed it is noted that the locations of the trees are immediately adjoining the car parking area and tree selection is such that adequate shade and streetscape amenity (in an industrial precinct context) will be provided. Refer to the Landscaping Plan in the **attached** DA plan set.

ix. Landscaping areas are to be protected from vehicle activity areas by a minimum 100mm high kerb, wheel stops or other similar barrier devices to prevent the damage to these vegetated areas.	Complies – Refer to the **attached** DA plan set.
DCP Part 12.3.5: Impacts on Adjoining Land	
Objectives	
1. To encourage a development layout, design and function that minimises impact on activities in other zones.	Complies – The Proposal provides a building, car parking, delivery vehicle, and landscaping layout and design that minimises impacts in other land use zones and adjoining property. Refer also to the SEE below at **Table 12**.
2. To protect the amenity of adjoining properties.	
Controls	
i. Development in the Industrial Zones is to have regard to the following matters relating to adjoining land:	
• *The emission of any form of pollutant, including noise and vibration, air, water, dust or odour pollution, which is not to affect the amenity of adjoining land/s.*	Complies – The Proposal will generate minimal offsite amenity impacts which would not be out of character with the SP4 zone. Refer also to the Air Quality Impact Assessment report at **Appendix C** and to the SEE below at **Table 12**.
• *Sources of noise, where practicable, should be sited away from adjoining properties and where necessary, be screened by acoustic treatments.*	Complies – Noise generating activities associated with the Proposal are mainly located within the enclosed walls of the proposed building. Noise generating activities external to the building are mainly limited to unloading and loading activities.

• *The proposed development shall not unreasonably cause overshadowing of adjoining properties.*	Complies – The Proposal does no unreasonably overshadow adjoining property.
• *The appearance of the development from adjoining land shall have regard to these areas. It is advised that long blank walls which may adversely affect adjoining land/s will not be favoured.*	Complies – Refer to the Landscaping Plan in the **attached** DA plan set.
• *The development is not to incorporate the use of highly reflective building materials such as zincalume, aluminium and galvanised iron.*	Does not comply – The proposed building roof is to be constructed of 'Zincalume' Colorbond® which is consistent with the existing industrial character of the adjoining VISY and Overall Forge developments. The intent of this development guideline is met because all building walls will not be constructed of reflective materials or finishes and to the extent that the roof may be reflective such is not out of character with existing development and the initial silver finish would dull to grey over time through natural oxidisation with air and water elements.[37] A light colour roof also improves building energy-efficiency.
• *Light sources shall be directed away from adjoining residential properties.*	Complies (noting the no residential property adjoins the Site).
• *Should development be proposed on land adjoining an Environmental Zone, the application to Council is to incorporate evidence to the satisfaction of Council that appropriate mitigation measures are in place to ensure any environmental impacts are minimised as far as practical.*	Not relevant to the Site.

[37] Legal advice received is that mention of building products in development guidelines by registered name in this way is contrary to the *Competition and Consumer Act 2010* (Cth).

DCP Part 12.3.6: Open Storage Areas	
Objectives	
1. To avoid unsightly or visually intrusive development.	Complies – The proposed open storage area in the southern part of the Site is screened by screen fencing and landscaping as shown in the **attached** DA plan set.
2. To enhance the setting of buildings and the environmental quality of the locality.	
3. To screen storage areas as seen from the street and neighbouring areas.	
Controls	
i. Open storage areas must be screened from public places, including public roads, and are to be sealed to prevent the emission of dust.	Complies – The proposed open storage area in the central-north part of the Site is sealed and screened by screen fencing and landscaping as shown in the **attached** DA plan set. All waste plastic bales will be stored inside the building.
ii. Screen fences are to be a maximum of 2.4 metres in height and goods are not to be stacked higher than the actual fence.	
iii. Open storage areas are to be located behind the building or another part of the site that cannot be seen from the street or from adjoining properties.	
iv. Landscaping is generally not an acceptable method of screening, unless it is already well established and the applicant can demonstrate that the storage area will be effectively screened.	
DCP Part 12.3.7: Outdoor Advertising	
Objectives	

1. To permit the adequate display of information concerning the identification of premises (including street number), the name of the occupier and the activity conducted on the land.	Complies – The Proposal includes signage defined as "flush wall sign" and "pole sign" in the DCP – all of which are "business identification sign/s" defined in the LEP. All proposed signage is adequately and proportionally displayed given the size of the Site, the Proposal's building wall areas, and distances to public domain vehicle transport thoroughfares comprising for 'way finding' purposes. All proposed signage avoids clutter, untidiness, or visual distraction through proposed siting and design, and enhances the architectural and landscape presentation of the large industrial factory and warehouse format and form of the Proposal.
2. To encourage signage that avoids clutter, untidiness or visual distraction.	
3. To locate advertising signs that enhance the architectural and landscape presentation of the industry and that appear proportional to the scale of the building or space within which they are located.	
4. To improve the appearance of buildings through the appropriate design and placement of signs.	
5. To encourage a coordinated approach to advertising where there are multiple occupancies on site.	
Controls	
i. Specific controls relating to all advertising structures are contained in Part 16 of this DCP, which relates to Outdoor Advertising. Any advertising signage component of an industrial development, or the erection of any new signage within the Industrial Zones is to be compliant with the provisions of Part 16.	Refer to *DCP Part 16: Outdoor Advertising* responses below.
DCP Part 12.3.8: Security Fencing	
Objectives	
1. To improve the safety and security of the site.	

2. To improve the visual amenity of industrial areas.	Complies – 2.1m high black palisade fencing and 2.1m high black PVC and galvanised chainmesh security fencing is proposed. Black PVC chainmesh will be located along some areas of the road lot boundaries of the Site and galvanised chainmesh will be located along all other lot boundaries.
3. To enhance the streetscapes in the Industrial Zones.	
Controls	
i. Security fencing is required for the protection of property and is not usually required to protect non-productive areas of a site such as car parking and landscaping areas.	Complies – No carpark or landscaping fencing is proposed.
ii. Security fencing should not obstruct the view of landscaping from the street and should preserve driver's sightlines.	Complies – Refer to the Landscaping Plan in the **attached** DA plan set.
iii. Security fencing should incorporate landscaping to reduce its visual impact, particularly on large sites, and must be powder-coated black or dark green only.	Complies – Black PVC chainmesh will be located along some areas of the road lot boundaries of the Site.
iv. Cyclone mesh security fencing should not be located in front of the main building wall towards the street and must not be erected to a height greater than 2.4 metres.	Complies.
v. Security fencing should not be an electric fence or incorporate barbed wire due to the visual appearance of these fence types.	Complies.
DCP Part 12.3.9: Utility Services	
Objectives	

1. To ensure development is adequately serviced.	Complies – The Site is currently connected to reticulated water (limited supply volume), stormwater, electricity (three-phase) and telecommunications (NBN cable and wireless) services. Reticulated sewer and natural gas services will be connected to the Site (and adjoining land) during 2020/2021 via Development Consent No. 10.2019.36877.1.
2. To recognise stormwater as a resource and to facilitate its reuse on site. *3. To provide an effective and efficient drainage system to safeguard life and property.* *4. To ensure adequate protection against environmental degradation due to increased water volume, flow velocity, and pollution discharge associated with industrial development.*	Complies – Stormwater management works include – • a pit and pipe collection system from all roof and impermeable surfaces, • overland flow paths to carry major storm runoff through the Site, • a 685m^3 stormwater detention basin, with water quality filter system and gross pollutant traps; • two 60,000L rainwater reuse tanks (total 120,000L) sized as per the water balance calculations for reuse, with overflow to the stormwater detention basin, as shown and described in the **attached** DA plans.
Controls	
i. All developments within the Industrial Zones are to be fully serviced by reticulated water and reticulated sewerage.	Complies – The Site is currently connected to reticulated water, sewer, stormwater, electricity (three-phase), natural gas and telecommunications (NBN cable and wireless) services.
ii. Despite control i. the Ettamogah Industrial Area (North of Central Reserve Road and West of Wagga Road/Hume Highway) may dispose of sewerage on-site subject to a	No longer relevant to the Site now that reticulated sewer is connected to the Site.

land assessment report being submitted and endorsed by Council demonstrating that climate, geology, hydrology, topography, soils composition and vegetation renders the land capable of disposing effluent on-site.	
iii. The applicant should make contact with AlburyCity regarding water and sewer requirements.	Completed.
iv. The applicant should make contact with relevant providers of gas, electricity and telephone services at the earliest possible stage, in order to determine available services, easements and other requirements for servicing.	Completed.
v. Overhead power connection will not be permitted where the street service is presently underground.	The street service is currently overhead but an underground service via an existing pillar is available to service the Site.
vi. Development is to incorporate techniques such as leaky wells, gravel filled trenches and rainwater tanks to capture roof run-off and disposal on-site, thereby reducing peak flows and the volume of polluted water flowing downstream.	Complies – Refer to stormwater and water tank details in the **attached** DA plan set.
vii. Any surplus roof and stormwater drainage collected is to be piped to the nearest adequate Council drainage system. This on-site piping system is to be designed to the satisfaction of Council and shall be approved prior to the release of the Construction Certificate.	
DCP Part 12.3.10: Flooding	
Objectives	

1. To minimise any hazards to life and property in the event of flooding.	Complies – The minimum finished floor level of the Proposal is located not less than 500mm above the 1% AEP flood level.
Controls	
i. The development is not to be located within a floodway.	Complies.
ii. The development shall not adversely affect the efficiency of, or unduly restrict the capacity of the flood fringe to carry and discharge flood waters.	Complies.
iii. The development shall not significantly increase the level of flooding on adjoining land/s.	Complies.
iv. The floor level of any part of the building is to be at least 300mm or 500mm above the 1 in 100 year flood level (refer to Part 6 for the required freeboard level).	Complies – The minimum finished floor level of the Proposal is located not less than 500mm above the 1% AEP flood level.
v. The development proposal is to be accompanied by relative levels to AHD, details of all trees and structures on the site and any areas of known or suspected filling.	Complies – Refer to the **attached** DA plan set.
DCP Part 12.3.11: Potentially Hazardous or Offensive Industry	
Objectives	
1. To reduce the impact of hazardous and offensive industries.	Not relevant to the Proposal which is not affected by SEPP33 as no dangerous good storage or transportation screening threshold will be exceeded under *Applying SEPP 33: Hazardous and Offensive Development*
2. To have regard to the provisions of State Environmental Planning Policy (SEPP) No. 33 - Hazardous and Offensive Development.	

Controls	*Application Guideline* (DUAP, 1994), and therefore the Proposal is not considered potentially hazardous and a PHA is not required. **Appendix F** contains tables of all dangerous goods and quantities and their relevant storage and transportation screening thresholds for the Proposal.
i. The development must comply with State Environmental Planning Policy (SEPP) No. 33 – Hazardous and Offensive Development	
ii. SEPP 33 uses a screening threshold approach to determining whether a development is likely to be potentially hazardous or offensive (e.g. threshold relating to the volume of goods stored or used-vs-distance to a site boundary). Council will require the preparation of a Preliminary Hazard Analysis where development exceeds a screening threshold. This requirement should be investigated early in the development process.	
DCP Part 12.6.3: Office Space	
Objective	
1. To ensure office uses in the Industrial Zones are ancillary to industrial activity.	Complies – The office building parts of the Proposal are ancillary to the Proposal and are only accessible to staff.
Controls	
i. Office space is to be ancillary to the principal industrial land use onsite, and to be occupied only by employees for that particular business.	Complies – The office building parts of the Proposal are ancillary to the Proposal and are only accessible to staff.
ii. The size of the office area and number of office employees will be treated on a merits-based assessment.	
iii. The office shall not detrimentally affect the trading performance, singularly or cumulatively, of the Albury or Lavington B3 Commercial Core and B4 Mixed Use Zones.	Complies – The office building parts of the Proposal will not reasonably affect the trading performance of the Albury or Lavington CBDs.

DCP Part 12.8: Area Specific Development Plans	
Development within the following specific areas shall be undertaken in accordance with any relevant additional site specific controls listed below. Where there is an inconsistency between this Section and any other Part or Section of this DCP, the requirements of this Section shall prevail to the extent of the inconsistency.	
• *Albury Industrial Hub Master Plan. See Appendix K;*	Relevant to the Site – Refer to further comment provided below.
• *East Albury Industrial Precinct Master Plan. See Appendix P.*	Not relevant to the Site.
DCP Part 16: Outdoor Advertising	
DCP Part 16.2: Design Principles for Advertisements and Signage	
DCP Part 16.2.1: Design Principles	
Communication of information to the public	
• *Advertisements and signage are to provide a clear, well communicated, uncluttered, organised level of identification to businesses and other facilities.*	Complies – The Proposal includes signage defined as "flush wall sign" and "pole sign" in the DCP – all of which are "business identification sign/s" as defined in the LEP. All proposed signage provides clear, well communicated, uncluttered, and organised business identification messages.
• *Generally one or a few, clear, suitably sized advertisements and signage on a property are preferred rather than a multitude of small signs.*	Complies – The north and east building elevations have a maximum of one suitably sized and proportional

Visual Impact	"business identification signs" as shown to in the **attached** DA plan set. One "business identification sign" pole sign is proposed at the northeast corner of the Site for 'way finding' convenience. The size and areas of the wall signs and the 4.5m height of the pole sign is considered proportional in scale to the approximate 6,950m^2 building and 3ha Site within which they are located and relate to.
• *Advertisements and signage need to enhance the architectural and landscape presentation of the building and be proportional in scale to the building or space within which they are located.*	
• *Advertisements and signage need to be compatible with the existing or desired future character of the area in which it is proposed to be located and be of a colour, scale, design and position that compliments and integrates with the building design to which it is attached. This includes the painting of buildings and other corporate signage with colour schemes that would detract from its surrounds.*	Complies – All wall signs are of an appropriate size, scale and position that compliment and integrate with the proposed building design and colour scheme and are compatible with the existing or desired future character of the SP4 zone area as expressed in *DCP Part 12.3.7: Outdoor Advertising* above.
• *Advertisements and signage shall not adversely impact on heritage buildings or obscure the view of attractive landscapes, streetscapes, or significant buildings.*	Complies – The Site and all adjoining land is not located within a heritage conservation area or known to be affected by a heritage item, or a building, work, relic or tree within the meaning of clause 5.10 of the LEP and therefore the Proposal could not adversely impact on any heritage buildings.
• *Advertisements and signage shall minimise any cumulative impacts on the character of an area or route.*	Complies – The size and areas of the wall signs and the 4.5m height of the pole sign is considered proportional in scale to the approximate 6,950m^2 building and 3ha Site within which they are located and relate to.
DCP Part 16.2.2: Public Safety	

Principles	
• *Advertisements and signage can not adversely impact on the safety and security of pedestrians, motorists or the general public.*	All proposed signs comply.
• *Advertisements and signage can not cause a hazard to the health and safety of the general public.*	
• *Advertisements and signage can not cause excessive glare, compete with existing road signs, obscure views of pedestrians and drivers, or lead to the physical obstruction of footpaths or thoroughfares.*	
DCP Part 17: Off Street Car Parking	
DCP Part 17.2: Parking Provision by Land Use	
Objectives	
1. To ensure that the provision of parking is appropriate for the proposed use or development of the land.	Under the DCP a combination of the following car parking rates apply to the Proposal – • Office GFA = 1 space per 40m^2 GFA, plus • Industrial GFA = 1 space per 80m^2 GFA, plus • Visitors = 1 space per 500m^2 industrial GFA, which extrapolates to a total of 90 car parking spaces required for the Proposal. However, these DCP guidelines do not give due and proper consideration to industry which may have space consuming plant and equipment such as the Proposal. This is an obvious flaw in GFA

	traffic generating methodology but is nonetheless a guideline which can be varied with substantive reasons. Consistent with guideline (ii) below and prevailing[38] DCP Appendix K guideline – "*Sufficient car parking is provided on each lot to satisfy the likely peak parking demands of the development"* – the Traffic Impact Assessment report at **Appendix E** contains analysis why a total of 32 car parking spaces is reasonable for the Proposal, which extrapolates to: • 32 car parking spaces, including 2 spaces for persons with disabilities; • motorcycle parking spaces (contained within car parking spaces); • 5 bicycle rack spaces; and • unloading/loading bays.
2. To protect amenity, enhance streetscapes and provide shade.	Complies – Refer to the Landscaping Plan in the **attached** DA plan set.
3. To maintain traffic flow efficiency, improve safety and protect the environment.	Complies – Refer to the **attached** DA plan set and to the Traffic Impact Assessment report at **Appendix E**.
4. To ensure convenient and safe provision of off street car parking for disadvantaged persons.	Complies – Refer to the **attached** DA plan set.
5. To allocate adequate bicycle and motorcycle standing areas.	Complies – Refer to the **attached** DA plan set and to the Traffic Impact Assessment report at **Appendix E**.

[38] DCP Part 12.8: *Area Specific Development Plans* (Albury Industrial Hub Master Plan).

6. To ensure convenient and safe space is provided for loading and unloading of goods.	Complies – Refer to the **attached** DA plan set.
7. To provide convenient and safe access to car parking areas, minimising disruption to traffic and maximising pedestrian safety.	
8. To permit the payment of monetary contributions in certain areas for any short fall in off-street car parking.	Not relevant to the Proposal.
Controls	
i. Car parking spaces are to be provided in accordance with the standards set out in Table 17.1. For land uses not specifically listed, the car parking must be provided as per the most similar use of equivalent intensity, or otherwise in accordance with the requirements of the Council and/or RTA (whichever is the greater).	Complies – The Traffic Impact Assessment report at **Appendix E** contains analysis why a total of 32 car parking spaces is reasonable for the Proposal.
ii. Where a combination of uses is intended, the total parking requirements shall be the sum of the requirements for the various uses. This may be reduced at the Council's discretion in cases where the proponent can demonstrate that the lesser amount will satisfy the expected demand.	
DCP Part 17.3: Car Parking Controls	
DCP Part 17.3.1: Car Parking Design	Complies – Refer to the **attached** DA plan set.
DCP Part 17.3.2: Disabled Persons Parking	Complies – Refer to the **attached** DA plan set.
DCP Part 17.3.3: Bicycle Racks and Motorcycle Parking Spaces	The provision of DCP required bicycle provision complies, however the provision of DCP required motorcycle provision does not comply – refer to comments in the

	Traffic Impact Assessment report at **Appendix E** and above. Motorcycle parking spaces are proposed to be provided in car parking spaces (consistent with past Council approvals for same).
DCP Part 17.3.4: Off Street Loading Facilities	Complies – All loading/unloading will take place within the Site, with the largest delivery vehicle being a B-double heavy vehicle. Refer to the to the **attached** DA plan set and the Traffic Impact Assessment report at **Appendix E**.
DCP Part 17.3.5: Pedestrian Movements	Complies – The Proposal incorporates connecting pedestrian safe zone footpath thoroughfares.
DCP Appendix K: Albury Industrial Hub Master Plan	
DESIGN PRINCIPLES	
The following design principles have been produced to guide the future development of Albury Industrial Hub in a manner that is sympathetic to site constraints and consistent with existing development and surrounding environments. *Future development should introduce an innovative development model that creates a distinctive character in response to contextual and site attributes, taking advantage of the excellent visual exposure of the site. The site has no immediate built form context and therefore has the opportunity to employ robust and contemporary architectural form within a high quality landscape setting.*	
SITE PLANNING	

Subdivision Layout	Not relevant to the Proposal.
Internal Road Network	Not relevant to the Proposal.
Site Coverage	
Design Objectives	
1. Ensure that adequate area is available to accommodate landscaping, open space for employees and screening of loading and storage areas.	Complies.
2. Ensure that adequate area is available for driveways and access, onsite parking and manoeuvring of vehicles.	Complies.
3. Achieve appropriate building setbacks that are landscaped to ensure integration with streetscape and road tree plantings.	Complies.
4. Ensure that adequate area is available and that use of the site is carried out to allow the continued and safe operation of Transgrid easements (where relevant).	Not relevant to the Site.
Design Requirements	
• *Maximum site coverage permitted is 65% of the lot area.*	Complies (~50%).
• *Minimum site coverage permitted is 20% of the lot area.*	Complies (~50%).
• *Building setbacks to collector roads is to be a minimum of 10m.*	Not relevant to the Site.
• *Building setbacks to local roads is to be a minimum of 10m.*	Complies.

• *5m setbacks to side and rear boundaries where adjoining lots are zoned for industrial uses.*	Complies.
• *Front setbacks are sufficient to enable landscaping to screen large footprint buildings and create an integrated and coherent public/private interface.*	Complies.
• *Car parking, water tanks, structures and storage areas are not permitted within front setback areas.*	The Proposal does not comply – Car parking is proposed within the 22.1 metre wide front setback area to McLaurin Road. Whilst this guideline prevails[39] over the normal industrial development guideline in DCP Part 12.3.2: *Car Parking and Vehicular Access* (iv) which requires the opposite, it is considered that the Proposal represents a logical site layout and design solution for the Site. This is because the Proposal facilitates the segregation of staff and visitor vehicle traffic movements from delivery and collection heavy vehicle traffic movements, provides acceptable streetscape visual amenity with proposed landscaping treatments and provides an orderly planning outcome. (It is noted that the 'Design Objectives' to which this 'Design Requirement' relates shed no meaningful insight into the reasons why this guideline exists and in all other respects seems counter intuitive to good development planning. It is also noted that a further guideline below permits visitor car parking but not staff car parking with the only discernible reason being streetscape amenity – "*Required car parking shall be located behind the required minimum front*

[39] DCP Part 12.8: *Area Specific Development Plans* (Albury Industrial Hub Master Plan).

	setback area, however visitor car parking may be permitted forward of the building line where it can be demonstrated that the landscape quality of the streetscape can be maintained.")
• *Outdoor storage areas are to be screened from the public realm though the siting of building, rather than fencing.*	Complies – The proposed 'refuse skip bin storage area' located in the central-north part of the Site is situated to the rear of the building canopy/awning.
• *Black PVC coated chainwire fencing to a maximum of 1.8 metres in height is permitted forward of the building line.*	Complies.
• *All work activities within Transgrid easements are in strict accordance and fully comply with the Electrical Supply Association of Australia (ESAA) National Guidelines for Safe Approach Distances to Electrical Apparatus.*	Not relevant to the Site.
Building Height and Built Form	
Design Objectives	
1. Ensure that buildings are of architectural merit, diversity, scale and high quality built form.	Complies.
2. Ensure that built form contributes to the visual amenity of the area.	Complies.
Design Requirements	
• *Building heights are to be in keeping with the scale and land use type of adjoining land.*	Complies.

• *The height of buildings and works should take into account the proximity of the structure to roads, conservation areas and any adjoining sensitive land uses.*	Complies.
• *Warehouse buildings are to be a maximum of 20m in height from natural ground level.*	Complies (12.8m).
• *Office/commercial components are permitted to exceed the maximum building height by 50% in order to provide visual interest and articulation of heights.*	Not relevant to the Proposal.
• *Variation to the maximum height may be permitted provided proposed building height is compatible with the scale, bulk and height of surrounding buildings and will not generate excessive overshadowing of adjacent properties.*	Not relevant to the Proposal.
ACCESS, MOVEMENT AND CAR PARKING	
Site Access and Manoeuvring	
Design Objectives	
1. Ensure that access and manoeuvring arrangements to/from and within the site cater for large vehicles, are safe and do not cause detriment to other road users.	Complies.
Design Requirements	
• *Truck access, manoeuvring and loading areas are to be separated from car parking areas.*	Complies.
• *Consider separating truck and small vehicle access points to reduce vehicle conflicts.*	Complies.
• *All vehicles must be able to enter and leave the site in a forward direction.*	Complies.

• *Pedestrian access through car parking areas should be clearly marked, and where possible emphasised by the use of raised and textured surfaces and articulated through landscaping where feasible.*	Complies.
• *As far as possible, pedestrian access through car parks should be kept separate from vehicle access ways.*	Complies.
• *Buildings shall be designed to allow loading/unloading of vehicles within the building.*	Complies (product loading).
• *Loading docks should be situated to the side or rear of buildings.*	Complies.
• *Where not subdivided, all driveways are to satisfy AS2890.1 and AS2890.2.*	Complies.
Car Parking	
1. Ensure that on-site car parking is adequate, safe and convenient.	Complies.
2. Ensure that the layout of parking areas are visually attractive and integrated.	Complies.
Design Requirements	
• *Sufficient car parking is provided on each lot to satisfy the likely peak parking demands of the development.*	Complies (refer to DCP Part 17 comments above).
• *Required car parking shall be located behind the required minimum front setback area, however visitor car parking may be permitted forward of the building line where it can be demonstrated that the landscape quality of the streetscape can be maintained.*	The Proposal partly complies (refer to comments above).
• *Access routes to car parking areas for each lot are to be clearly signposted.*	Complies.

• *All car parking spaces are to be constructed of hardstand, all weather material, adequately drained, marked and designated.*	Complies – Refer to the **attached** DA plan set.
• *Sufficient spaces are to be provided for disabled car parking.*	Complies – Refer to the **attached** DA plan set.
• *Landscaping shall be integrated into the design of car parks and hardstand areas to allow for canopy and shade planting to reduce the 'heat island effect'.*	Complies – Refer to the **attached** DA plan set.
BUILDING CONFIGURATION	
Sustainable Building Design	
Design Objectives	
1. Reduce greenhouse emissions through appropriately designed buildings and best practice energy management.	Complies.
2. Adopt economically viable energy efficient design initiatives.	Complies.
Design Requirements	
• *Building orientation and design should be such that they maximise northern exposure and shade east and west facing windows and openings.*	Complies.
• *Windows and openings should be positioned to maximise natural cross ventilation.*	Complies.
• *Minimise winter heat loads through the arrangement of glazed parts of buildings to face north and east.*	Complies.

• *Use light coloured materials in hardstand areas to minimise heat absorption.*	Complies.
• *External shading devices (e.g. awnings, shutters, canopy trees) are to be used to protect east, north and west facing windows from summer heat.*	Complies, where relevant.
• *Use skylights and light wells to capture natural light for internal building areas.*	Complies – Refer to the **attached** DA plan set.
• *Maximise insulation and thermal mass and minimise air building leakages, where appropriate.*	Complies.
• *Capture and store rainwater from roofs and other impervious surfaces within tanks for reuse. Drain hardstand/car park areas to appropriate stormwater treatment devices prior to discharge from the site.*	Complies – Refer to rain water tank and stormwater drainage details in the **attached** DA plan set.
• *Place trees and buildings along the south western fringes of the site to reduce the effects of hot westerly summer breezes.*	Complies, where relevant.
Sustainable Building Materials	
Design Objectives	
1. Minimise the total material resources used.	Complies.
2. Minimise the environmental impacts of material used.	Complies.
3. Encourage the use of environmentally sustainable materials, with low embodied energy content.	Complies.
4. Encourage high quality architect designed buildings within areas of high visibility.	Complies – Refer to the **attached** DA plan set.

Design Requirements	
• *Consider materials with recycled content. Examples include: recycled concrete, brick, timber, steel etc.*	Complies, where relevant.
• *Consider using certified plantation (Forest Stewardship Council) or engineered timber materials, and avoid unsustainable imported timber from old growth forests.*	Complies, where relevant.
• *Choose low volatile organic compound (VOC) materials, including low/no VOC paints and coatings, floor coverings and underlays.*	Complies, where relevant.
• *Source local materials to reduce transportation impacts.*	Complies, where relevant.
Building Appearance	
Design Objectives	
1. Encourage building forms, materials and finishes that add visual interest to the area.	Complies – Refer to the **attached** DA plan set.
2. Encourage building typologies that add visual interest to the area.	Complies – Refer to the **attached** DA plan set.
3. Promote industrial development that is both functional and attractive in the context of its local environment through appropriate design.	Complies – Refer to the **attached** DA plan set.
Design Requirements	
• *Built form and facades visible from the street or public open space should be modulated and articulated to provide visual interest. Long blank walls will not*	Complies – Refer to the **attached** DA plan set.

generally be supported. Articulation of walls can be achieved by variations in setback, use of glazing and differing architectural materials, finishes and colours.	
• *Buildings should be designed with regard to site topography to step back and step down to help break up masses and 'box' style development. Consider breaking large buildings into sub-units or modules to reduce perceived scale.*	Complies – Refer to the **attached** DA plan set.
• *Office areas sited in front of buildings can be designed to help reduce building mass and increase visual interest. Setbacks may be reduced to improve building articulation.*	Complies – Refer to the **attached** DA plan set.
• *Locating the office components to the front reduces building bulk and presents an attractive frontage.*	Complies – Refer to the **attached** DA plan set.
• *Buildings are to address the street and provide surveillance to streetscape.*	Complies – Refer to the **attached** DA plan set.
• *Entries and building bases should be articulated through the use of colour, material change and texture, and strengthened through landscape design.*	Complies – Refer to the **attached** DA plan set.
• *Built form within lots which lend themselves to 'landmark' or 'gateway' treatment should have a contemporary style and incorporate high quality architectural detail and visibility.*	Complies – Refer to the **attached** DA plan set.
• *Large areas of smooth finish concrete wall panels should be enhanced with some form of texture. Consider using heavy textured paint or forming textures into selected areas of wall panels to avoid a glossy/high glare building surface.*	Not relevant to the Proposal.
• *Hardstand, loading, storage, rubbish disposal, plant and equipment areas are to be softened from the front, side and rear through landscaping or integrated building form.*	Complies – Refer to the **attached** DA plan set.
LANDSCAPING	

Landscape Design	
Design Objectives	
1. Encourage a well designed, legible and cohesive landscape framework for development.	Complies – Refer to the **attached** DA plan set.
2. Encourage a relationship between public and private landscape through a language of plant material and planting styles.	Complies – Refer to the **attached** DA plan set.
3. Encourage the use of species that will increase the biodiversity of the site.	Complies – Refer to the **attached** DA plan set.
4. Provide a visual buffer between neighbouring land uses and proposed development.	Complies, where relevant.
5. Encourage the design of both hard and soft landscape to assist in creating comfortable micro climatic conditions and minimise the 'heat island effect' of development.	Complies – Refer to the **attached** DA plan set.
Design Requirements	
• *Retain significant existing trees or groups of trees wherever feasible in setbacks, medians, reserves and stormwater detention areas.*	Not relevant to the Site.
• *Create a legible, clearly defined streetscape that provides the structure within which a more naturalised planting style can be contained.*	Complies – Refer to the **attached** DA plan set.
• *Utilise high canopy trees and low grasses generally within verge and median planting to ensure sightlines are maintained.*	Not relevant to the Proposal.

• *Provide private landscape setbacks frontages that are distinctive but well integrated with, and contributing positively to the public streetscape character.*	Complies – Refer to the **attached** DA plan set.
• *Use native grasses and groundcovers and lawn alternatives where possible to reduce irrigation demands.*	Complies, where relevant.
• *Create well integrated stormwater detention and treatment areas which provide open space amenity and visual interest.*	Complies, where relevant.
• *Integrate stormwater treatment into the road reserve where possible.*	Complies, where relevant.
• *Promote passive irrigation of landscapes by directing nearby hardstand areas to vegetated areas.*	Complies, where relevant.
• *Use side and front boundary landscape setbacks to create windbreaks and provide shade to westerly sun and winter winds as appropriate.*	Complies – Refer to the **attached** DA plan set.
• *Design well integrated shade planting within car park areas.*	Complies – Refer to the **attached** DA plan set.
• *Use endemic species suited to the environment that have low water requirements and low maintenance.*	Complies – Refer to the **attached** DA plan set.
• *Use light coloured paving materials and surfaces and non impervious surfaces where practical to reduce heat absorption.*	Complies.
• *Locate hard stand areas within the southerly side of lots to reduce their heat absorption.*	Complies.

• *Provide suitably located and unobtrusive waste storage areas. These areas are to be screened from public view by landscaping and or fencing.*	Complies – Refer to the **attached** DA plan set.
Site Topography and Management of Level Change	
Design Objectives	
1. Encourage design that minimises cut and fill requirements.	Complies – Refer to the **attached** DA plan set and to **Section 3.2.1** above.
2. Encourage well considered interfaces between lots and roads/setbacks/conservation areas.	Complies.
3. Ensure that cut and fill requirements do not adversely impact upon adjoining land uses.	Complies – Refer to the **attached** DA plan set.
Design Requirements	
• *Retaining wall heights should be minimised. Where walls need to be greater than 3m in height, the retaining wall should be terraced or staggered with screen planting at the base and on intermittent levels.*	Complies (no retaining walls are greater than 3 metres high).
• *Landscaped batters are preferable to retaining walls and should be considered where space permits. Slopes should be no greater than 1 in 3 and suitably planted to provide screening or buffer as required by its location.*	Complies, where relevant.
• *Retaining walls and batters should be well integrated into the design of the building and its envelope.*	Complies – Refer to the **attached** DA plan set.

• *Retaining walls should be visually softened through planting.*	Complies – Refer to the **attached** DA plan set.
• *Material excavated from site to form lots should be re used wherever possible.*	Complies.
ENVIRONMENTAL MANAGEMENT	
Stormwater Management	
Design Objectives	
1. Reduce demands on potable water.	Complies.
2. Improve the quality of stormwater that is discharged from the site in order to protect the ecosystem health of the receiving waterways.	Complies.
3. Attenuate the velocity and magnitude of flows that is discharged from the site in order to protect the stability of the receiving waterways.	Complies – Refer to the **attached** DA plan set.
Noise and Vibration	
Design Objectives	
1. Provide for the mitigation and management of noise and vibration impacts from all proposed development.	Complies. The Proposal will not generate noise of a type or level that would be out of character for an industrial area. The NEXUS Industrial Precinct in which the Site is located has significant buffer distances to sensitive receivers. Noise generating activities associated with the Proposal are mainly located within the enclosed walls of the proposed building. Noise generating activities

	external to the building are mainly limited to unloading and loading activities.
Air Emissions	
Design Objectives	
1. Provide for the mitigation and management of odour, dust and stack emissions from proposed operations.	Complies – Refer to the Air Quality Impact Assessment report at **Appendix C**.
Risk and Hazard	
Design Objectives	
1. Ensure that all proposed development operates at acceptable levels of risk and hazard to ensure the safety of persons or property on within the development area, or in surrounding areas.	Complies – Refer to the Air Quality Impact Assessment report at **Appendix C** and to the Traffic Impact Assessment report at **Appendix E**.

4.4 Crime prevention through environmental design

Crime prevention through environmental design (CPTED) is a multi-disciplinary approach to deter criminal behaviour through environmental design. CPTED strategies rely upon the ability to influence offender decisions that precede criminal acts. CPTED principles include[40] –

- surveillance,
- access control,
- territorial reinforcement, and
- space management.

The application of these principles to the Proposal relates to the following design outcomes –

- good visual surveillance of internal building isles and spaces and carpark and building accessways,
- 'non-concealment' building and landscaping design, and
- security lighting and cameras.

Building and carpark design and pedestrian thoroughfares

The building and carpark is designed to provide acceptable CPTED outcomes. Relevant design features include: security lighting in accordance with *AS/NZS 1680.2.1:2008-Interior and workplace lighting-Specific applications-Circulation spaces* and *AS/NZS 1158.3.1:2020-Lighting for roads and public spaces - Pedestrian area (Category P) lighting-Performance and design requirements*; good visual surveillance; and, non-concealment building internal perimeter and accessway design.

Landscaping

Landscaping has also been designed to provide acceptable CPTED outcomes, principally in relation to non-concealment opportunities.

Graffiti-prone areas

Security cameras will be installed. Carpark and pedestrian level construction materials and finishes have been selected for their durability and longevity. Generally, such materials have a low porosity and in graffiti-prone areas will be protected with a non-sacrificial protective coating that on application of graffiti can be easily removed with high pressure water (a new sacrificial protective coating would then need to be re-applied).

[40] *Crime prevention and the assessment of development applications: Guidelines under section 79C of the Environmental Planning and Assessment Act 1979* (DUAP, 2001).

4.5 Flooding mitigation

Council completed a flood impact assessment of NEXUS in 2023 and, as a mitigation measure, is soon to commence construction of a flood levy bank on reserve land adjoining the western lot boundary of the Site. This levy bank will ensure that the Site is not affected by 1% AEP flood water inundation. Given the surety of this work being completed, as a condition of development consent, it is expected that the SRPP will recommend a condition with words to the affect –

> *Prior to the issue of an Occupation Certificate, the flood levy bank on reserve land adjoining the western lot boundary of the Site is to be completed.*

On this basis, it is important that the words "Occupation Certificate" are used as opposed to "Construction Certificate" so that commencement of the Proposal is not unreasonably withheld.

4.6 Suitability of the Site for the Proposal

The Site is suitable for the Proposal as Site attributes are conducive for development and the Proposal would fit into the area. Specifically –

- There are no constraints posed by adjacent developments which are unresolvable, including cumulative air quality impacts from other industrial development.
- There are adequate transport facilities in the area.
- Utilities and services are available to the Site and are adequate for the Proposal.
- There are no hazardous land uses or activities nearby which would prevent or limit the Proposal.
- The Site is not subject to natural hazards or land contamination, including subsidence, slip, mass movement, or bushfire constraints.
- Soil characteristics on the Site are appropriate for development.
- The Site is not subject to biodiversity or Aboriginal cultural heritage constraints which are unresolvable.

The Site is also suitable for the Proposal due to the Site being located in an established SP4 zone area comprising the NEXUS Industrial Precinct. The Site and the precinct also has adequate setbacks to sensitive land uses.

Visual impacts from proposed buildings, storage areas and signage to adjoining public domain are also acceptable in the circumstances assessed.

4.7 Public interest

The Proposal is considered to be in the public interest as the Proposal will incrementally facilitate achieving the aims and objectives of the *NSW Waste Avoidance and Resource Recovery Strategy 2014–21* (EPA, 2014) in regard to the domestic recycling of plastic waste. Specifically (p. iii) –

> ***Avoid and reduce waste generation***
> By 2021–22, reduce the rate of waste generation per capita.
>
> ***Increase recycling***
> By 2021–22, increase recycling rates for:
> - municipal solid waste from 52% (in 2010–11) to 70%,
> - commercial and industrial waste from 57% (in 2010–11) to 70%,
> - construction and demolition waste from 75% (in 2010–11) to 80%.
>
> ***Divert more waste from landfill***
> By 2021–22, increase the waste diverted from landfill from 63% (in 2010–11) to 75%.

The facility aims to divert up to 15,000 tonnes of LDPE/LLDPE film from landfill per year.

The Proposal will not compromise the effective and ongoing operation and function of local or arterial roads or detrimentally impact traffic safety or road congestion. Adequate onsite car parking will be provided.

The Proposal complies with ecological sustainable development (ESD) principles including being development for the principal purpose of recycling a significant quantity of LDPE/LLDPE plastic film waste comprising 15,000 tonnes per year, as well as rainwater reuse and stormwater treatment and detention.

The facility will generate 30 employment opportunities and will support multiple local and regional electrical, plumbing and fitter and turner trade contractors. In addition, approximately 100 temporary employment opportunities will be required during the estimated 12-month construction and plant commissioning period, with site and building construction work costs estimated at approximately $20.1M and plant and equipment costs estimated at approximately a further $26.3M.

All impacts to the natural and physical environment can be avoided, including mitigating flood water impacts through Council constructing a flood levy bank adjoining the western lot boundary of the Site.

5.0 STATEMENT OF ENVIRONMENTAL EFFECTS

Table 12 provides a summary of the environmental effects of the Proposal.

Table 12: Statement of Environmental Effects

What are the considered environmental impacts of the development?	How have the environmental impacts of the development been identified?	What are the steps to be taken to protect the environment or to lessen the expected harm to the environment?	Are there any matters required to be indicated by any guidelines issued by the Planning Secretary and published on the NSW Planning Portal for the purposes section 24(1) of the ***Environmental Planning and Assessment Regulation 2021***?
Construction works (i.e. potential for the generation of dust, noise, vibration, traffic, water quality and sedimentation, litter etc).	Site analysis; review of design documentation	• Temporary amenity impacts[41] but only on and during acceptable days and hours in accordance with *AS 2436:2010–Guide to noise control on construction, maintenance and demolition sites*. • Construction works carried out in accordance with: ➢ *The Blue Book–Managing Urban Stormwater: Soils and Construction* (Landcom, 2004); and ➢ *AS 2436:2010–Guide to noise control on construction, maintenance and demolition sites*. • A Soil and Water Management Plan will be implemented during construction works. • Connection of reticulated water, sewer, and stormwater services by a licenced plumber in accordance with a permit under section 68 of the *Local Government Act 1993*. • Construction waste management in accordance with the *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes* (EPA, 1999).	No
Social and economic disruption to surrounding landowners/leaseholders during relevant stages of construction works	Site analysis; review of design documentation	• TMP to be implemented for all stages of construction. • Hoardings along road frontages designed to provide a secure work environment and to facilitate safe pedestrian movement.	No
Traffic safety of carpark, carpark ingress/egress locations, and traffic generation on surrounding road network (i.e. potential impacts to road efficiency and effectiveness, traffic safety, and pedestrian and cyclist safety)	Site analysis; review of design documentation; review of Traffic Impact Assessment report at **Appendix E**	• Overall development layout and design, including carpark and delivery vehicle ingress/egress locations and external road works and traffic facilities designed in accordance with: ➢ *AS/NZS 2890.1:2004–Parking facilities—Off-street car parking*; ➢ *AS 2890.2:2002–Parking facilities—Off-street commercial vehicle facilities*; ➢ *AS 2890.3:2015–Parking facilities—Bicycle parking*; ➢ *AS/NZS 2890.6:2009–Parking facilities—Off-street parking for people with disabilities*; and ➢ *Guide to Road Design* (Austroads, 2009).	No
Visual (i.e. potential for visual impacts arising from building, signage and vegetation removal works).	Site analysis; review of design documentation	• The Proposal will contribute to streetscape and improvements in the built environment through appropriate siting and design of building works, carpark works, landscaping, and signage. In particular, the orientation of the office administration part of the main building toward McLaurin Road, combined with the relatively large road reserve widths of these adjoining roads and surrounding industrial land with future default 10 metre building setbacks facilitate good urban design outcomes (in an industrial development sense) through use of space, setbacks, and landscaping.	No

[41] Which would not be out of character for an SP4 zone industrial area.

What are the considered environmental impacts of the development?	How have the environmental impacts of the development been identified?	What are the steps to be taken to protect the environment or to lessen the expected harm to the environment?	Are there any matters required to be indicated by any guidelines issued by the Planning Secretary and published on the NSW Planning Portal for the purposes section 24(1) of the ***Environmental Planning and Assessment Regulation 2021***?
Waste management (i.e. potential for visual or odour amenity, wind-blown rubbish, stormwater quality impacts or vermin impacts if waste is not stored and managed appropriately)	Site analysis; review of design documentation	• Refuse and recycling bins stored to the rear of the Site out of sight of the McLaurin Road public domains. • Waste stored in dedicated refuse and recycling bins and collected by licenced contractors for licenced disposal or recycling. • Waste management in accordance with the *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes* (EPA, 1999). • A routine rubbish (and safety) inspection program of all vehicle manoeuvring, carpark, landscaping and Site perimeter areas. • A 2.1m high chainmesh fence is located fully around the feedstock bale storage area for the purposes of feedstock quality control and minimising windblown and forklift wheel tracked debris escape from the storage location.	No
Waste management (i.e. potential for fires starting and spreading if waste is not stored and managed appropriately)	Site analysis; review of design documentation; review of Fact Sheet - *Fire safety in waste facilities* (EPA, 2020)[42] and *Fire Safety Guideline – Fire Safety in Waste Facilities* (Version 02.02, Fire and Rescue NSW, 2020)[43]	• The proposed 'feed material' LDPE/LLDPE plastic waste bale storage area located within the building will be managed to contain approximately two weeks' supply for the processing plant and equipment for the purposes of acting as a demand and supply 'buffer' from external supply chains. • To reduce and manage the risk of fires starting and spreading, to protect employees, emergency services, the community, businesses and the environment the feedstock bale storage area has been sited and designed to "acceptable solution" standards in accordance with *Fire Safety Guideline – Fire Safety in Waste Facilities* (Version 02.02, Fire and Rescue NSW, 2020) and therefore the DA is able to be assessed by the consent authority without prior referral to and comment from Fire and Rescue NSW.	No
Stormwater quality and discharge (i.e. potential impacts to water quality and/or downstream flooding)	Site analysis; civil engineering assessment; review of design documentation	• Stormwater drainage collection by segregated catchment based on quality risk assessment. • Stormwater drainage treatment of quality risk catchment using gross pollutant traps and 'triple-interceptor' systems with discharge of non-compliant water quality to sewer via trade waste licence. • Stormwater drainage detention to pre-development flows. • Plumbing and drainage works designed and constructed in accordance with *AS/NZS 3500:2003 – Plumbing and drainage*.	No
Industry and traffic noise (i.e. potential impacts to sensitive receivers)	Site analysis; review of design documentation; review of Traffic Impact Assessment report at **Appendix E**	• The Proposal will not generate noise of a type or level that would be out of character for an industrial area. The NEXUS Industrial Precinct in which the Site is located has significant buffer distances to sensitive receivers. • The Proposal will have acceptable adverse effects to the sensitive receivers identified in **Figure 6** due to the significant existing buffer distances of the NEXUS Industrial Precinct. Such buffer distances nullify or minimise adverse effects such as noise from industry and traffic generation.	No
Any environmental impact which may arise from lack of industrial quality control and/or management (i.e. potential for human error)	Site analysis; review of design documentation	The Proponent's existing quality management system is built on the elements of leadership, planning, support, operation, performance evaluation and improvement and underpinned by – • *AS/NZS ISO 14001:2004 – Environmental management systems – Requirements with guidance for use*; • *AS/NZS ISO 9001:2015 – Quality management systems – Requirements*; • *AS/NZS 4801:2001 – Occupational health and safety management systems – Specification with guidance for use*;	No

[42] https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/20p2104-fire-safety-in-waste-facilities.pdf?la=en&hash=BD1936145618AE4B16600DDADBB2AF77B1A8A2A9
[43] https://www.fire.nsw.gov.au/gallery/files/pdf/guidelines/guidelines_fire_safety_in_waste_facilities.pdf

What are the considered environmental impacts of the development?	How have the environmental impacts of the development been identified?	What are the steps to be taken to protect the environment or to lessen the expected harm to the environment?	Are there any matters required to be indicated by any guidelines issued by the Planning Secretary and published on the NSW Planning Portal for the purposes section 24(1) of the ***Environmental Planning and Assessment Regulation 2021***?
		• *OHSAS 18001:2007 – Occupational Health and Safety Management Systems – Requirements*; and • *AS/NZS ISO 31000:2009 – Risk management – Principles and guidelines*.	

6.0 CONCLUSIONS

This report concludes that the environmental impacts generated by the Proposal, whether considered individually or cumulatively in the context of the Site and the broader area, are not significant and therefore the Proposal warrants the support of the EPA, TfNSW, Council and the SRPP and the issue of development consent. In particular, the following considered 'determinative' planning issues have been resolved as follows –

Air quality (odour, dust and stack emissions)

The Proposal has been the subject of a speciality Air Quality Impact Assessment report which has benefitted from pre-DA lodgement consultation with the EPA before the report was finalised.

The report concludes that the Proposal complies with all relevant NSW air quality regulations and guidelines. Mitigation and monitoring measures have been recommended in the report which will be implemented by the Proponent.

Stormwater quality and detention

The Proposal has been the subject of specialist civil engineering stormwater catchment, reticulation, computations and management advice and concept plan preparation which form a part of the **attached** DA plan set.

The Proposal complies with basic imperatives to –

- separate clean and dirty stormwater drainage catchments from each other,
- treat dirty stormwater to required quality guidelines, including using gross pollutant traps and 'triple-interceptor' systems, before discharge from the Site to the reticulated stormwater drainage network, with any non-compliant quality water discharged to reticulated sewer via a trade waste to sewer licence, and
- detain stormwater discharge from the Site to predevelopment flows, including collecting and using stormwater from rainwater roof supply in preference to reticulated water supply.

Waste facility fire risk

The Proposal has been the subject of specialist fire engineering advice and the proposed waste material bale storage area dimensions comply with permitted storage area length, width, height, volume, and stack pile separation distances and fire prevention and mitigation measures to 'Acceptable Solution' standards in accordance with the *Fire Safety Guideline – Fire Safety in Waste Facilities* (Version 02.02, Fire and Rescue NSW, 2020).

Approval of the Proposal is therefore considered justified and warranted.

*****

APPENDIX A:

Title details of the Site

COORDINATE SCHEDULE						
MARK	MGA CO-ORDINATES		CLASS	PU	METHOD	STATE
	EASTING	NORTHING				
PM 10406	497853·928	6016593·199	B	0·02	FROM SCIMS	FOUND
SSM 19281	497872·087	6015853·231	B	0·03	FROM SCIMS	FOUND
SSM 19282	497804·937	6016227·246	B	0·03	FROM SCIMS	FOUND
SSM 204436	497843·443	6016669·469	D	N/A	CORS NRTK GNSS	FOUND
SSM 204437	497497·514	6016187·712	D	N/A	CORS NRTK GNSS	FOUND
SSM 204438	497207·432	6016643·999	D	N/A	CORS NRTK GNSS	FOUND
SSM 210170	497520·854	6016648·728	D	N/A	CORS NRTK GNSS	PLACED
DATE OF SCIMS COORDINATES :19-07-2021 MGA ZONE 55 MGA DATUM: GDA 2020 COMBINED SCALE FACTOR : 0·999562						

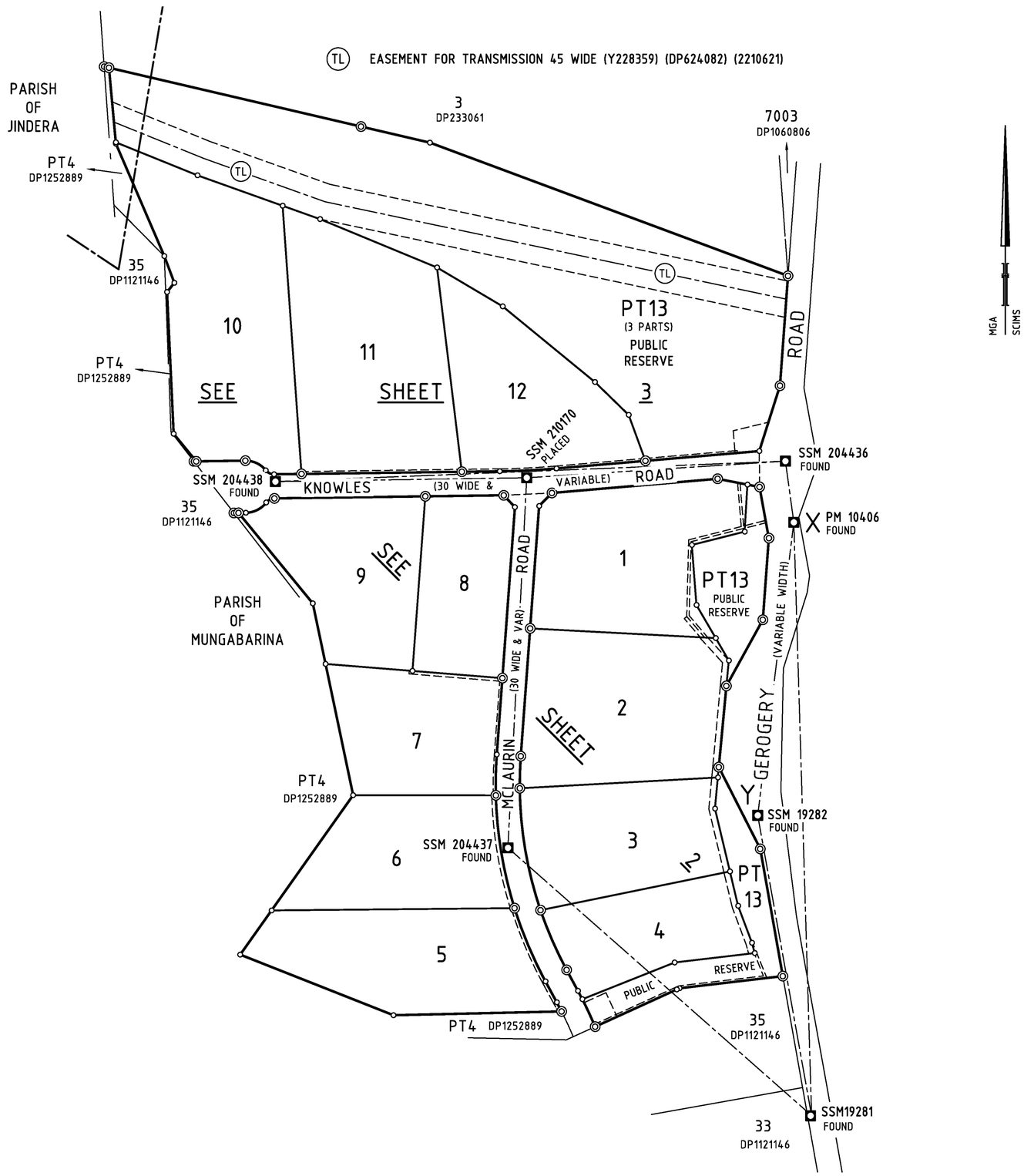
GNSS VALIDATION SCHEDULE				
FROM	TO	GRID BEARING	DISTANCE	METHOD
SSM 10406	SSM 19282	187°37'29"	369·366	CORS NRTK
		187°37'29"	369·381	SCIMS
SSM 19282	SSM 19281	169°49'32"	380·158	CORS NRTK
		169°49'19"	380·163	SCIMS
PM 10406	SSM 19281	178°35'45"	740·502	CORS NRTK
		178°35'40"	740·517	SCIMS

DATUM 'X'-'Y'

PERMANENT MARK CONNECTIONS				
FROM	TO	BEARING	DISTANCE	METHOD
SSM 19281	SSM 204437	311°45'20"	502·486	CORS NRTK GNSS
SSM 204437	SSM 210170	2°54'55"	461·792	CADASTRAL TRAVERSE
SSM 210170	SSM 204438	269°08'04"	313·599	CADASTRAL TRAVERSE
SSM 204438	SSM 204436	87°42'21"	636·803	CADASTRAL TRAVERSE
SSM 204436	PM 10406	172°10'20"	77·020	CADASTRAL TRAVERSE
SSM 204436	SSM 20170	266°19'13"	323·396	CADASTRAL TRAVERSE

HEIGHT SCHEDULE					
MARK	AHD VALUE	CLASS	PU	HEIGHT DATUM VALIDATION	STATE
PM 10406	234·880	LA	0·03	SCIMS ADOPTED	FOUND
SSM 19282	230·547	LB	0·06	FROM SCIMS - DATUM VALIDATION	FOUND
SSM 210170	232·144	LD	N/A		PLACED
DATE OF SCIMS VALUES: 19-07-2021 HEIGHT DATUM: AHD71					

HEIGHT DIFFERENCE SCHEDULE			
FROM	TO	HEIGHT DIFFERENCE	METHOD
PM 10406	SSM 210170	-2·736	DIFFERENTIAL LEVELLING
SSM 210170	SSM 19282	-1·597	DIFFERENTIAL LEVELLING
SSM 19282	PM 10406	+4·333	DIFFERENTIAL LEVELLING
HEIGHT DATUM: AHD71			



SURVEYOR	PLAN OF SUBDIVISION OF LOTS 1, 2 & 3 IN DP1252889	L.G.A.: ALBURY CITY Locality: ETTAMOGAH Reduction Ratio: 1:4000 Lengths are in metres.	REGISTERED	DP1276039
Name: Stuart Murray Mason Date: 16/09/2021 Reference: 306523SV01 (VERSION : 5 15-10-2021)			20/12/2021	

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

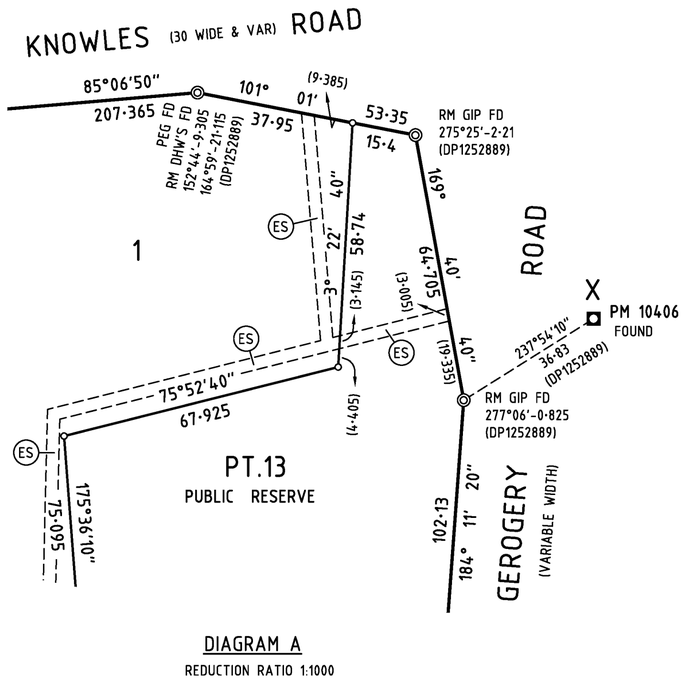


DIAGRAM A

REDUCTION RATIO 1:1000

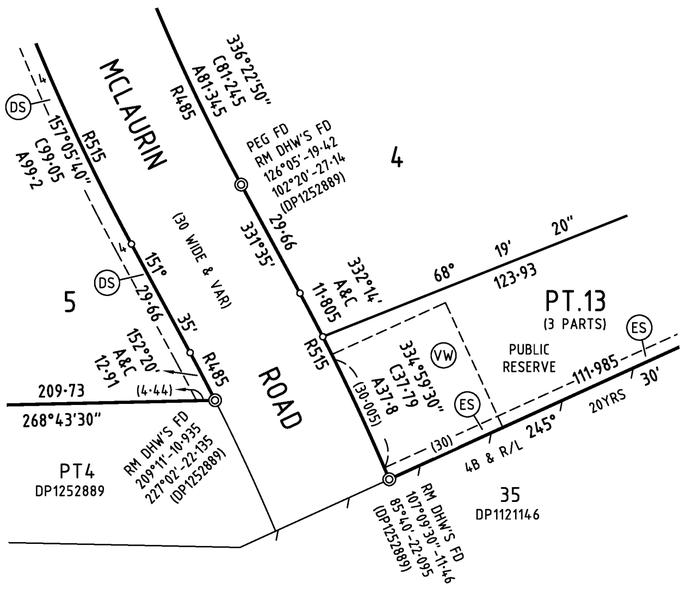
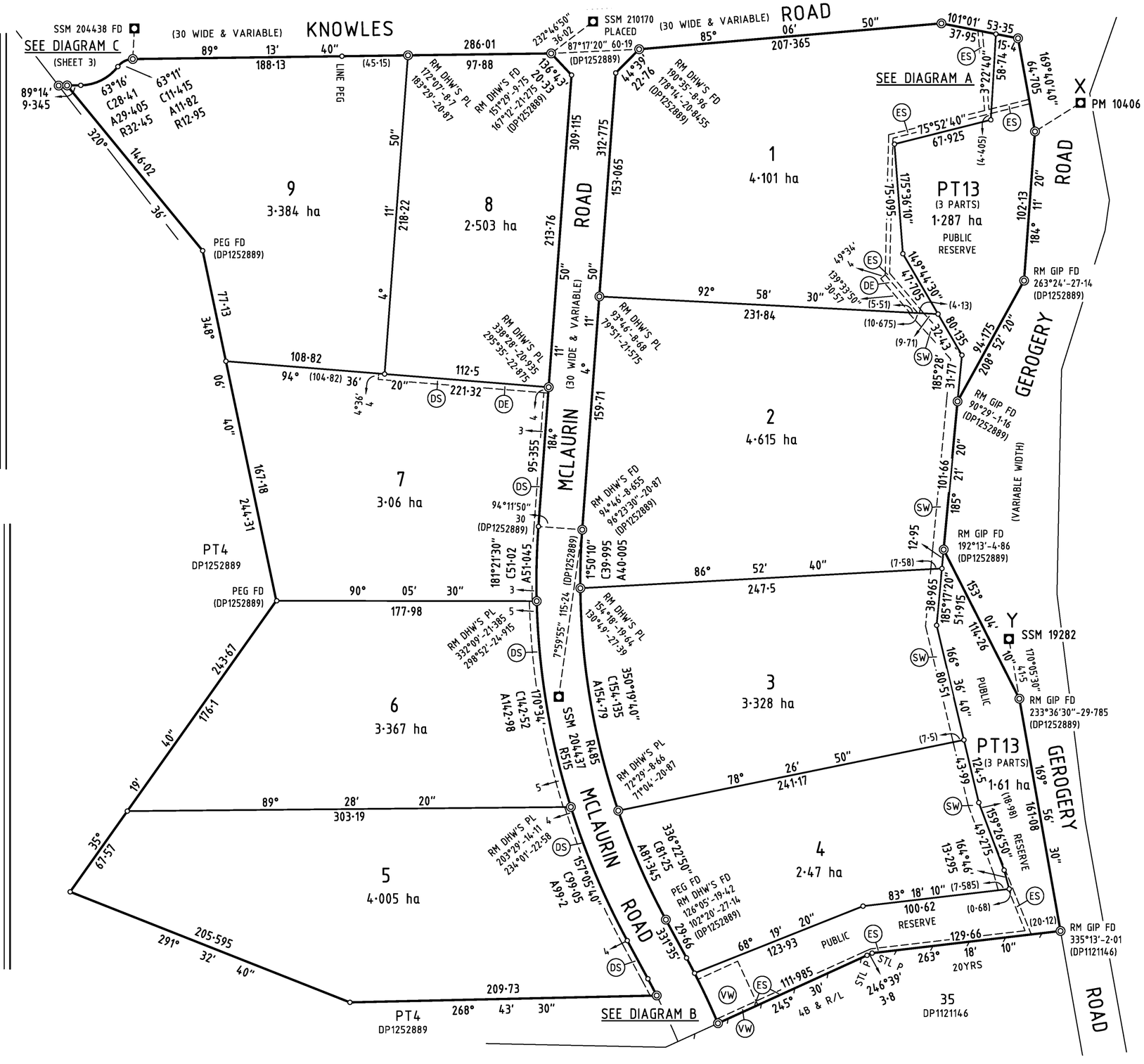


DIAGRAM B

REDUCTION RATIO 1:1000

BOUNDARIES ARE UNFENCED EXCEPT AS OTHERWISE SHOWN

- (ES) EASEMENT FOR DRAINAGE OF SEWAGE 3 WIDE (DP1252889)
- (VW) EASEMENT FOR DRAINAGE OF WATER VARIABLE WIDTH (DP1252889)
- (DS) EASEMENT FOR DRAINAGE OF SEWAGE 3, 4 & 5 WIDE
- (DE) EASEMENT FOR DRAINAGE OF WATER 4 WIDE
- (SW) EASEMENT FOR DRAINAGE OF WATER AND SEWAGE 7·5 WIDE

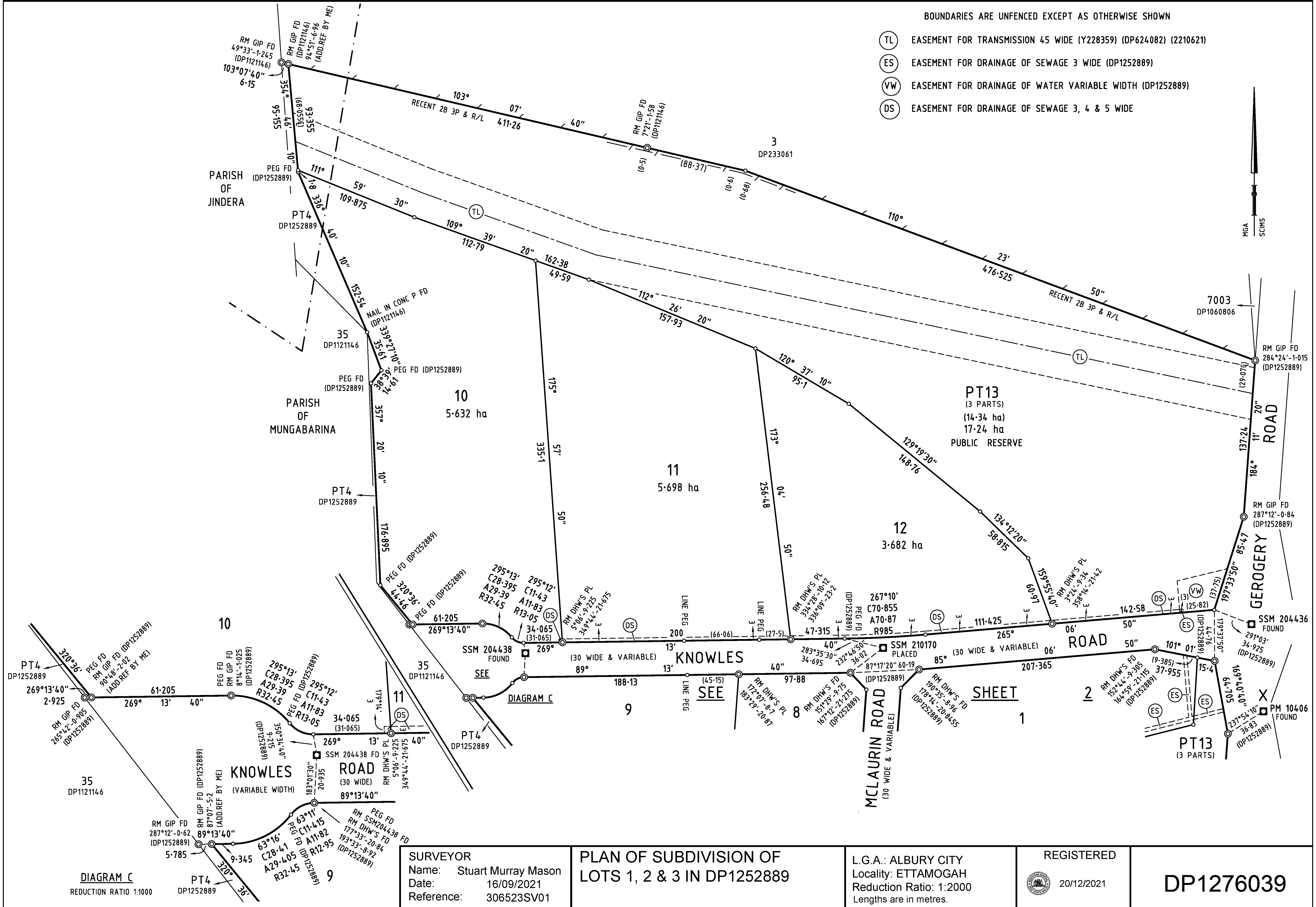


SURVEYOR Name: Stuart Murray Mason Date: 16/09/2021 Reference: 306523SV01 (VERSION : 5 15-10-2021)	PLAN OF SUBDIVISION OF LOTS 1, 2 & 3 IN DP1252889	L.G.A.: ALBURY CITY Locality: ETTAMOGAH Reduction Ratio: 1:2000 Lengths are in metres.	REGISTERED 20/12/2021	DP1276039

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

BOUNDARIES ARE UNFENCED EXCEPT AS OTHERWISE SHOWN

- (TL) EASEMENT FOR TRANSMISSION 45 WIDE (Y228359) (DP624082) (2210621)
- (ES) EASEMENT FOR DRAINAGE OF SEWAGE 3 WIDE (DP1252889)
- (VW) EASEMENT FOR DRAINAGE OF WATER VARIABLE WIDTH (DP1252889)
- (DS) EASEMENT FOR DRAINAGE OF SEWAGE 3, 4 & 5 WIDE



SURVEYOR	PLAN OF SUBDIVISION OF LOTS 1, 2 & 3 IN DP1252889	L.G.A.: ALBURY CITY	REGISTERED	DP1276039
Name: Stuart Murray Mason Date: 16/09/2021 Reference: 306523SV01 (VERSION : 5 15-10-2021)		Locality: ETTAMOGAH Reduction Ratio: 1:2000 Lengths are in metres.	20/12/2021	

PLAN FORM 6 (2020)

DEPOSITED PLAN ADMINISTRATION SHEET — Sheet 1 of 3 sheet(s)

Office Use Only

Registered: 20/12/2021

Title System: TORRENS

Office Use Only

DP1276039

PLAN OF SUBDIVISION OF LOTS 1, 2 & 3 IN DP1252889

LGA: ALBURY CITY
Locality: ETTAMOGAH
Parish: MUNGABARINA & JINDERA
County: GOULBURN

Survey Certificate

I, Stuart Murray Mason

of Spiire Australia Pty Ltd, 445 Townsend Street, Albury, NSW 2640

a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:

*(a) The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2017*, is accurate and the survey was completed on: .16th September 2021, ~~or~~

~~*(b) The part of the land shown in the plan (*being/*excluding ** .....~~ was surveyed in accordance with the *Surveying and Spatial Information Regulation 2017*, the part surveyed is accurate and the survey was completed on, ... the part not surveyed was compiled in accordance with that Regulation, or

~~*(c) The land shown in this plan was compiled in accordance with the Surveying and Spatial Information Regulation 2017~~

Datum Line: X - Y (MGA)
Type: *Urban/*[redacted]
~~The terrain is *Level-Undulating / *Steep-Mountainous~~

Signature ..... Dated 27/9/21

Surveyor Identification No: 7935
Surveyor registered under the *Surveying and Spatial Information Act 2002*

* Strike out inappropriate words

** Specify the land actually surveyed or specify and land shown in the plan that is not the subject of the survey.

Crown Lands NSW/Western Lands Office Approval

I ..... (Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given.

Signature: .....

Date: .....

File Number: .....

Office: .....

Subdivision Certificate

I David Christy

*Authorised Person/~~*General Manager/*Accredited Certifier~~, certify that the provisions of s.6.15 of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.

Signature: .....
Service Leader City Development

Registration no: .....

Consent Authority: Albury City Council

Date of endorsement: 20 October 2021

Subdivision Certificate no: 22.2019.36877.1

File number: AF21/04203

* Strike through if inapplicable

Plans used in the preparation of survey/compilation.

DP1252889
DP1121146

Statements of intention to dedicate public roads, create public reserves and drainage reserves, acquire/resume land.

IT IS INTENDED TO CREATE LOT 13 AS PUBLIC RESERVE

.....
AUTHORISED PERSON ACCEPTED

Surveyor's Reference: 306523SV01 (VERSION : 4 14-10-2021)

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A

PLAN FORM 6A (2019) DEPOSITED PLAN ADMINISTRATION SHEET

Office Use Only

Registered: 20/12/2021

DP1276039

PLAN OF SUBDIVISION OF LOTS 1, 2 & 3 IN DP1252889

Subdivision Certificate Number: 22.2021.36877.1

Date of Endorsement: 20 October 2021

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B Conveyancing Act 1919
- Signatures and seals - see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of 1 of the administration sheets.

Lot	Address Number	Road Name	Road Type	Locality Name
1	7	MCLAURIN	ROAD	ETTAMOGAH
2	21	MCLAURIN	ROAD	ETTAMOGAH
3	35	MCLAURIN	ROAD	ETTAMOGAH
4	47	MCLAURIN	ROAD	ETTAMOGAH
5	46	MCLAURIN	ROAD	ETTAMOGAH
6	34	MCLAURIN	ROAD	ETTAMOGAH
7	24	MCLAURIN	ROAD	ETTAMOGAH
8	10	MCLAURIN	ROAD	ETTAMOGAH
9	45	KNOWLES	ROAD	ETTAMOGAH
10	54	KNOWLES	ROAD	ETTAMOGAH
11	40	KNOWLES	ROAD	ETTAMOGAH
12	22	KNOWLES	ROAD	ETTAMOGAH
13	6	KNOWLES	ROAD	ETTAMOGAH

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919 IT IS INTENDED TO CREATE :-

1. EASEMENT FOR DRAINAGE OF SEWAGE 3, 4 & 5 WIDE
2. EASEMENT FOR DRAINAGE OF WATER 4 WIDE
3. EASEMENT FOR DRAINAGE OF WATER AND SEWAGE 7.5 WIDE
4. RESTRICTION ON THE USE OF LAND

TO RELEASE:-

1. EASEMENT FOR WATER SUPPLY PIPELINE 5 WIDE CREATED BY W311022 (DP636011)
2. EASEMENT FOR WATER SUPPLY PIPELINE 5 WIDE CREATED BY W311022 (DP636013)
3. RIGHT OF WAY (Bk 2842 No.152)
4. RIGHT OF ACCESS & EASEMENT FOR SERVICES 10 WIDE (DP1121146)
5. EASEMENT FOR DRAINAGE OF SEWAGE 3 WIDE (DP1252889)
6. RIGHT OF WAY 20.115 WIDE & VARIABLE (K736926)

If space is insufficient use additional annexure sheet

Surveyor's Reference: 306523SV01 (VERSION : 4 14-10-2021)

PLAN FORM 6A (2019) DEPOSITED PLAN ADMINISTRATION SHEET Sheet 3 of 3 sheet(s)

Office Use Only

Registered: 20/12/2021

DP1276039

PLAN OF SUBDIVISION OF LOTS 1, 2 & 3 IN DP1252889

Subdivision Certificate Number: 22.2021.36877.1

Date of Endorsement: 20 October 2021

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2017*
- Statements of intention to create and release affecting interests in accordance with section 88B Conveyancing Act 1919
- Signatures and seals - see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of 1 of the administration sheets.

ALBURY CITY COUNCIL (ABN 92 965 474 349)
Authority : Section 377 / 378 of the Local Government Act 1993

Signature of Delegate: .....

Name of Delegate: Brad Ferris

Position: Deputy CEO Infrastructure, Planning & Environment

Signature of Witness: K Gogoll

Name of Witness: Kieron Jean Gogoll

Position: Administration Coordinator

Address of Witness: 553 Kiewa Street Albury

If space is insufficient use additional annexure sheet

Surveyor's Reference: 306523SV01 (VERSION : 4 14-10-2021)

Electronic Form

Instrument setting out terms of Easements or Profits à Prendre intended to be created or released and of Restrictions on the Use of Land or Positive Covenants intended to be created pursuant to Section 88B Conveyancing Act 1919.

Plan: DP1276039

Plan of SUBDIVISION
of Lots 1, 2 & 3 in DP1252889

covered by Subdivision Certificate No. 22-2019-36877-1
dated 20 October 2021

Full name and address of the owner of the land:

Albury City Council
PO Box 323
Albury NSW 2640

Part 1 (Creation)

Number of item shown in the intention panel on the plan	Identity of easement, profit à prendre, restriction or positive covenant to be created and referred to in the plan	Burdened lot(s) or parcel(s):	Benefited lot(s), road(s), bodies or Prescribed Authorities:
1	Easement for drainage of sewage 3, 4 & 5 wide	5, 6, 7, 10, 11, 12, 13	Albury City Council
2	Easement for drainage of water 4 wide	1 and 7	Albury City Council
3	Easement for drainage of water and sewage 7.5 wide	2 to 4 inclusive	Albury City Council
4	Restriction on the use of land	1 to 12 Inclusive	Albury City Council

.....
(Signatory)

.....
Authorised Person

Instrument setting out terms of Easements or Profits à Prendre intended to be created or released and of Restrictions on the Use of Land or Positive Covenants intended to be created pursuant to Section 88B Conveyancing Act 1919.

Plan: DP1276039

Plan of SUBDIVISION of Lots 1, 2 & 3 in DP1252889

covered by Subdivision Certificate No. 22.2019.36877.1
dated 20 October 2021

Part 1A (Release)

Number of item shown in the intention panel on the plan	Identity of easement or profit à prendre, to be released and referred to in the plan	Burdened lot(s) or parcel(s):	Benefited lot(s), road(s), bodies or Prescribed Authorities:
1	Easement for water supply pipeline 5 wide created by W311022 (shown on DP636011).	Lot 13 in Lots 1 & 3 DP1252889	Albury City Council
2	Easement for water supply pipeline 5 wide created by W311022 (shown on DP636013).	Lot 13 in Lots 1 & 3 DP1252889	Albury City Council
3	Right of way (Bk 2842 No. 152)	Lot 3 DP233061	Lots 10 to 13 inclusive in Lot 1 DP1252889
4	Right of access & easement for services 10 wide vide DP1121146	Lot 35 DP1121146	2, 3. 5, 6, 7, 8, 9, 10, 11, 13 Lots 1 to 3 inclusive in DP1252889
5	Easement for drainage of sewage 3 wide vide DP1252889	Lots 2 to 5 inclusive in Lots 2 & 3 DP1252889	Albury City Council
6	Right of way 20.115 wide & variable (K736926)	Lot 2 DP1018401	Lots 10 to 13 inclusive in Lot 1 DP1252889

Bradley Low

....

(Signatory) Authorised Person

Instrument setting out terms of Easements or Profits à Prendre intended to be created or released and of Restrictions on the Use of Land or Positive Covenants intended to be created pursuant to Section 88B Conveyancing Act 1919.

Plan: DP1276039

Plan of SUBDIVISION of Lots 1, 2 & 3 in DP1252889

covered by Subdivision Certificate No. 22.2019.36877.1
dated 20 October 2021

Part 2 (Terms)

Terms of easement, profit à prendre, restriction, or positive covenant numbered 3 in the plan.

An easement for drainage of water and an easement for drainage of sewage, as described in Parts 7 and 6 of Schedule 4A of the *Conveyancing Act 1919*.

Terms of easement, profit à prendre, restriction, or positive covenant numbered 4 in the plan.

No development shall occur on the land unless it is in accordance with the requirements listed below. Pre-purchase consultation with AlburyCity staff is recommended.

1. Restricted Potable water supply
The daily available potable water volume available to each lot is restricted to the total volume available from a 25mm service at any given time.
2. Water Supply
Associated roof water harvesting and on site storage by each lot is required for the purposes of fire water, industrial water, toilet facilities and external requirements such as irrigation.
3. Industrial wastewater
Industrial wastewater must be treated on-site by each lot to a standard which will enable it to be discharged into Council's sewer reticulation system
4. Storm water Retention
A stormwater drainage detention system is to be provided on each lot in the subdivision. All storm water is to be collected and retained on site and discharged to pre-development flows or in accordance with the an approved alternate solution endorsed by Council.
5. Storm water Retention Treatment
All storm water run-off is to be treated on site by each lot to remove grease, pollutants and other contaminates to the minimum standard listed below in order to protect the ecosystem health of the receiving waterways.
Gross Pollutant Removal 90%
Total Suspended Solids 49%
Hydrocarbons 90%
Total Nitrogen 26%
Total Phosphorus 40%

.....
(Signatory)

.....
Authorised Person

Instrument setting out terms of Easements or Profits à Prendre intended to be created or released and of Restrictions on the Use of Land or Positive Covenants intended to be created pursuant to Section 88B Conveyancing Act 1919.

Plan: DP1276039

Plan of SUBDIVISION of Lots 1, 2 & 3 in DP1252889

covered by Subdivision Certificate No. 22-2021-36877-1
dated 20 October 2021

ALBURY CITY COUNCIL (ABN 92 965 474 349)
Authority : Section 377 / 378 of the Local Government Act 1993

Signature of Delegate: .....

Name of Delegate : Brad Ferris

Position: Deputy CEO Infrastructure Planning & Environment

Signature of Witness: .....

Name of Witness: Karon Jean Gogoll

Position: Administration Coordinator

Address of Witness: 553 Kiewa Street Albury

REGISTERED: 20/12/2021

....
(Signatory) Authorised Person

APPENDIX B:

Photographs of the Site and surrounding area

Photograph 1:

The eastern part of the Site (looking west from McLaurin Road adjacent the Site).

Photograph 2:

The northeastern part of the Site (looking northwest from McLaurin Road adjacent the Site).

Photograph 3:

The southeastern part of the Site (looking southwest from McLaurin Road adjacent the Site).

Photograph 4:

The northern lot boundary of the Site with adjoining land (looking west from McLaurin Road adjacent the Site).

Photograph 5:

The McLaurin Road frontage of the Site (looking south from the northeast lot boundary corner of the Site).

Photograph 6:

The location of the proposed north heavy vehicle crossover to the Site (looking west from McLaurin Road adjacent the Site).

Photograph 7:

The location of the proposed staff and visitor carpark vehicle crossover to the Site (looking west from McLaurin Road adjacent the Site).

Photograph 8:

McLaurin Road to the north of the Site (looking north from McLaurin Road adjacent the Site).

Photograph 9:

McLaurin Road to the south of the Site (looking south from McLaurin Road adjacent the Site).

Photograph 10:

The location of the proposed south heavy vehicle crossover to the Site (looking west from McLaurin Road adjacent the Site).

Photograph 11:

The southern lot boundary of the Site (looking west from the southeast lot boundary corner of the Site).

Photograph 12:

The McLaurin Road frontage of the Site (looking north from the southeast lot boundary corner of the Site).

Photograph 13:

The eastern lot boundary of the Site (looking north from the southeast lot boundary corner of the Site).

Photograph 14:

The southeastern part of the Site (looking northwest from the southeast lot boundary corner of the Site).

*****

APPENDIX C:

Air Quality Impact Assessment report

AIR QUALITY IMPACT ASSESSMENT PROJECT RAINBOW PLASTIC RECYCLING FACILITY

Joss Construction

15 March 2024

Job Number 23121673

Prepared by
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Air Quality Impact Assessment
Project Rainbow Plastic Recycling Facility

DOCUMENT CONTROL

Prepared by	Reviewed by
PH	DK

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1 INTRODUCTION

Todoroski Air Sciences has prepared this report to support a development application documentation prepared by Joss Construction on behalf of Pro-Pac Packaging Group (PPG) for a proposed plastic recycling facility at 24 McLaurin Road, Ettamogah, New South Wales (NSW) (hereafter referred to as the Project).

The proposed operations include the receival, sorting, cleaning and processing of flexible plastic packaging into recycled pellets which can then be remanufactured. The Project would have capacity to process approximately 15,000 tonnes per annum (tpa) of flexible plastic packaging at the site.

The report presents an assessment of potential air quality impacts associated with the Project. This air quality impact assessment has been prepared in general accordance with the New South Wales (NSW) Environment Protection Authority (EPA) document *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (**NSW EPA, 2022**).

To assess the potential air quality impacts associated with the Project, this report comprises:

- A background to the Project and description of the proposed site and operations;
- A review of the existing meteorological and air quality environment surrounding the site;
- A description of the dispersion modelling approach and emission estimations used to assess potential air quality impacts; and,
- Presentation of the predicted results and discussion of the potential air quality impacts and associated mitigation and management measures.

2 PROJECT SETTING AND DESCRIPTION

2.1 Project setting

The Project site is located at Ettamogah in the NEXUS Industrial Precinct, approximately 10 kilometres (km) northeast of Albury. The area surrounding the Project site is predominately comprised of rural agricultural land with the nearest residential dwelling identified to be approximately 1km to the west. There are two existing industrial operations in the NEXUS Industrial Precinct which include a Polyethylene Terephthalate (PET) waste recycling facility and shed manufacturing facility.

Figure 2-1 presents the location of the Project with reference to the assessment locations considered in this assessment. **Table 2-1** lists the assessment locations considered in this assessment.

Table 2-1: List of assessment locations assessed in this study

ID	Description	ID	Description
IN1	Commercial (Visy Industries)	SR2	Residential
IN2	Commercial (Overall Forge)	SR3	Residential
NSR1	Commercial (Twin Cities Model Aero Club)	SR4	Residential
NSR2	Commercial (Albury-Wodonga Clay Target Club	SR5	Residential
NSR3	Commercial (Ettamogah Rail)	SR6	Residential
Q1	Burgess Quarry	SR7	Residential
Q2A/Q2B	Delaney "Rockwood" Quarry	SR8	Future residential
SR1	Residential	SR9	Residential

Figure 2-2 presents a pseudo three-dimensional visualisation of the topography in the general vicinity of the Project. The local topography is gently undulating with elevation increasing to the north of the site.

Figure 2-1: Project setting

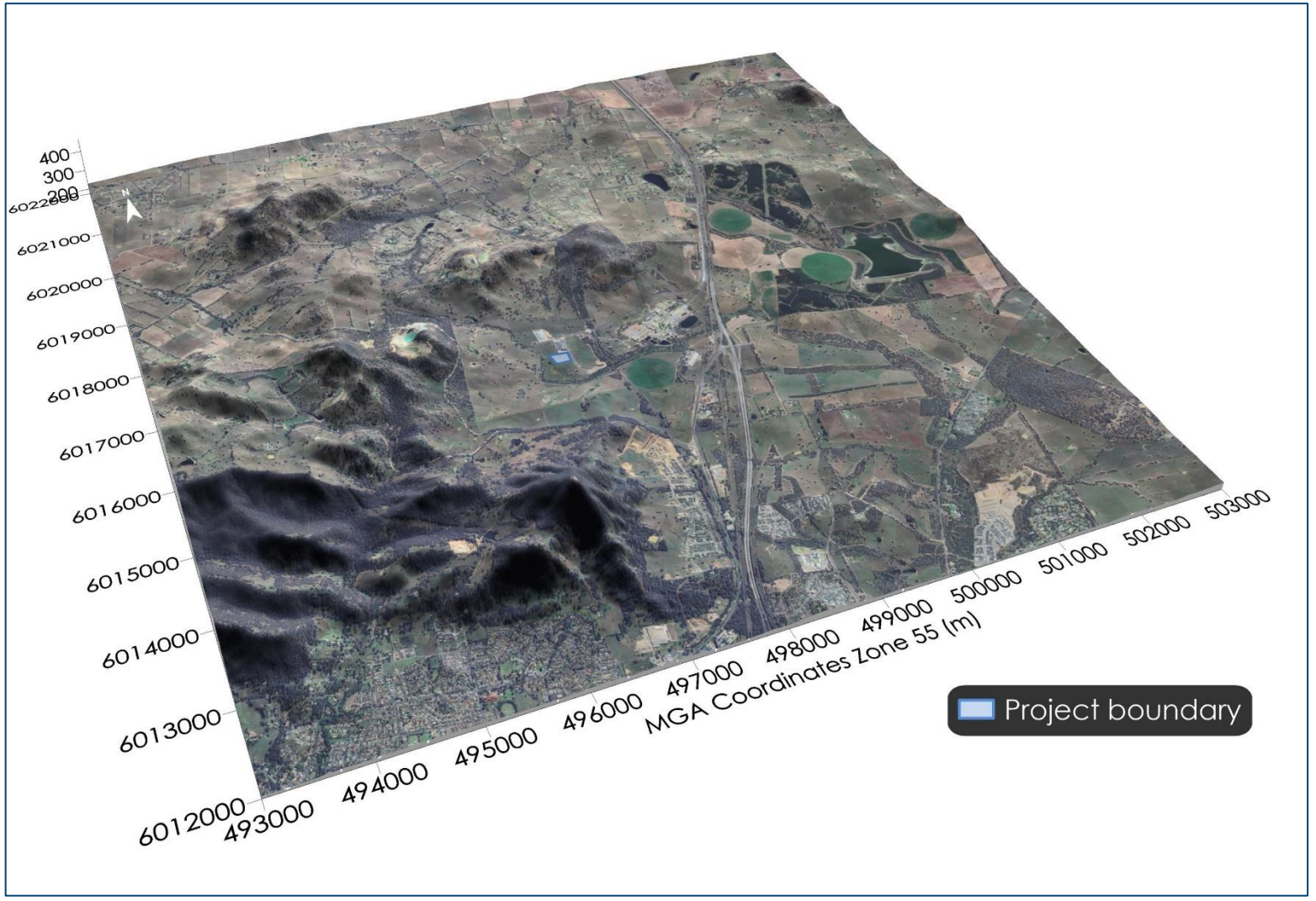

Figure 2-2: Representative visualisation of topography in the area surrounding the Project

2.2 Project description

The Project involves the processing of commercial "back of store" soft plastics and post-consumer agricultural soft plastics waste at an annual production rate of 15,000tpa to produce high-quality recycled pellets which can be used in the manufacture of recycled flexible film products. Commercial "back of store" plastics are sourced from retailers and includes materials like pallet wrap with agricultural soft plastics comprising silage and cotton wrap.

The flexible plastic packaging waste will be processed using plant and equipment designed by Lindner (Germany) and Starlinger (Austria), which are used at numerous existing facilities in Australia and around the world, including the neighbouring site which processes PET waste.

The recycling process for this assessment is informed by the Statement of Industrial Process developed for this Development application and involves multiple stages where the material will be sorted, shredded, washed, extruded and pelletised. The product material is stored in bulk bags and transport of processed material from the Project site is via road transport.

The process does not involve direct chemical manufacture of the flexible plastic and is predominantly driven by mechanical and heat processing steps, resulting in low emissions. Nevertheless, the plant incorporates various air emission controls on these processes, including dust cyclones and filters to remove any particulate matter generated in the process. Any emissions generated from the pelletisation process are captured and expelled through stacks to ensure adequate dispersion in the surrounding environment. The Project proposes to use well-proven high-performance plant supplied by leading global manufacturers.

Emissions of other air pollutants (i.e. Volatile Organic Compounds [VOCs]) from the process are minimised as there is no chemical manufacturing or combustion of the material. Emissions of VOCs can arise from the degradation of the polymer itself, the residual material that originally filled the package, as well as inks adhesives and additives in the plastic material (**Cabanes, et al., 2020**). A review of literature on VOC generated from recycling (**Cabanes et al., 2020 & Barlow et al., 1996)** suggests there is a large variety of potential VOCs emitted during the recycling process. The majority of these do not have specific air quality impact assessment criteria. For the purpose of this assessment, those with air quality impact assessment have been identified in the following section and assessed in this report.

The proposed operating hours for the Project are 24-hours per day Monday to Friday for production and extrusion, with delivery of feedstock occurring 6:00am to 5:00pm Monday to Friday.

3 AIR QUALITY CRITERIA

Air quality criteria are benchmarks set to protect the general health and amenity of the community in relation to air quality. The sections below identify the potential air emissions generated by the Project and the applicable air quality criteria.

Particulate matter emissions would arise from the process air emission exhaust points and from the various "non-process" activities associated with the transport and handling of the material. Individual VOC emissions would arise from the process air emission exhaust points.

Table 3-1 summarises the air quality goals that are relevant to this study as outlined in the NSW EPA document *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (**NSW EPA, 2022**) and the Texas Commission on Environmental Quality (TCEQ) Toxicity Factor Database (**TCEQ, 2024**)

The air quality goals for key pollutants relate to the total pollutant burden in the air and not just the contribution from the Project. Consideration of background pollutant levels needs to be made when using these goals to assess potential impacts.

Table 3-1: Air quality impact assessment criteria

Pollutant	Averaging period	Criterion	Units	Assessment location	Source
Total Suspended Particulates (TSP)	Annual	90	µg/m³	Receptor	NSW EPA
Particulate matter ≤10µm (PM_{10})	Annual	25	µg/m³	Receptor	NSW EPA
	24-hour	50	µg/m³	Receptor	NSW EPA
Particulate matter ≤2.5µm (PM_{25})	Annual	8	µg/m³	Receptor	NSW EPA
	24-hour	25	µg/m³	Receptor	NSW EPA
Deposited dust	Annual	2	g/m²/month	Receptor	NSW EPA
		4	g/m²/month	Receptor	NSW EPA
Acetaldehyde	1-hour	42	µg/m³	Boundary	NSW EPA
Acetic acid	1-hour	270	µg/m³	Boundary	NSW EPA
Acetone	1-hour	22,000	µg/m³	Boundary	NSW EPA
Acrolein	1-hour	0.42	µg/m³	Boundary	NSW EPA
Acrylic acid	1-hour	110	µg/m³	Boundary	NSW EPA
Butyl acrylate	1-hour	100	µg/m³	Boundary	NSW EPA
Diphenyl ether	1-hour	80	µg/m³	Boundary	NSW EPA
Ethylene	1-hour	570,000	µg/m³	Boundary	TCEQ
Formaldehyde	1-hour	20	µg/m³	Boundary	NSW EPA
Hexanal	1-hour	330	µg/m³	Boundary	TCEQ
Methyl ethyl ketone	1-hour	3,200	µg/m³	Boundary	NSW EPA
Methyl methacrylate	1-hour	270	µg/m³	Boundary	NSW EPA
Propionaldehyde	1-hour	92	µg/m³	Boundary	TCEQ
Propylene glycol monomethyl ether	1-hour	6,600	µg/m³	Boundary	NSW EPA
Pyridine	1-hour	7	µg/m³	Boundary	NSW EPA

µg/m³ = micrograms per cubic metre

g/m²/month = grams per square metre per month

4 EXISTING ENVIRONMENT

This section describes the existing environment including the climate and ambient air quality in the area surrounding the Project.

4.1 Local climatic conditions

Long-term climatic data from the closest Bureau of Meteorology (BoM) weather station at Albury Airport AWS (Site No. 072160) were analysed to characterise the local climate in the proximity of the Project. Albury Airport AWS is located approximately 8.1km south-southwest of the Project.

Table 4-1 and **Figure 4-1** present a summary of data from the Albury Airport AWS collected over a 3-to-30-year period for the various meteorological parameters.

The data indicate that January is the hottest month with a mean maximum temperature of 32.4 degrees Celsius (ºC) and July is the coldest month with a mean minimum temperature of 3.1ºC.

Rainfall typically increases during the second half of the year, with an annual average rainfall of 643.1 millimetres (mm) over 73.5 days. The data indicate that August is the wettest month with an average rainfall of 66.6mm over 9.1 days and April is the driest month with an average rainfall of 40.6mm over 4.5 days.

Relative humidity levels exhibit variability over the day and seasonal fluctuations. Mean 9am relative humidity ranges from 53% in January to 90% in July. Mean 3pm relative humidity levels range from 28% in January and September to 64% in June and July.

Wind speeds exhibit daily and seasonal variations between 9am and 3pm conditions. Mean 9am wind speeds range from 4.8 kilometres per hour (km/h) in May to 11.1km/h in December. Mean 3pm wind speeds range from 10.8km/h in May to 17.4km/h in December.

Table 4-1: Monthly climate statistics summary – Albury Airport AWS

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann.
Temperature													
Mean max. temp. (ºC)	32.4	31.1	27.7	22.6	17.6	14.0	13.2	14.9	18.0	21.9	26.1	29.5	22.4
Mean min. temp. (ºC)	16.8	16.2	13.0	8.5	5.5	3.7	3.1	3.6	5.6	8.2	11.7	14.0	9.2
Rainfall													
Rainfall (mm)	54.6	42.5	45.3	40.6	52.2	62.0	65.1	66.6	58.2	52.3	66.5	41.9	643.1
No. of rain days (≥1mm)	4.5	3.6	3.7	4.5	6.1	8.3	9.9	9.1	6.9	6.3	5.9	4.7	73.5
9am conditions													
Mean temp. (ºC)	22.1	21.0	17.3	14.1	10.0	7.3	6.3	8.1	11.4	14.8	17.5	19.9	14.2
Mean R.H. (%)	53.0	59.0	63.0	69.0	83.0	89.0	90.0	83.0	75.0	65.0	62.0	55.0	71.0
Mean W.S. (km/h)	10.7	8.6	6.3	6.1	4.8	5.4	5.6	7.0	9.9	10.2	10.5	11.1	8.0
3pm conditions													
Mean temp. (ºC)	30.4	29.6	26.4	21.6	17.1	13.4	12.4	14.1	16.9	20.3	24.4	27.5	21.2
Mean R.H. (%)	28.0	33.0	34.0	41.0	54.0	64.0	64.0	57.0	53.0	45.0	39.0	30.0	45.0
Mean W.S. (km/h)	16.1	14.0	14.3	13.1	10.8	11.0	11.4	14.2	16.4	16.8	16.4	17.4	14.3

Source: **Bureau of Meteorology, 2024**

R.H. – Relative Humidity, W.S. – wind speed

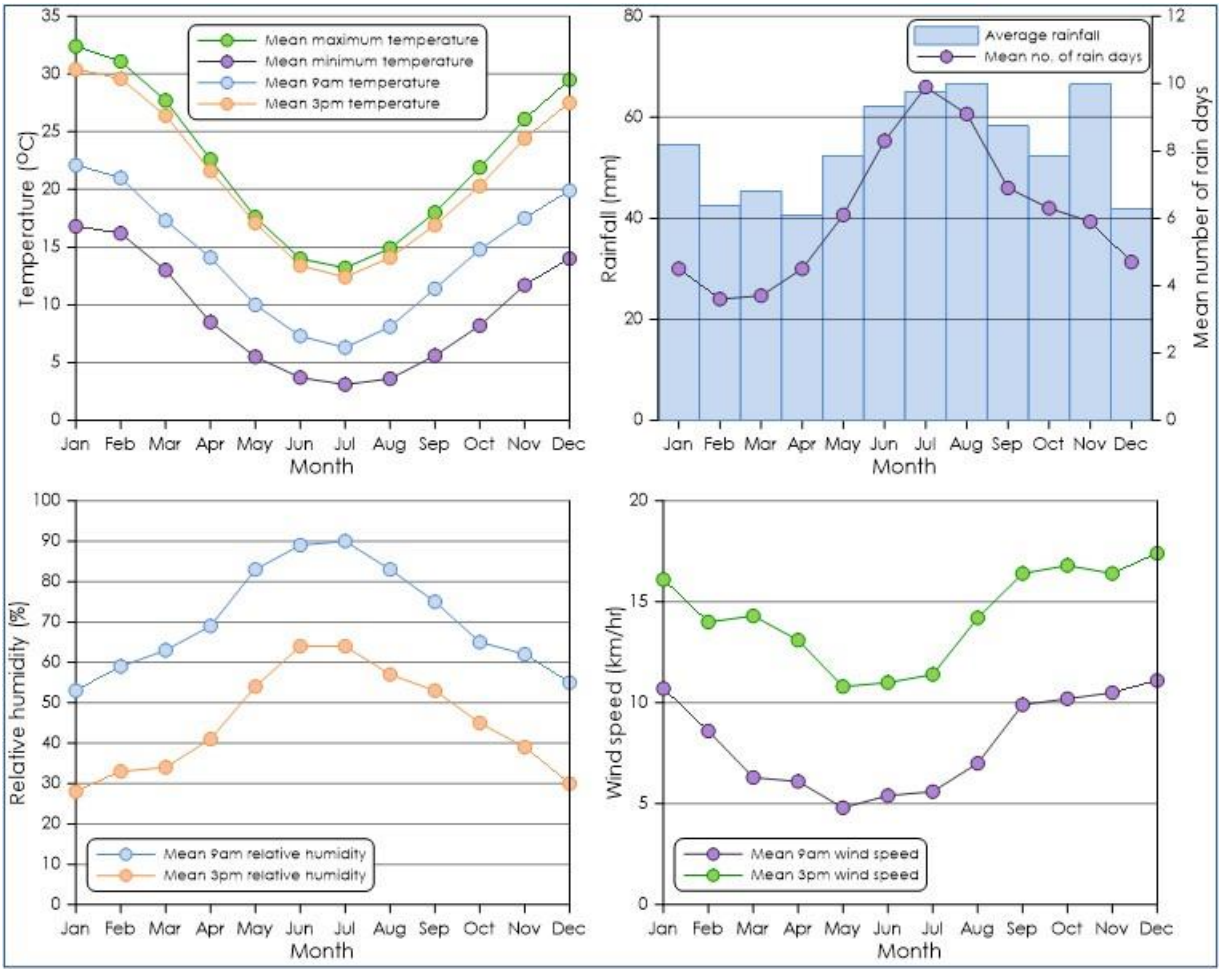

Figure 4-1: Monthly climate statistics summary – Albury Airport AWS

4.2 Local meteorological conditions

Annual and seasonal windroses for the Albury Airport AWS weather station during the 2017 calendar period are presented in **Figure 4-2**.

The 2017 calendar period corresponds to the period of meteorological modelling based on an analysis of data trends in meteorological data and appropriate monitoring data recorded for the area as outlined in **Appendix A**.

Analysis of the annual windrose shows that the wind directions are predominantly from the southeast with variable winds from the other directions. The summer and spring, wind directions follow a similar distribution to the annual windrose with winds predominantly occurring from the southeast and west. The winter wind distribution shows winds occurring from varied directions. In autumn, the most dominant winds occur from the southeast.

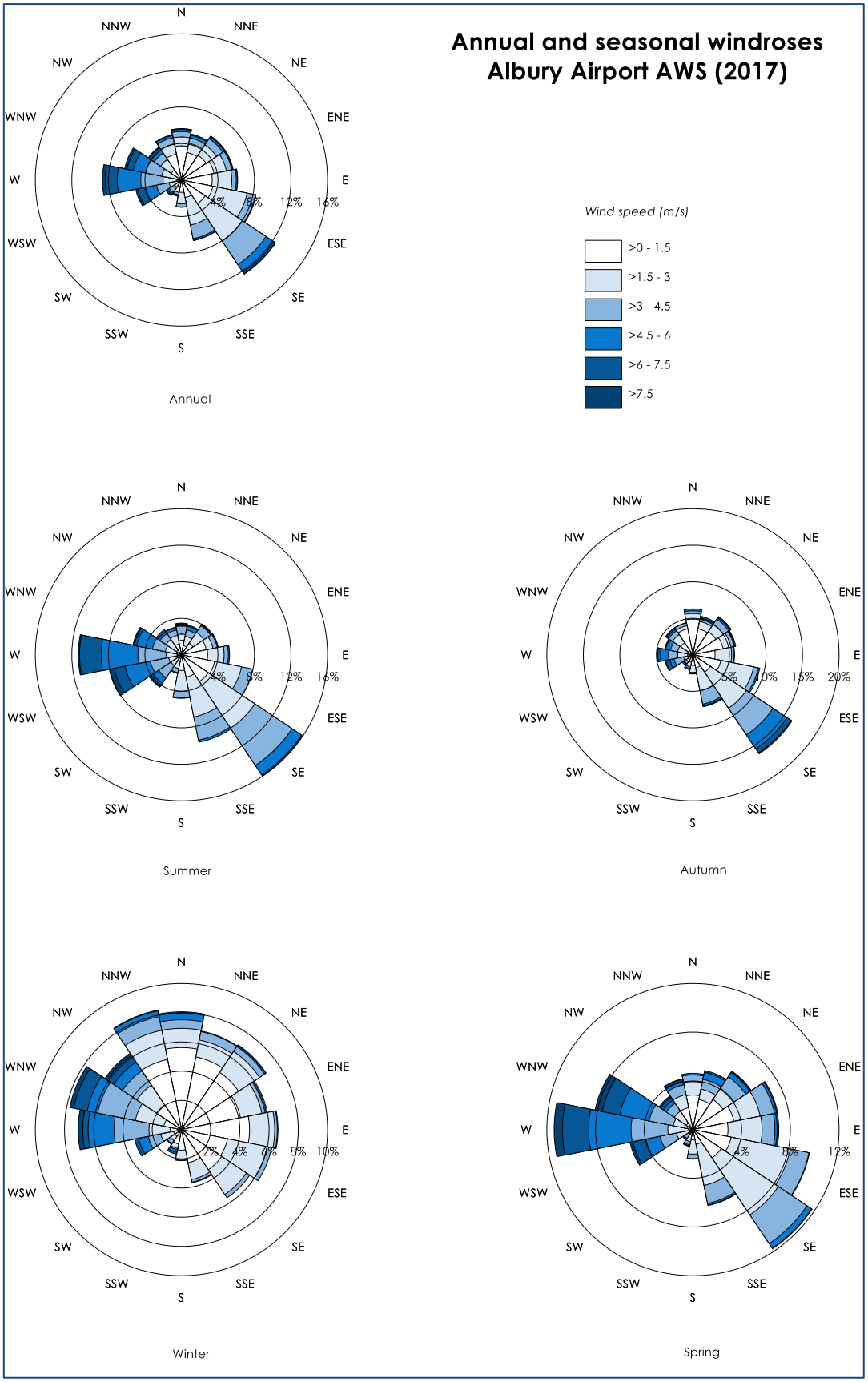

Figure 4-2 : Annual and seasonal windroses – Albury Airport AWS (2017)

4.3 Local air quality monitoring

The main sources of air pollutants in the area are emissions from surrounding industrial and commercial operations and from other anthropogenic activities such as motor vehicle exhaust and wood heater emissions.

Available data from the nearest air quality monitor operated by the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) at Albury and by Australian Capital Territory (ACT) Health at Monash were used to characterise the ambient air quality levels for this site.

It is to be noted that the Albury and Monash monitoring stations are located in generally more urban environments with potentially higher ubiquitous ambient air emissions sources such as traffic and domestic wood heater emissions. The monitoring data are expected to provide a conservative estimate of the underlying background levels in the locality.

4.3.1 $PM_{2.5}$ monitoring

A summary of the available $PM_{2.5}$ data from 2017 to 2023 is presented in **Table 4-2** and **Figure 4-3**. These data include levels measured during all extraordinary event days. Extraordinary event days are characterised as those days influenced by exceptional events such as bushfires, dust storms and hazard reduction burns.

A review of **Table 4-2** indicates that the annual average $PM_{2.5}$ concentrations at Albury and Monash were below the relevant criterion of 8µg/m^3 for all years, except 2019 and 2020. The maximum 24-hour average $PM_{2.5}$ concentrations exceeded the relevant criterion of 25µg/m^3 on occasion during the review period.

It is noted that there was a significant increase in the frequency of exceedances of the 24-hour average $PM_{2.5}$ criterion in the 2019/ 2020 summer, predominately due to smoke associated with the widespread bushfires occurring at this time (refer to **Figure 4-3**).

Table 4-2: Summary of $PM_{2.5}$ levels from monitoring stations (µg/m^3)

Year	Albury	Monash	Criterion
	Annual average		
2017	7.3	7.7	**8**
2018	7.3	6.9	**8**
2019	**10.3**	**13.9**	**8**
2020	**10.4**	**17.9**	**8**
2021	7.3	6.8	**8**
2022	5.6	4.9	**8**
2023	6.5	6.8	**8**
	Maximum 24-hour average		
2017	18.7	**36.1**	**25**
2018	**30.4**	**31.3**	**25**
2019	**167.1**	**231.8**	**25**
2020	**275.2**	**1,197.1**	**25**
2021	24.6	**28.0**	**25**
2022	15.3	24.5	**25**
2023	17.3	**28.5**	**25**

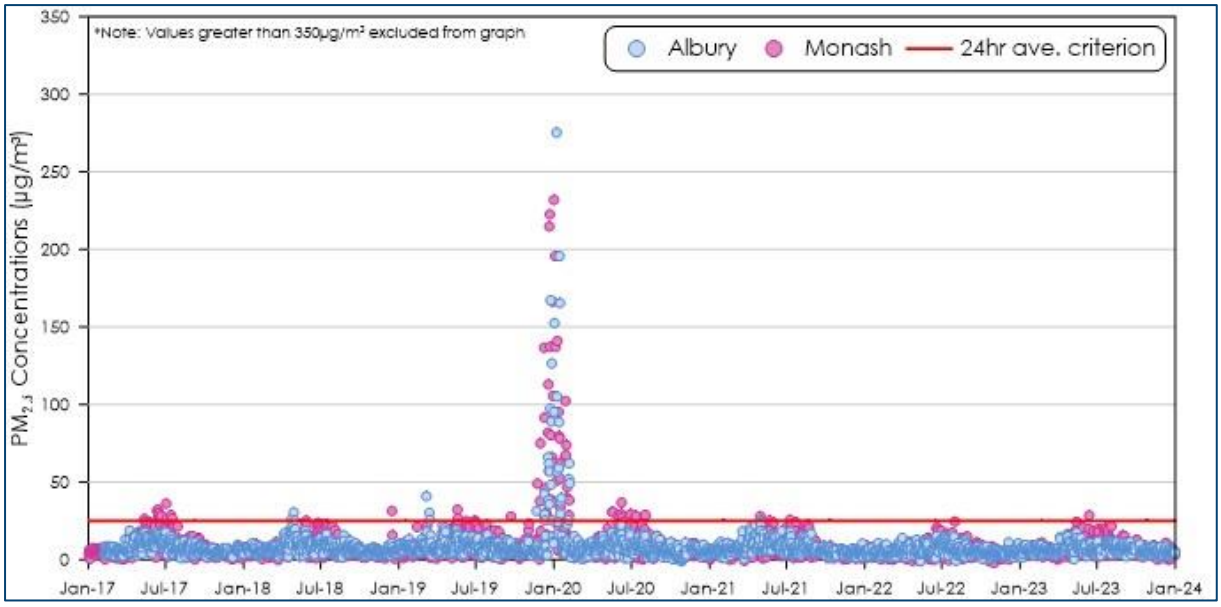

Figure 4-3: 24-hour average $PM_{2.5}$ concentrations

4.3.2 PM_{10} monitoring

A summary of the available PM_{10} monitoring data from 2017 to 2023 is presented in **Table 4-3** and **Figure 4-4**. These data include levels measured during all extraordinary event days. Extraordinary event days are characterised as those days influenced by exceptional events such as bushfires, dust storms and hazard reduction burns.

A review of **Table 4-3** indicates that the annual average PM_{10} concentrations for Albury and Monash were below the relevant criterion of 25µg/m³ for all years. The maximum 24-hour average PM_{10} concentrations were found to exceed the relevant criterion of 50µg/m³ on occasion during the review period.

Elevated PM_{10} concentrations in **Figure 4-4** can be attributed to the same extraordinary events that affected the $PM_{2.5}$ data. High PM_{10} concentrations in 2018 appears to be influenced by dry, drought conditions which lead to more dust in the air. The significant increase in the frequency of exceedances of the 24-hour average PM_{10} criterion in the 2019/ 2020 summer, predominately due to smoke associated with the widespread bushfires occurring at this time.

Table 4-3: Summary of PM_{10} levels from monitoring stations (µg/m³)

Year	Albury	Monash	Criterion
	Annual average		
2017	15.8	9.7	**25**
2018	19.8	11.8	**25**
2019	23.7	18.7	**25**
2020	19.7	22.5	**25**
2021	14.4	10.3	**25**
2022	11.6	7.3	**25**
2023	13.6	10.2	**25**
	Maximum 24-hour average		
2017	48.8	28.5	**50**
2018	**107.8**	**136.8**	**50**
2019	**222.4**	**310.9**	**50**
2020	**298.3**	**1,097.0**	**50**

2021	**52.3**	37.6	**50**
2022	46.7	27.0	**50**
2023	32.4	29.1	**50**

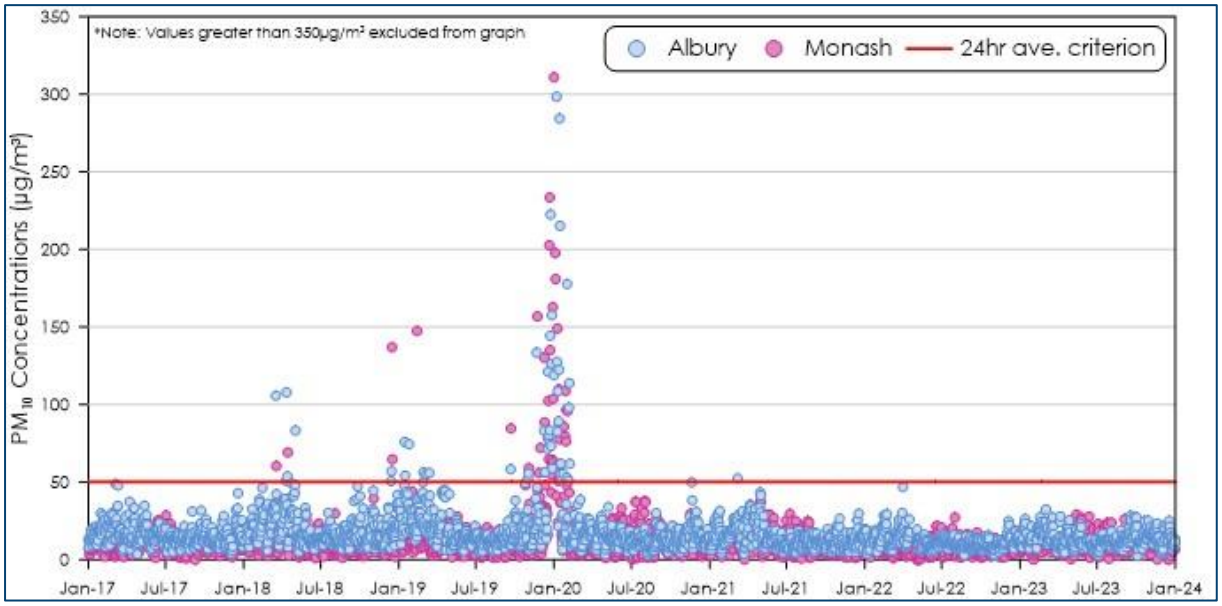

Figure 4-4: 24-hour average PM_{10} concentrations

4.3.3 Estimated background levels

There are no readily available site-specific monitoring data, and therefore the background air quality levels from the Albury monitor were used to represent the background levels for the Project. The data collected during the 2017 calendar period, which correspond to the period of meteorological modelling has been applied.

In the absence of available data, estimates of the annual average background TSP and deposited dust concentrations can be determined from a relationship between $PM_{10,}$ TSP and deposited dust concentrations and the measured PM_{10} levels. This relationship assumes that an annual average PM_{10} concentration of 25µg/m^3 corresponds to a TSP concentration of 90µg/m^3 and a dust deposition value of 4g/m^2/month. This assumption is based on the NSW EPA air quality impact criteria. Applying this relationship with the measured annual average PM_{10} concentration of 15.9µg/m^3 indicates an approximate annual average TSP concentration and deposition value of 57.2µg/m^3 and 2.5g/m^2/month, respectively.

The background air quality levels applied in this assessment are summarised in **Table 4-4**.

Table 4-4: Summary of background levels

Pollutant	Background level	Units
24-hour average $PM_{2.5}$	Daily varying / 18.7	µg/m³
Annual average $PM_{2.5}$	7.3	µg/m³
24-hour average PM_{10}	Daily varying / 48.8	µg/m³
Annual average PM_{10}	15.8	µg/m³
Annual average TSP	57.0	µg/m³
Annual average deposited dust	2.5	g/m²/month

4.4 Local sources with cumulative impact potential

The neighbouring site has a similar process to the Project, recycling PET waste material, and would have similar air emissions which would contribute to the cumulative air pollutant level. The predicted contribution from this site presented in the *Air Quality Impact Assessment – Proposed alteration to the Circular Plastics Australia Polyethylene Terephthalate (PET) Plastic Recycling Facility* (**Todoroski Air Sciences, 2020**) was used to assess potential cumulative impact.

There are also four other possible local sources of air emissions which may contribute to cumulative air pollutant levels in this locality. These are the non-operating paper mill (IN1), a forge (IN2) in the adjacent industrial area and two hard rock quarries, the Burgess Quarry (Q1) and the Delaney "Rockwood" Quarry (Q2A/Q2B), all respectively identified in **Figure 2-1**.

The paper mill (when it operated) would have primarily emitted NO_2, CO and odour, however there are no publicly available data for the (past) emissions from this plant, and it is understood that it is to be converted to other activities and may not operate as a paper mill in future. It will thus be incumbent on the user of the new facility to conduct a cumulative assessment when seeking approval.

In regard to the small forge, both the forge and the site are simply too small, too far apart and are each too far away from any receptor to lead to any cumulative impact. The main emissions would be dust, and there is a significant margin of compliance in this case, even when considering that a level 1 (maximum background plus maximum contribution) assessment is made for all pollutants bar 24-hour PM_{10}.

The two hard rock quarries have approval for a maximum annual extraction rate of 113,000m^3 at the Burgess Quarry and 100,000m^3 plus 20,000 tonnes of recycled concrete processed at the Delaney Quarry. The main air emissions from these operations would be dust generated from the quarrying activities. A review of the *Rockwood Quarry Air Quality Assessment* (**GHD, 2018**) indicates that annual average dust impacts from the operations are low at the receptor locations nearest the quarry. The Burgess Quarry has a similar approved extraction rate and is located at a similar distance to the nearest receptors, so a similar level of low level of impact can be inferred for this quarry. With the spatial displacement of the Project relative to these receptors being large (~2km) the contribution from the project is far too negligible for any potential cumulative impact to arise. For potential cumulative short-term dust impacts, the highest dust impacts from the quarries would likely occur during periods of high wind speeds when there is added windblown dust from their exposed surfaces. However, at these times, impacts from the Project would be close to their lowest, because most of the dust emissions (which are very low anyway) are emitted from exhaust stacks and will disperse much better during these conditions, making it unlikely that there could be any discernible cumulative impact.

5 DISPERSION MODELLING APPROACH

5.1 Introduction

The following sections are included to provide the reader with an understanding of the model and modelling approach applied for the assessment. The CALPUFF is an advanced air dispersion model which can deal with the effects of complex local terrain on the dispersion meteorology over the modelling domain in a three-dimensional, hourly varying time step.

The model was setup in general accord with the methods provided in the NSW EPA document *Generic Guidance and Optimum Model Setting for the CALPUFF Modeling System for Inclusion into the 'Approved Methods for the Modeling and Assessments of Air Pollutants in NSW, Australia'* (**TRC**, **2011**).

5.2 Modelling methodology

Modelling was undertaken using a combination of the CALPUFF Modelling System and the Weather Research and Forecasting model (WRF). The CALPUFF Modelling System includes three main components: CALMET, CALPUFF and CALPOST and a large set of pre-processing programs designed to interface the model to standard, routinely available meteorological and geophysical datasets.

5.3 Meteorological modelling

The WRF model was applied to the available data to generate a three-dimensional upper air data file for use in CALMET. The centre of analysis for the WRF modelling used is 35.998deg south and 146.971deg east. The simulation involved an outer grid of with 15km grid spacing, with two nested grids with 3km and 1km grid spacing.

The CALMET domain was run on a domain of 10 x 10km with a 0.1km grid resolution. The available meteorological data the year 2017 from the Albury Airport AWS (BoM) and Albury air quality monitoring station s (DCCEEW) were included in the simulation.

Local land use and detailed topographical information was included to produce realistic fine scale flow fields (such as terrain forced flows) in surrounding areas, as shown in **Figure 5-1**.

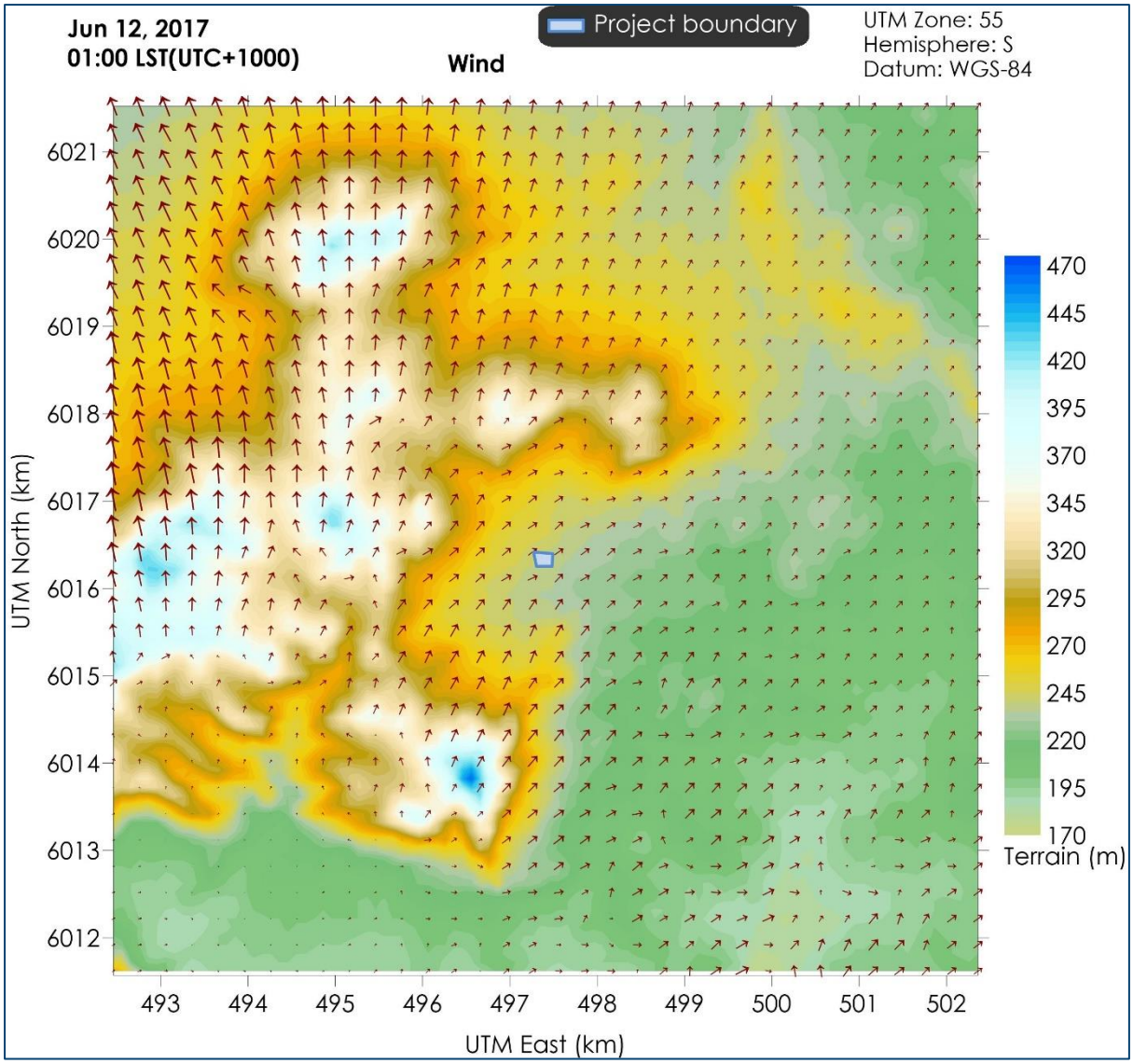

Figure 5-1: Representative 1-hour average snapshot of wind field for the Project

CALMET generated meteorological data were extracted from a point within the CALMET domain and are graphically represented in **Figure 5-2** and **Figure 5-3**.

Figure 5-2 presents the annual and seasonal windroses from the CALMET data. Overall, the windroses generated in the CALMET modelling reflect the expected wind distribution patterns of the area as determined based on the available measured data and the expected terrain effects on the prevailing winds. **Figure 5-3** includes graphs of the temperature, wind speed, mixing height and stability classification over the modelling period and shows sensible trends considered to be representative of the area.

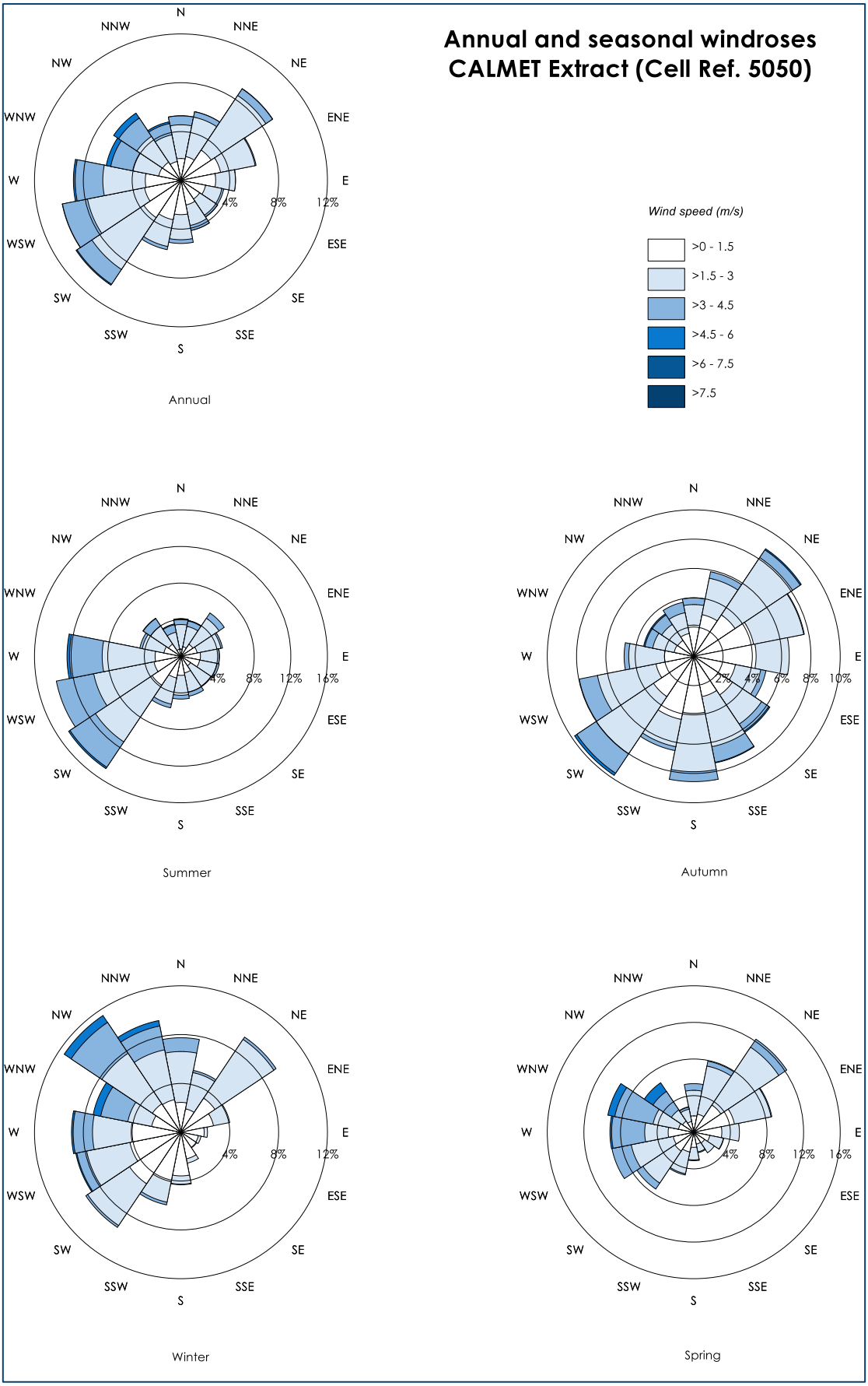

Figure 5-2: Annual and seasonal windroses from CALMET (Cell ref 5050)

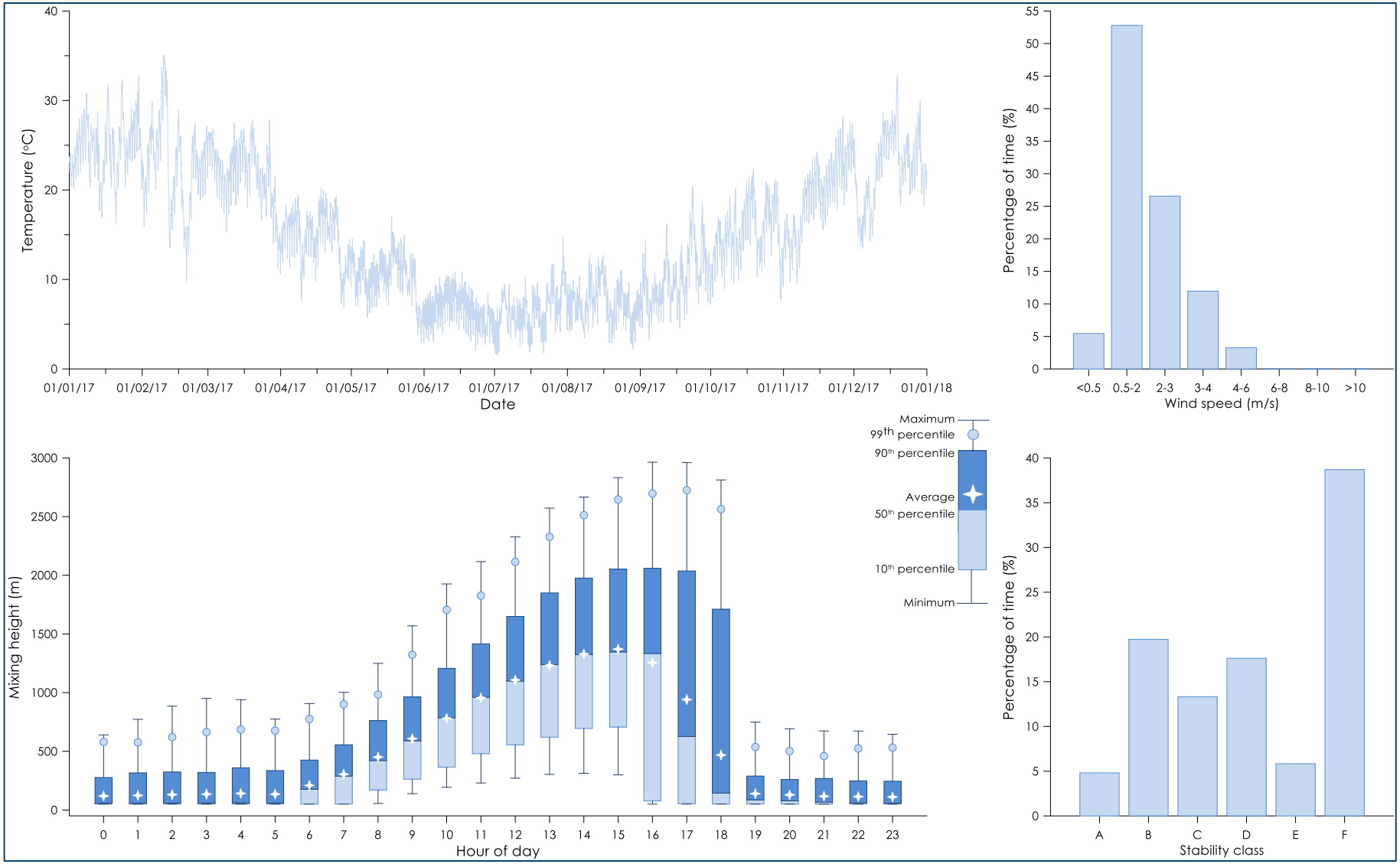

Figure 5-3: Meteorological analysis of CALMET (Cell REF 5050)

5.4 Dispersion modelling

The CALPUFF dispersion model, in conjunction with a CALMET generated meteorological data file, was applied to provide predictions of the ground level concentrations of potential pollutant concentrations associated with the operation of the Project.

Emission sources include point sources from the process emissions and fugitive sources from the other non-processing plants.

5.5 Emission estimation

The main air emission sources associated with operation of the Project are identified as the process air emission exhaust points and dust from the various "non-process" activities such as material handling, vehicles travelling on-site, and minor windblown dust from the site and diesel exhaust emissions from on-site vehicles.

5.5.1 Process emissions

The various process air emission exhaust/ stack points associated with process exhaust from the AMUT plant and Starlinger plant are considered. The modelled stack parameters for the Project are outlined in **Table 5-1**.

Table 5-1: Modelled stack parameters

ID	Point 1	Point 2	Point 3	Point 4
Name	SMART feeder	C-VAC-degassing	Pelletizer	PCU
Height (m)	14.4	15	15.6	15.9
Diameter (m)	0.15	0.15	0.15	0.3
Temperature (K)	373	353	353	373
Exit velocity (m/s)	45	25	25	16
Flow rate (m^3/s)	0.8	0.44	0.44	1.13
PM (mg/m^3)	10	0	5	10
VOC (mg/m^3)	180	50	0	180

PM = particulate matter

The process emissions are estimated based on information obtained via direct discussions with the equipment manufacturer, and data the manufacturer had available from other installations. Emissions from the points sources are modelled emitting continuously during the modelling period.

The available data indicate the maximum plant emissions would be below the regulatory criteria. Emissions of particulate matter are assumed to be entirely PM_{10} with $PM_{2.5}$ comprising approximately half.

For the VOC emissions, a maximum value as measured by the equipment manufacturer has been provided in **Table 5-1**. These VOC emissions would comprise of a various individual VOCs with the composition varying depending on the plastic waste material processed at the time. Due to this, to assess the impact associated with these individual VOCs, the potential dispersion of air emissions based on the maximum value from the point sources are used to define the maximum extent of emissions so that do not cause impacts at the site boundary.

It is expected that this process technology and the proposed emission controls is more than capable of complying with the relevant criteria for individual VOCs and as part of the commissioning of the facility, performance testing would be conducted to verify this.

The modelled location of the process air emission exhaust points for the Project is shown in **Figure 5-4**. The model has included consideration of potential "building" wake effects on air dispersion that arise due to the effect of winds passing over the buildings at the Project site using the Building Profile Input Program (BPIP) and the PRIME building wake algorithm.

Figure 5-4: Modelled source locations

5.5.2 Dust emissions (non-processing plant)

Dust emission estimates for the non-processing (other) various activities associated with the Project have been calculated by analysing the various types of dust generating activities taking place and utilising suitable emissions sourced from both locally developed and United States Environmental Protection Agency (US EPA) developed documentation.

A summary of the estimated dust emissions is presented in **Table 5-2**. Detailed calculations of the dust emission estimates are provided in **Appendix B**.

These emission estimates are likely to be conservative in this case as they are typically associated with the handling and processing of dirt, rather than relatively clean baled plastic waste. We consider that the estimated emissions may be many times higher than any likely actual emissions.

Table 5-2: Summary of estimated dust emissions for the Project (kg/year)

Period	TSP	PM_{10}	$PM_{2.5}$
Annual	1,072	582	271

Note that minor dust emissions may also arise from the process are considered in **Section 5.5.1**.

5.5.3 Odour emissions (non-processing plant)

The raw material used in the process is waste flexible plastics, which will arrive at the site in bales. In general, experience at several material recycling facilities indicates that any odour present is at a low level, and is not discernible within approximately 10 m of the source.

On this basis, it is considered that there is no likelihood of any significant odour impact to arise from the non-process aspects of the Project.

Potentially odorous VOC emissions from the process are considered in **Section 5.5.1**.

6 DISPERSION MODELLING RESULTS

6.1 Particulate matter results

The dispersion model predictions presented in this section include those for the operation of the Project in isolation (incremental impact) and the operation of the Project with consideration of other sources (total impact). The results show the predicted:

- Maximum 24-hour average $PM_{2.5}$ and PM_{10} concentrations;
- Annual average $PM_{2.5}$, PM_{10} and TSP concentrations; and,
- Annual average dust (insoluble solids) deposition rates.

It is important to note that when assessing impacts per the maximum 24-hour average levels, these predictions are based on the highest predicted 24-hour average concentrations which were modelled at each point within the modelling domain for the worst day (i.e. a 24-hour period) during the one year long modelling period.

Associated isopleth diagrams of the dispersion modelling results are presented in **Appendix C**.

The total (cumulative) impact is defined as the operation of the Project combined with the estimated ambient background levels in **Section 4.3.3** and surrounding sources described in **Section 4.4**.

Table 6-1 presents the predicted incremental and cumulative particulate dispersion modelling results at each of the assessed receptor locations.

The predicted incremental results show that minimal incremental effects would arise at the receptor locations due to the Project. The predicted cumulative results indicate that the receptor locations are predicted to experience levels below the relevant criteria for each of the assessed dust metrics.

Table 6-1: Dust dispersion modelling results for receptors locations

Receptor ID	$PM_{2.5}$ (µg/m³)		PM_{10} (µg/m³)		TSP (µg/m³)	DD* (g/m²/mth)	$PM_{2.5}$ (µg/m³)	PM_{10} (µg/m³)	TSP (µg/m³)	DD* (g/m²/mth)
	Incremental						Cumulative			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	-	-	-	-	-	2	8	25	90	4
Q1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	7.3	15.8	57.0	2.5
Q2A	0.1	<0.1	0.2	<0.1	<0.1	<0.1	7.3	15.8	57.0	2.5
Q2B	0.1	<0.1	0.2	<0.1	<0.1	<0.1	7.3	15.8	57.0	2.5
NSR1	0.4	0.1	0.8	0.1	0.1	<0.1	7.5	16.1	57.4	2.5
NSR2	0.1	<0.1	0.1	<0.1	<0.1	<0.1	7.3	15.9	57.1	2.5
IN1	0.2	<0.1	0.3	<0.1	<0.1	<0.1	7.4	16.0	57.2	2.5
IN2	0.1	<0.1	0.3	<0.1	<0.1	<0.1	7.4	15.9	57.1	2.5
NSR3	0.1	<0.1	0.2	<0.1	<0.1	<0.1	7.3	15.9	57.1	2.5
SR1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	7.3	15.8	57.0	2.5
SR2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	7.3	15.9	57.1	2.5
SR3	0.1	<0.1	0.1	<0.1	<0.1	<0.1	7.3	15.8	57.0	2.5
SR4	0.2	<0.1	0.3	<0.1	<0.1	<0.1	7.4	16.0	57.2	2.5
SR5	0.1	<0.1	0.2	<0.1	<0.1	<0.1	7.3	15.9	57.1	2.5

Receptor ID	$PM_{2.5}$ (µg/m³)		PM_{10} (µg/m³)		TSP (µg/m³)	DD* (g/m²/mth)	$PM_{2.5}$ (µg/m³)	PM_{10} (µg/m³)	TSP (µg/m³)	DD* (g/m²/mth)
	Incremental						Cumulative			
	24-hr ave.	Ann. ave.	24-hr ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.	Ann. ave.
	Air quality impact criteria									
	-	-	-	-	-	2	8	25	90	4
SR6	0.1	<0.1	0.1	<0.1	<0.1	<0.1	7.3	15.9	57.1	2.5
SR7	0.1	<0.1	0.1	<0.1	<0.1	<0.1	7.3	15.9	57.1	2.5
SR8	0.2	<0.1	0.3	<0.1	<0.1	<0.1	7.3	15.9	57.1	2.5
SR9	0.1	<0.1	0.2	<0.1	<0.1	<0.1	7.4	15.9	57.1	2.5

*Deposited dust

6.2 Assessment of Cumulative 24-hour average $PM_{2.5}$ and PM_{10} Concentrations

The results for incremental 24-hour average $PM_{2.5}$ and PM_{10} concentrations indicate there are no predicted exceedances of the relevant criteria at the assessed receptors.

When assessing the cumulative 24-hour average impacts based on model predictions, an assessment of cumulative 24-hour average $PM_{2.5}$ impacts was undertaken in accordance with Section 7.1 of the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (**NSW EPA,2022**).

A "Level 2 assessment - Contemporaneous impact and background approach" has been applied to assess the potential cumulative 24-hour average $PM_{2.5}$ and PM_{10} impacts. In simple terms, the Level 2 assessment involves matching one year of ambient air quality monitoring data with the corresponding Project only level predicted using the same day's weather data to account for the spatial and temporal variation in background levels on a given day. Where data is missing, the 70th percentile of the dataset has been substituted.

Table 6-2 provides a summary of the findings from the Level 2 assessments for selected assessment locations. The results in **Table 6-2** indicate that the Project does not increase the number of days above the 24-hour average criterion at the assessed receptor locations for $PM_{2.5}$ and PM_{10}.

Detailed tables of the contemporaneous assessment results are provided in **Appendix D**.

Table 6-2: NSW EPA contemporaneous assessment - maximum number of additional days above 24-hour average criterion

Receptor ID	$PM_{2.5}$	PM_{10}
NSR1	0	0
SR4	0	0

Time series plots of the predicted cumulative 24-hour average $PM_{2.5}$ and PM_{10} concentrations for the NSR1 and SR4 is presented in **Figure 6-1** and **Figure 6-2**, respectively.

The orange bars in the figures represent the contribution from the Project and the blue bars represent the applied background levels. It is clear from the figures that the Project has a small influence at the assessed receptor locations and would be difficult to discern beyond the existing background level.

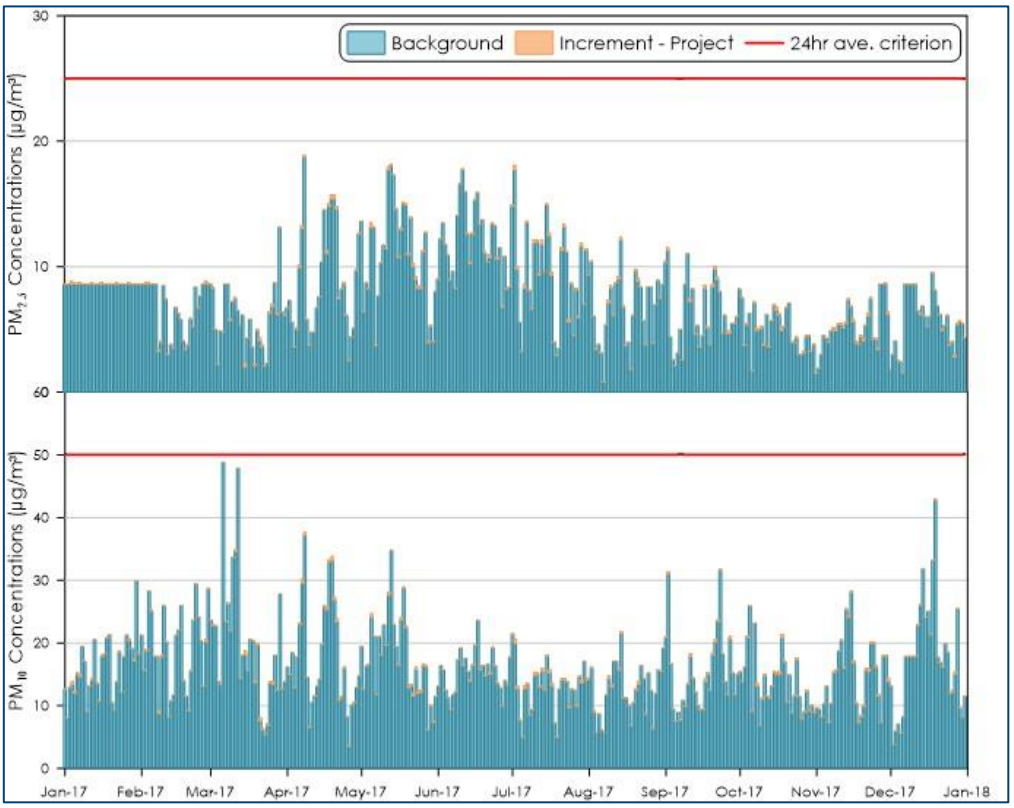

Figure 6-1: 24-hour cumulative $PM_{2.5}$ and PM_{10} concentrations – NSR1

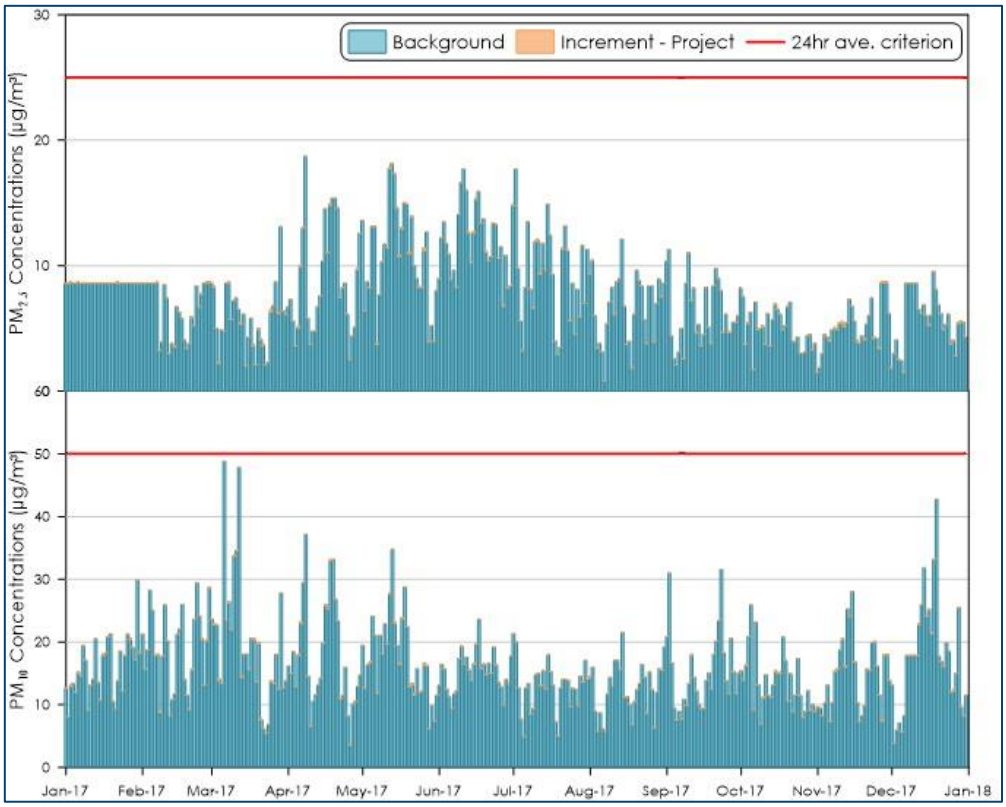

Figure 6-2: 24-hour cumulative $PM_{2.5}$ and PM_{10} concentrations – SR4

6.3 VOC results

As noted, the VOC emissions would comprise of a various individual VOCs with the composition varying depending on the plastic waste material processed at the time. Only the maximum concentration of VOCs was provided without any speciation of individual VOCs.

Due to this, the modelling applies the maximum concentration of VOC from the point sources (refer to **Table 5-1**), and the resulting ground level impact is assessed for the impact assessment criteria for the VOCs. The dispersion of air emissions from the point sources is used to define the maximum allowable concentration of the individual VOCs.

Table 6-3 presents a summary of the stack concentrations for each stack for the individual VOCs assessed, which would comply with the relevant impact assessment criteria. These stack concentrations are conservative maximum values for each of the individual VOCs and we note that some exceed the actual maximum level of total VOC as provided by the equipment manufacturer. In reality, the actual concentration of individual VOCs is expected to be lower, as they constitute only a fraction of the total VOCs present. Actual stack testing would be conducted during the commissioning phase of the equipment with locally sourced plastic waste to ensure compliance with the relevant criteria.

Table 6-3: Summary of predicted VOC concentrations to meet impact assessment criteria

Pollutant	Impact assessment criteria (µg/m³)	Concentration (mg/m³)			
		Point1	Point2	Point3	Point4
Total VOCs		**180**	**50**	**0**	**180**
Acetaldehyde	42	84	23	-	84
Acetic acid	270	537	149	-	537
Acetone	22,000	43,786	12,163	-	43,786
Acrolein	0.42	0.8	0.2	-	0.8
Acrylic acid	110	219	61	-	219
Butyl acrylate	100	199	55	-	199
Diphenyl ether	80	159	44	-	159
Ethylene	570,000	1,134,454	315,126	-	1,134,454
Formaldehyde	20	40	11	-	40
Hexanal	330	657	182	-	657
Methyl ethyl ketone	3,200	6,369	1,769	-	6,369
Methyl methacrylate	270	537	149	-	537
Propionaldehyde	92	183	51	-	183
Propylene glycol monomethyl ether	6,600	13,136	3,649	-	13,136
Pyridine	7	14	4	-	14

7 MITIGATION AND MANAGEMENT

The proposed operations at the Project have the potential to generate dust, exhaust stack and odour emissions. To ensure that activities associated with the Project have a minimal effect on the surrounding environment and at residential receptor locations, all reasonable and practicable operational dust mitigation measures would be utilised.

Reasonable and practicable operational air and odour emissions mitigation measures that would be implemented at the Project are outlined below:

- Engines of on-site vehicles and plant to be switched off when not in use.
- Vehicles and plant are to be fitted with pollution reduction devices where practicable.
- Vehicles are to be maintained and serviced according to manufacturer's specifications.
- Maintain a complaint logbook and in the event of a complaint conduct an immediate investigation of the site to identify any potential emission sources, together with appropriate actions to eliminate any identified excessive emissions.
- Ensure stack exhaust controls are operating as per manufacturers specifications.
- Waste material will be processed on a 'first-in-first-out' basis to facilitate turnover.
- Spills on trafficked areas to be cleaned immediately.
- Driveways and hardstand areas to be swept/cleaned regularly as required to prevent excessive dust build up.
- Vehicle traffic is to be restricted to designated routes.
- Co-ordinate the delivery schedule to avoid a queue of the incoming or outgoing trucks for extended periods of time.
- On-site speed limits are to be enforced.
- Vehicle loads are to be covered when travelling off-site.
- Sweeper unit to be regularly deployed to the operational site to sweep/clean internal roads periodically to prevent any tracking of fine debris.

It is anticipated that the Project would develop a suitable Air Quality Management Plan (AQMP) for the site to assist with the management of air emissions. The AQMP would outline the measures to manage dust emissions at the site and include aspects such as key performance indicators, monitoring methods, response mechanisms, compliance reporting and complaints management.

The air emission controls applied at the site would be regularly assessed to ensure they are working effectively and any required modifications or adjustments to the air emission control measures would be revised on a regular basis and documented in the AQMP.

It is anticipated that stack sampling would be conducted as part of the commissioning phase to verify the potential VOC emissions and to ensure there are no excess unexpected emissions. Should there be, the commissioning phase will be extended to install controls to remove any such excess emissions. Once operational it is proposed to conduct two 6-monthly tests to confirm that the operation is stable and is operating correctly. It is anticipated that the results will be low, and thus further sampling would be discontinued if the post commissioning tests indicate compliance. Regular inspection of the control equipment and normal process monitoring would of course continue.

8 SUMMARY AND CONCLUSIONS

This report has assessed the potential air quality impacts associated with the proposed development of a proposed plastic recycling facility at Ettamogah, NSW.

Air dispersion modelling was used to predict the potential for off-site dust, odour and air pollutant impacts in the surrounding area due to the operation of the Project. The estimated air emissions applied in the modelling are likely to be conservative and would significantly overestimate the likely actual impacts.

Cumulative impacts with other nearby activities were also considered, but no potential risks of cumulative impacts arising were identified.

For individual VOCs, the assessment indicates the maximum concentrations for each stack that would result in compliance with the relevant impact assessment criteria.

It is likely that the assessed air pollutants and odour generated by the operation of the Project would be less than the modelled emission rates at most times, and the Project would thus comply with the relevant assessment criteria at all receptor locations.

It is proposed to conduct measurements of the individual VOC components during commissioning to confirm this is the case, and if not to install pollution controls to remove any excess unexpected emissions.

The site would also apply appropriate dust and odour management measures to minimise all other air emissions from the site.

Overall, we consider that the project proposes a high quality facility that provides an environmentally beneficial opportunity to recycle plastic waste into useful products. We consider that the project proposes a high quality facility that provides an environmentally beneficial opportunity to recycle plastic waste into useful products.

9 REFERENCES

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Appendix A

Selection of Meteorological Year

Selection of meteorological year

A statistical analysis of the latest eight contiguous years of meteorological data from the nearest BoM weather station with suitable available data, Albury Airport AWS weather station, is presented in **Table A-1**.

The standard deviation of the latest eight years of meteorological data spanning 2016 to 2023 was analysed against the available measured wind speed, temperature and relative humidity. The analysis indicates that the 2021 and 2023 datasets are closest to the mean for wind speed, the 2021 dataset is closest to the mean for temperature and 2017 is closest for relative humidity. Therefore, based on this analysis it was determined that 2017 is generally representative of the long-term trends compared to other years and is thus suitable for the purpose of modelling.

Table A-1: Statistical analysis results for Albury Airport AWS

Year	Wind speed	Temperature	Relative humidity	Score
2016	0.3	0.9	3.5	4.8
2017	0.3	0.9	2.6	3.8
2018	0.3	1.1	3.8	5.1
2019	0.3	1.1	3.6	5.0
2020	0.3	0.8	5.2	6.3
2021	0.2	0.6	6.0	6.8
2022	0.3	0.7	9.2	10.2
2023	0.2	0.8	3.6	4.7

Figure A-1 shows the frequency distributions for wind speed, wind direction, temperature and relative humidity for the 2017 year compared with the mean of the 2016 to 2023 data set. The 2017year data appear to be reasonably well aligned with the mean data.

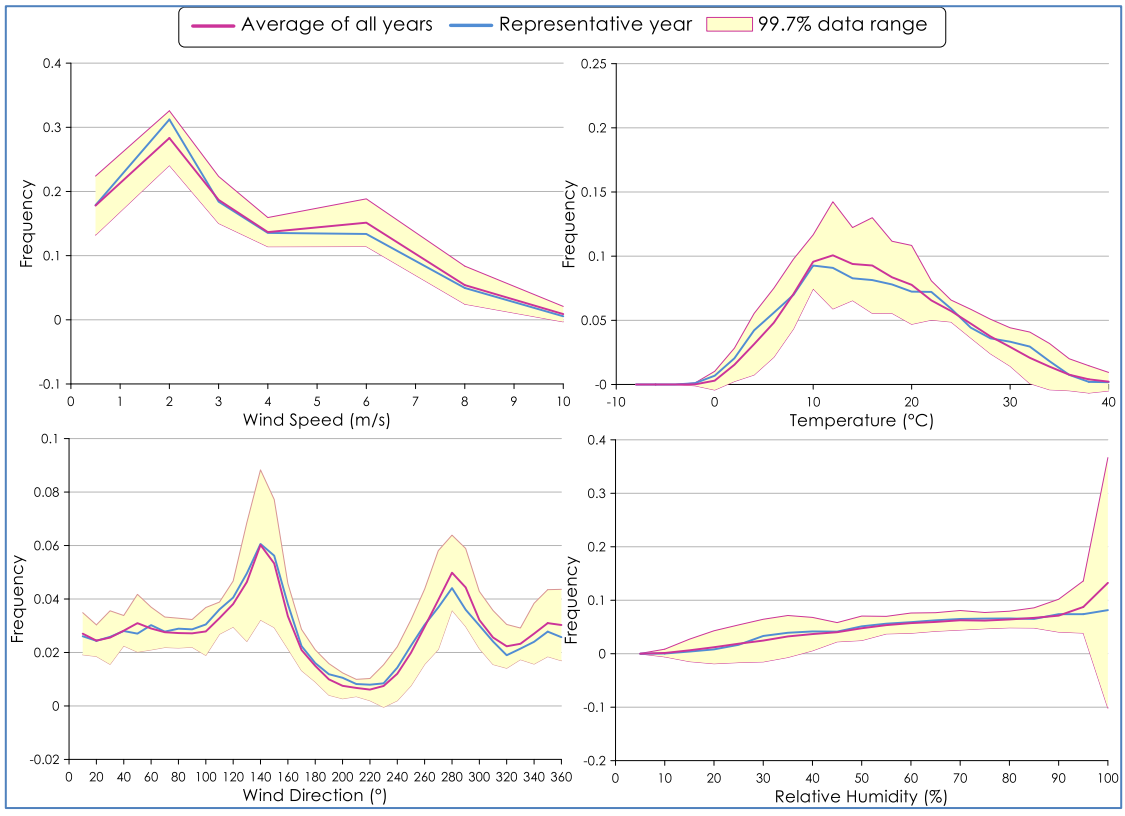

Figure A-1: Frequency distributions for wind speed, wind direction, temperature and relative humidity

Appendix B

Emission Calculations

Table B-1: Emission factor equations

Activity	Emission factor equation		
	TSP	PM_{10}	$PM_{2.5}$
Loading / emplacing material	$EF = 0.74 \times 0.0016 \times \left(\frac{U}{2.2}^{1.3} / \frac{M}{2}^{1.4}\right) kg/tonne$	$EF = 0.35 \times 0.0016 \times \left(\frac{U}{2.2}^{1.3} / \frac{M}{2}^{1.4}\right) kg/tonne$	$EF = 0.053 \times 0.0016 \times \left(\frac{U}{2.2}^{1.3} / \frac{M}{2}^{1.4}\right) kg/tonne$
Hauling on sealed surfaces	$EF = 3.23 \times s.L.^{0.91} \times (1.1023 \times W)^{1.02} kg/VKT$	$EF = 0.62 \times s.L.^{0.91} \times (1.1023 \times W)^{1.02} kg/VKT$	$EF = 0.15 \times s.L.^{0.91} \times (1.1023 \times W)^{1.02} kg/VKT$
Shredding	$EF = 0.0027\, kg/tonne$	$EF = 0.0012\, kg/tonne$	$EF = 0.0022\, kg/tonne$
Granulating/ screening	$EF = 0.0125\, kg/tonne$	$EF = 0.0043\, kg/tonne$	$EF = 0.00\, kg/tonne$
Wind erosion on stockpiles	$EF = 850\, kg/ha/year$	$0.5 \times TSP$	$0.075 \times TSP$

EF = emission factor, U = wind speed (m/s), s.L. = silt loading (g/m^2), W = average weight of vehicle (tonne), VKT = vehicle kilometres travelled (km)

Table B-2: Dust Emissions Inventory

Activity	TSP emission (kg/y)	PM10 emission (kg/y)	PM25 emission (kg/y)	Intensity	Units	EF - TSP	EF - PM10	EF - PM25	Units	Var 1	Units	Var 2	Units	Var 3 - TSP	Var 3 - PM10	Var 3 - PM25	Units	Var 4	Units	Var 5	Units
Hauling material onsite (paved)	36	7	2	15,000	t/yr	0.0024	0.00046	0.000112	kg/t	24	t/l	0.3	km/rt	0.22	0.04	0.01	kg/VKT	2	S.L. g/m2	31	Ave weight (t)
Unloading material to stockpile	16	7	1	15,000	t/yr	0.00103	0.00049	0.00007	kg/t	0.87	ave. ws (m/s)	2	M.C. %								
Loading material to feeder	16	7	1	15,000	t/yr	0.00103	0.00049	0.00007	kg/t	0.87	ave. ws (m/s)	2	M.C. %								
Shredding material	41	18	3	15,000	t/yr	0.00270	0.00120	0.00022	kg/t												
Granulating material	188	65	4	15,000	t/yr	0.01250	0.00430	0.00029	kg/t												
Screening material	188	65	4	15,000	t/yr	0.01250	0.00430	0.00029	kg/t												
Unload processed material to storage bay	2	1	0	1,500	t/yr	0.00103	0.00049	0.00007	kg/t	0.87	ave. ws (m/s)	2	M.C. %								
Loading processed material to truck	14	7	1	13,500	t/yr	0.00103	0.00049	0.00007	kg/t	0.87	ave. ws (m/s)	2	M.C. %								
Hauling material offsite (paved)	32	6	2	13,500	t/yr	0.0024	0.00046	0.000112	kg/t	24	t/l	0.3	km/rt	0.22	0.04	0.01	kg/VKT	2	S.L. g/m2	31	Ave weight (t)
Wind erosion from stockpile areas	342	171	26	0.4	ha	850	425	64	kg/ha/year												
Exhaust emissions	235	235	228																		
Total TSP emissions (kg/yr.)	**1,072**	**582**	**271**																		

Appendix C

Isopleth Diagrams

Figure C-1: Predicted incremental maximum 24-hour average $PM_{2.5}$ concentrations (µg/m³)

Figure C-2: Predicted incremental annual average $PM_{2.5}$ concentrations (µg/m³)

Figure C-3: Predicted incremental maximum 24-hour average PM_{10} concentrations (µg/m³)

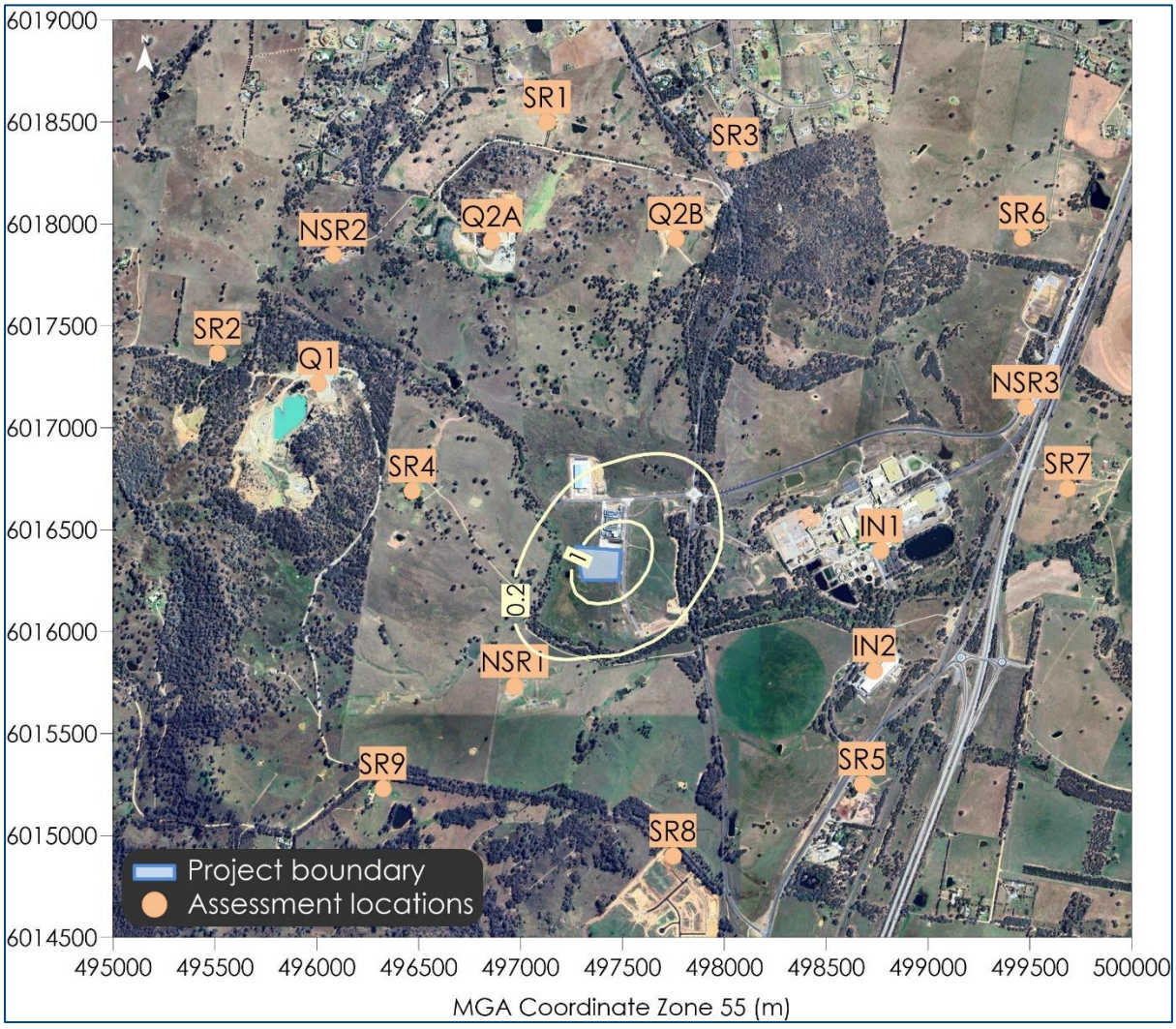

Figure C-4: Predicted incremental annual average PM_{10} concentrations (µg/m³)

Figure C-5: Predicted incremental annual average TSP concentrations (µg/m³)

Figure C-6: Predicted incremental annual average dust deposition levels (g/m²/month)

Appendix D

Further detail regarding 24-hour $PM_{2.5}$ and PM_{10} analysis

Further detail regarding 24-hour average $PM_{2.5}$ and PM_{10} analysis

The analysis below provides a cumulative 24-hour $PM_{2.5}$ and PM_{10} impact assessment in accordance with the NSW EPA Approved Methods; refer to the worked example on Page 50 to 51 of the Approved Methods.

The background level is the ambient level at the Albury monitoring station.

The predicted increment is the predicted level to occur at the receptor due to the Project.

The total is the sum of the background level and the predicted level. The totals may have minor discrepancies due to rounding.

The left half of the table examines the cumulative impact during the periods of highest background levels and the right half of the table examines the cumulative impact during the periods of highest contribution from the project.

The green shading represents days ranked per the highest background level but below the criteria.

The blue shading represents days ranked per the highest predicted increment level but below the criteria.

The orange shading represents days where the measured background level is already over the criteria.

Any value above the $PM_{2.5}$ criterion of 25µg/m^3 and the PM_{10} criterion of 50µg/m^3 is shown in **bold red.**

Table D-1: Cumulative 24-hour average $PM_{2.5}$ concentration (µg/m³) – Receptor NSR1

Ranked by Highest to Lowest Background Concentrations				Ranked by Highest to Lowest Predicted Incremental Concentration			
Date	Measured background level	Predicted increment	Total cumulative 24-hr average level	Date	Measured background level	Predicted increment	Total cumulative 24-hr average level
8/04/2017	18.7	0.2	18.9	2/07/2017	17.7	0.4	18.1
13/05/2017	18.1	0.0	18.1	5/05/2017	13.1	0.3	13.4
12/05/2017	17.7	0.2	17.9	13/07/2017	11.8	0.3	12.1
11/06/2017	17.7	0.1	17.8	19/04/2017	15.4	0.3	15.7
2/07/2017	17.7	0.4	18.1	17/04/2017	11.0	0.3	11.3
14/05/2017	17.3	0.0	17.3	7/04/2017	13.0	0.3	13.3
10/06/2017	16.6	0.0	16.6	18/10/2017	4.9	0.3	5.2
12/06/2017	16.0	0.0	16.0	21/08/2017	8.8	0.3	9.1
17/06/2017	15.9	0.0	15.9	22/11/2017	6.0	0.3	6.3
19/04/2017	15.4	0.3	15.7	20/04/2017	15.4	0.3	15.7

Table D-2: Cumulative 24-hour average $PM_{2.5}$ concentration (µg/m³) – Receptor SR4

Ranked by Highest to Lowest Background Concentrations				Ranked by Highest to Lowest Predicted Incremental Concentration			
Date	Measured background level	Predicted increment	Total cumulative 24-hr average level	Date	Measured background level	Predicted increment	Total cumulative 24-hr average level
8/04/2017	18.7	0.0	18.7	26/05/2017	11.2	0.2	11.4
13/05/2017	18.1	0.1	18.2	25/03/2017	6.3	0.2	6.5
12/05/2017	17.7	0.1	17.8	17/05/2017	12.9	0.2	13.1
11/06/2017	17.7	0.0	17.7	20/05/2017	10.9	0.2	11.1
2/07/2017	17.7	0.0	17.7	6/04/2017	9.9	0.1	10.0
14/05/2017	17.3	0.1	17.4	8/03/2017	8.6	0.1	8.7
10/06/2017	16.6	0.1	16.7	11/11/2017	5.4	0.1	5.5
12/06/2017	16.0	0.0	16.0	16/12/2017	5.2	0.1	5.3
17/06/2017	15.9	0.0	15.9	21/02/2017	5.8	0.1	5.9
19/04/2017	15.4	0.0	15.4	18/04/2017	14.8	0.1	14.9

Table D-3: Cumulative 24-hour average PM_{10} concentration (µg/m³) – Receptor NSR1

Ranked by Highest to Lowest Background Concentrations				Ranked by Highest to Lowest Predicted Incremental Concentration			
Date	Measured background level	Predicted increment	Total cumulative 24-hr average level	Date	Measured background level	Predicted increment	Total cumulative 24-hr average level
6/03/2017	48.8	0.0	48.8	2/07/2017	20.0	0.7	20.7
12/03/2017	47.8	0.1	47.9	13/07/2017	15.4	0.6	16.0
19/12/2017	42.8	0.1	42.9	7/04/2017	29.5	0.6	30.1
8/04/2017	37.2	0.4	37.6	5/05/2017	24.1	0.6	24.7
13/05/2017	34.7	0.0	34.7	19/04/2017	33.2	0.6	33.8
11/03/2017	34.6	0.2	34.8	15/03/2017	18.1	0.6	18.7
10/03/2017	33.7	0.0	33.7	18/10/2017	20.8	0.5	21.3
19/04/2017	33.2	0.6	33.8	17/04/2017	25.2	0.5	25.7
18/12/2017	33.1	0.1	33.2	20/04/2017	26.8	0.5	27.3
18/04/2017	32.9	0.3	33.2	3/07/2017	12.7	0.5	13.2

Table D-4: Cumulative 24-hour average PM_{10} concentration (µg/m³) – Receptor SR4

Ranked by Highest to Lowest Background Concentrations				Ranked by Highest to Lowest Predicted Incremental Concentration			
Date	Measured background level	Predicted increment	Total cumulative 24-hr average level	Date	Measured background level	Predicted increment	Total cumulative 24-hr average level
6/03/2017	48.8	0.0	48.8	25/03/2017	13.6	0.3	13.9
12/03/2017	47.8	0.1	47.9	26/05/2017	16.4	0.3	16.7
19/12/2017	42.8	0.0	42.8	17/05/2017	23.7	0.3	24.0
8/04/2017	37.2	0.0	37.2	20/05/2017	12.8	0.3	13.1
13/05/2017	34.7	0.1	34.8	6/04/2017	22.9	0.2	23.1
11/03/2017	34.6	0.0	34.6	8/03/2017	26.3	0.2	26.5
10/03/2017	33.7	0.1	33.8	11/11/2017	20.4	0.2	20.6
19/04/2017	33.2	0.0	33.2	13/03/2017	14.4	0.2	14.6
18/12/2017	33.1	0.1	33.2	21/02/2017	15.5	0.2	15.7
18/04/2017	32.9	0.2	33.1	18/04/2017	32.9	0.2	33.1

APPENDIX D:

Process Water and Trade Waste Treatment System report

Trusted Client Partnerships for life

Client:

Operations Manual:

Proposed Process Water & Trade Waste Treatment System Operations Description

24 McLaurin Road Ettamogah,
New South Wales

Project:

RAINBOW – LDPE RECYCLING

Scope:

OEM & Trade Waste System Description & Operations Management

23 JANUARY 2024

Document Number				
CPA	LDPE	101	02	Final

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Amendments

Date	REV	Description of Change	Issuing Initials
23/01/2024	-	Draft - Issued to Client for initial discussion	RGB
02/02/2024		Reviewed by client with amendments	SM
05/02/2024	1	Client amendments reviewed and corrections made	RGB
08/04/2024	2	Substituted Trade Waste Policy (ACC) with Trade Waste Guidelines (DCCEEW) & inserted published Trade Waste Standards	RGB

Authorisation

Level	Name	Signed	Date
Prepared	Ray Borg		23/01/2024
Reviewed	Steven McKimmie		02/02/2024
Approved	Ray Borg		05/02/2024

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Preamble

Sustainable Ideas Pty Ltd have been asked to review the Proposed LDPE processing equipment including Wash line to be supplied by Lindner – Germany, Extrusion & Palletising supplied by Starlinger - Germany and the Trade Waste Treatment facility designed and supplied by IWAT – Germany for water consumption and discharge. From the review, this document has been prepared explaining the potable water requirements and the stages used in the Process Water Recovery/Trade Waste Treatment and sewer discharge system. This preliminary document is to assist with the Development Application and subsequent Trade Waste approvals for the Rainbow Project - LDPE Recycling facility in Albury.

1. Introduction

This technical operations summary/evaluation is intended to brief the client and relevant authorities on the equipment, operations sequence and expected outcomes necessary to recover process water and meet the quality criteria for Process Water and Trade Waste Acceptance for discharge to the local sewerage conveyance network and municipal sewage treatment facility.

This document is a preliminary guide to aid in the following impending approval stages:

- ✓ ACC Development Application
- ✓ ACC/DPE Category C Application
- ✓ ACC Trade Waste Agreement Application

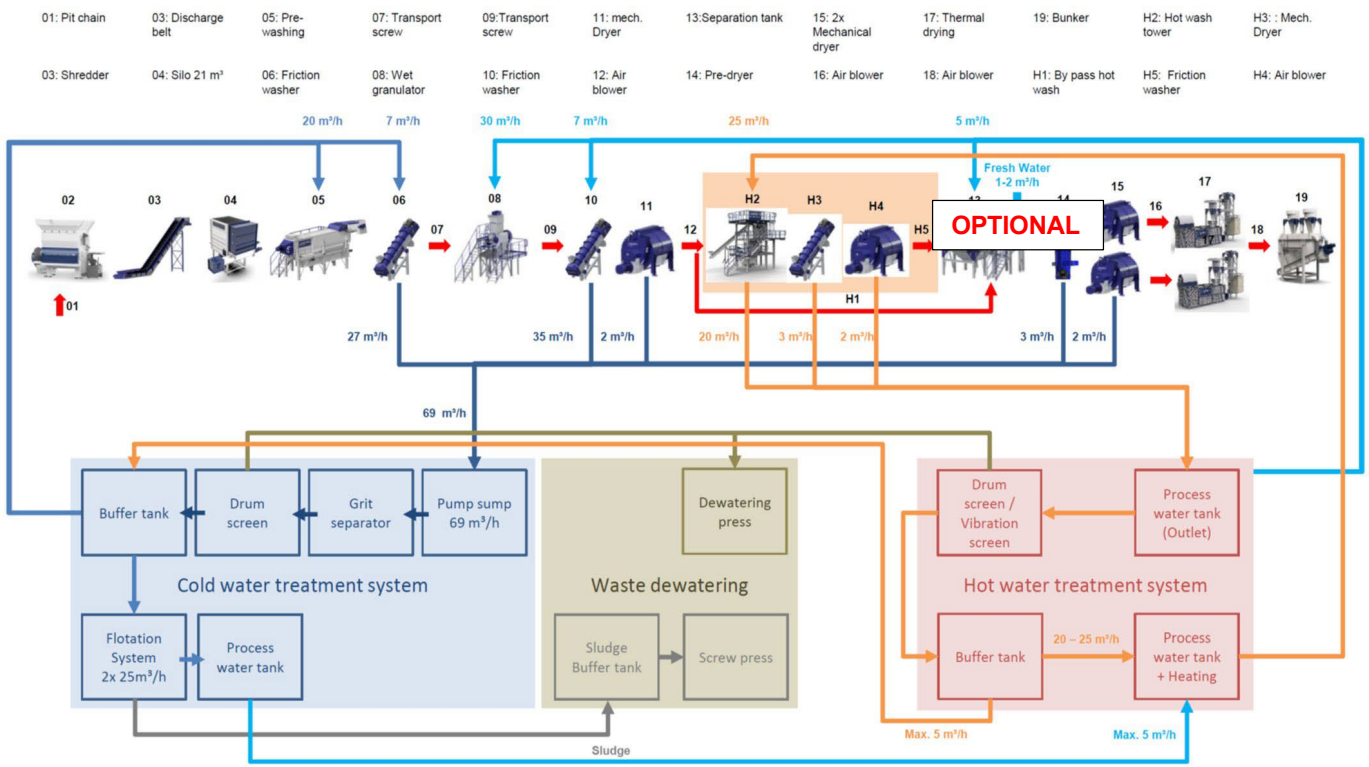
An overview of the Lindner wash line process is provided in Figure 1 below and a preliminary schematic of the proposed Trade Waste Treatment Facility is provided in Appendix A. General Arrangement drawings of the proposed Trade Wate Treatment facility and Wash Line hydraulics are provided in Appendix B and Appendix C respectively.

2. Overview

Flow sheet – Washing line

LINDNER WASHTECH

Customer:	Pact Group	**Total cold water amount:**	69 m³/h
Material:	Pre-sorted Post-commercial LDPE/LLDPE film	**Chemical water amount:**	2x 25 m³/h
Throughput:	1.200 – 1.500 kg/h	**Fresh water amount:**	1-2 m³/h



3. Treatment Operations - Stages

There are multiple steps to the treatment processes to ensure the water quality of the Process Water and the Trade Waste Acceptance Standards are achieved. The treatment system is conditional to an extent on the Potable Water Quality supplied. The most critical is the Water Hardness as this will determine the volume and frequency of the “Top Up” necessary to achieve the Water Quality criteria for the Process water stream.

From the literature and drawings provided by the Original Equipment (OEM) supplier, the volume of process water circulating in the system has been stated to be a maximum of 69m3/hr. The wastewater treatment system has a maximum capacity of 50m3/hr (DAF 2 x 25m3/hr). The Buffer tank coupled to the solids removal and screen backwash demand is anticipated to provide the mass balance for the system to operate within the maximum capacity over a 24-hour period.

The discharge from the Wash Line is captured within trench drains and a sump serving the process. Please refer to Appendix C for the OEM General Arrangement drawing supplied.

3.1. Collection & Gross Solids Removal

On collection and accumulation of the wastewater in the Main Pit serving the Process Water/Trade Waste Treatment System it is transferred to the Grit Removal Unit to separate any Gross Solids (rated at 75m3/hr at a rejection rated of 80% for particles
>200um with a density of >1.4 S.G.).

The wastewater exiting the Grit Removal Unit then cascades to a fine (0.5mm aperture) Rotating Drum Screen Unit. The Drum Screen is constantly backwashed from the Buffer Tank at a rate of 25m3/hr at a pressure of 5 Bar (500 kPa) to ensure no binding of the wedge wire filter occurs. The Grit and Fine Solids are directed to semi dry/spadable (20 to 40% solids) 2m3 waste skip for off-site disposal. The combined semi-solid waste is anticipated to yield less than 2m3 per week.

3.2. Flow Balancing & Equalisation

The Buffer Tank will receive the filtered wastewater and accumulate to a predetermined level via control then discharge via a pump set to the Dissolved Air Flotation (DAF) Units rated to a combined 50m3/hr. This flow rate is anticipated to be constant whilst the wash line process is in operation.

3.3. Metering & Chemical Addition

The discharge from the Buffer Tank is flow metered in order to dose a predetermined concentration of Polyelectrolyte. The Polyelectrolyte powder selected will be prepared in situ via an automated Wetting and Aging process. The prepared Polyelectrolyte solution (using potable water) is then injected on a flow proportional basis into the wastewater stream enroute to the DAF tanks.

3.4. Dissolved Air Flotation & Sludge Separation

The DAF tanks are injected with water saturated compress air encased in the polyelectrolyte solution. On mixing with the wastewater residual fine solids will raft and then discharged to the sludge port whilst the clean liquor will progress to the Process Water tank. The accumulated rafted solids will be continuously removed to the Sludge Tank.

3.5. Sludge Capture & Dewatering

The Sludge captured via the DAF units is directed to a dedicated Sludge Tank. An additional Polyelectrolyte is flow proportionally injected on route from the Sludge Tank to a Flocculation Chamber. This is an agglomeration and dewatering step prior to the thickened Sludge being transferred to the Screw Press. The Screw Press is designed to dewater the sludge and discharge to a Solids Skip for off-site disposal. A maximum of 250kg/hr of material >1.4 S.G. with a dry solids content of between 25 – 45% will be accumulated in a Dry Waste Skip. The Screw Press will cycle/operate intermittently and therefore it is anticipated that a maximum of 2.5 Tonne per day will be generated.

The Supernatant liquor from the solids pressing process and the Potable Water used for cleaning the Screw Press will be discharged to the main sump serving the head of the treatment system for reprocessing.

3.6. Process Tank

The Process Tank will receive the clear liquor from the DAF units where a Defoamer will be added to suppress foam which may cause a DAF effect in the Process tank. This should have the added benefit of ensuring the pumps transferring the Process Water and Trade Waste Discharge are not subjected to foaming liquor causing inefficient transfer and potentially spilling foam from the top of the tank. Monitoring instrumentation or an on- site testing regime will be used to determine the Water Quality of the Process Water to ensure the OEM criteria is met. A small release of treated wastewater will be discharged to sewer via a Trade Waste Agreement to break the concentration cycle for Process Water accumulating traces on contaminants and meet ACC compliance standards.

3.7. Polishing Chemistry & Diversion System

3.7.1. Lindner Process water requirements:

Process Water Quality is critical to the consistent operation of the Wash Line and therefore additional chemistry maybe required to adjust pH and reduced any accumulated COD. Due to the minimal contaminated nature of the sourced material (LDPE film) the COD/BOD is anticipated to be below 300/mg/L COD/150 mg/L BOD5. The OEM Process Water Quality minimum criteria is listed below but is not exhaustive:

Process Water	
Parameter	**Values for process water**
pH	6,5 - 8
Conductivity at 25 °C	700 – 2.000 µS/cm
COD	2.000 mg/l
Settleable solids	< 10 mg/l

3.7.2. Starlinger Process Potable water requirements:

The Starlinger Process also has certain water quality requirements for the equipment used to generate the reuseable products. The process water must be clean, chemically neutral and free from small particles. The process water must be free from:

- visible impurities such as suspended or turbid matter
- biological impurities such as bacteria, algae, or mucilage
- fats, oils, or other aliphatic or aromatic compounds
- fluorinated or halogenated substances such as refrigerant R131 or the like - or other substances which may affect the material to be pelletized or the components of the line.

The ion concentration in the process water should be below the following levels:

Ions in Process Water	Value
Carbonate ions	< 30 mg/l
Nitrate ions	< 50 mg/l
Calcium ions	< 80 mg/l
Sulfate ions	< 240 mg/l
Chloride ions	< 10 mg/l for PET lines with inline crystallisation
	< 30 mg/l for all other applications
pH value	6.5-9.5

To minimize water consumption, Starlinger recommends a closed cooling water system with an air-cooled water chiller. The water used for filling the system and for the production process must be free from impurities (corrosive particles, suspended matter, etc.). Furthermore, it must meet the following requirements as a minimum:

Parameter	Value	Unit
pH value (at 25°C)	7-8	[ ]
Total hardness	max. 10	°dH (German hardness degrees)
Carbonate hardness	max. 6	°dH (German hardness degrees)
Chlorides	approx. 40	mg/l
Iron oxides	approx. 0.1	mg/l
Oxygen content	4	mg/l
Water pressure	3 - 4	bar at point of consumption
Water temperature	max. 15	°C

Note:
In order to convert the German/European/International units of water hardness (based on Calcium Oxide - CaO to Australian/WHO criteria based on Calcium Carbonate - $CaCO_3$ or Total Dissolved Solids - TDS) please use the link provided below: https://waternitylab.com/water-hardness-ppm-to-dh/

3.7.3. Trade Waste Acceptance Standards:

The Department of Climate Change Energy Environment and Water (DCCEEW) have published Acceptance Criteria which maybe subject to variation based on the process generating the wastewater. The Trade Wate Approval will be deemed to be a Category C initiating a referral to DCCEEW who may set additional criteria for the discharge.

Please refer to the link below for the current Trade Waste Guidelines.
https://www.industry.nsw.gov.au/__data/assets/pdf_file/0010/147088/trade-waste-management-guidelines.pdf

3.8. Trade Waste Acceptance Criteria

The Trade Waste major discharge acceptance criteria is tabulated below as published in the ***Liquid Trade Waste Management Guidelines for regional NSW 2021.*** The guidelines are administered by DCCEEW and will influence the Trade Waste Agreement to be executed.

Table 6. Acceptance limits for liquid trade waste into the sewerage system

Table 6a. General limits

Parameter[4]	Limits
Flow rate	The maximum daily and instantaneous rate of discharge (kL/h or L/s) is determined based on the available capacity of the sewer. Large dischargers are required to provide a balancing tank to even out the load on the sewage treatment works.
BOD_5	Normally approved at 300 mg/L. Concentrations up to 600 mg/L may be accepted.
Suspended solids	Normally approved at 300 mg/L. Concentrations up to 600 mg/L may be accepted.
COD	Normally, not to exceed BOD_5 by more than three times. This ratio is given as a guide only to prevent the discharge of non-biodegradable waste.
Total dissolved solids	Up to 4000 mg/L may be accepted. The acceptance limit may be reduced depending on available effluent disposal options and may be subject to a mass load limit.
Temperature	Less than 38°C.
pH	Within the range 7.0 to 9.0.
Oil and grease	100 mg/L if the volume of the discharge does not exceed 10% of the design capacity of the treatment works and 50 mg/L if the volume is greater than 10%.
Detergents	All detergents are to be biodegradable. A limit on the concentration of 50 mg/L (as MBAS) may be imposed on large liquid trade wastes discharges.
Colour	Colour must be biodegradable. No visible colour when diluted to the equivalent dilution afforded by domestic sewage flow. Specific limits may be imposed on industrial discharges where colour has a potential to interfere with sewage treatment processes and the effluent management.
Radioactive substances	If expected to be present (e.g. Iodine 131 from ablation), acceptance requirements will be set on a case-by-case assessment.

Table 6b. Limits for inorganic compounds

Parameter	Maximum concentration (mg/L)
Ammonia (as N)	50
Boron	5
Bromine	5
Chlorine	10
Cyanide	1
Fluoride	30
Nitrogen (total Kjeldahl)	100
Phosphorus (total)	20
Sulphate (as SO_4)	500
Sulphide (as S)	1

Table 6c. Limits for organic compounds

Parameter	Maximum concentration (mg/L)
Benzene	< 0.001
Toluene	0.5
Ethylbenzene	1
Xylene	1
Formaldehyde	30
Phenolic compounds non-halogenated	1
Petroleum Hydrocarbons[5] C_6-C_9 (flammable) Total Recoverable Hydrocarbons (TRH)	 5 30
Pesticides general (except organochlorine and organophosphorus)	0.1
Polynuclear Aromatic Hydrocarbons (PAH)	5

Table 6d. Limits for metals

Parameter	Maximum concentration (mg/L)	Allowed daily mass limit (g/d)
Aluminium	100	-
Arsenic	0.5	2
Cadmium	1	5
Chromium[6]	3	10
Cobalt	5	15
Copper	5	15
Iron	100	-
Lead	1	5
Manganese	10	30
Mercury	0.01	0.05
Molybdenum	5	15
Nickel	1	5
Selenium	1	5
Silver	2	5
Tin	5	15
Zinc	1	5
Total heavy metals excluding aluminium, iron and manganese	**Less than 30 mg/L and subject to total mass loading requirements**	**-**

Council may choose to impose more stringent requirements than those specified in the above tables to suit their local circumstances. Where council adopts less stringent limits, it needs to provide the justification for doing so when seeking consent to its draft liquid trade waste policy. Any changes need to be justified and should not have the potential to result in unacceptable impacts.

3.2.2 Prohibited or restricted substances and waste

3.2.2.1 Substances and waste prohibited from discharge to the sewerage system

Substances prohibited from being discharged into the sewerage system unless they are specifically approved under s. 68 of the Local Government Act are listed in Table 7.

Table 7. Waste prohibited from discharge to the sewerage system

Prohibited waste
• Organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances
• Organophosphorus pesticides and/or waste arising from the preparation of these substances
• Per- and poly-fluoroalkyl substances (PFAS)
• Any substances liable to produce noxious or poisonous vapours in the sewerage system
• Organic solvents and mineral oil[7]
• Any flammable or explosive substance[7]
• Discharges from chemicals and/or oil storage areas and 'Bulk Fuel Depots'
• Natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions
• Roof, rain, surface, seepage or ground water, unless specifically permitted (clause 137A of the Local Government (General) Regulation 2005)
• Solid matter[7]
• Disposable products including wet wipes, cleaning wipes, colostomy bags, cat litter and other products marketed as flushable
• Any substance assessed as not suitable to be discharged into the sewerage system
• Liquid waste that contains pollutants at concentrations which inhibit the sewage treatment process—refer to the *Australian Sewage Quality Management Guidelines*, June 2012, WSAA
• Any other substances listed in a relevant regulation

3.9. Trade Waste Diversion System

The Trade Waste discharge process will be subject to continuous monitoring and recording of pH, Temperature, Conductivity and Flow. Preset ranges for discharge to sewer include pH (>7 and <9), Temperature (<38 deg C) and Conductivity/Salinity (<3,500uS/cm or <2,000 mg/L TDS). In the event that any of the above criteria is not met a three-way diversion valve will cease the discharge to sewer and redirect the discharge to the main sump at the head of the treatment system for reprocessing.

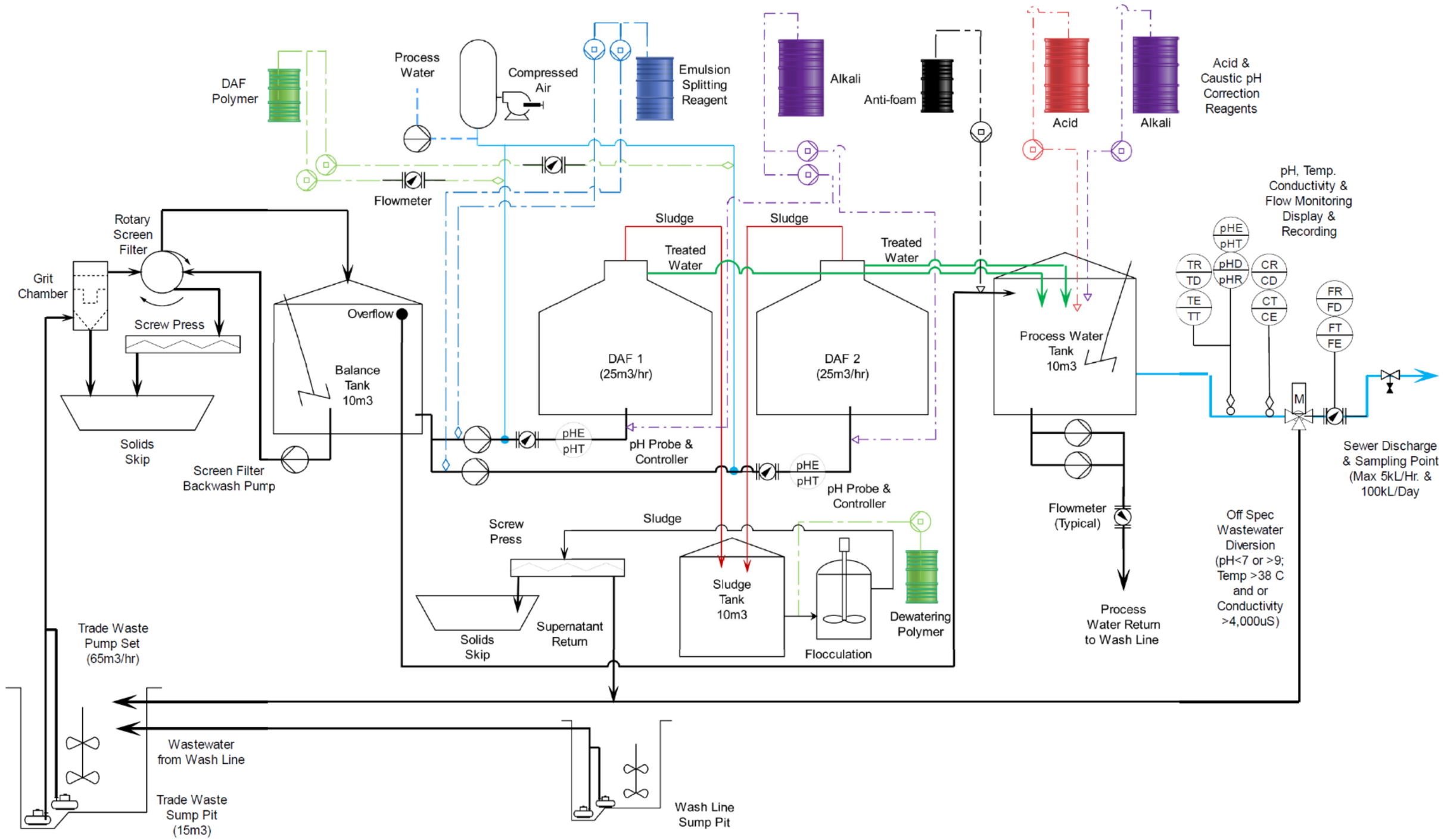
The average flowrate discharged to sewer is anticipated to be 2 to 3 m3/hr with a maximum of 5m3/hr.

3.10. Water Supply Criteria

The OEM's have recommended minimum potable water and process water quality requirements. The water used for filling and topping up the systems for the production processes must contain minimal impurities (hardness, corrosive particles, suspended matter, etc.). A request to ACC will be performed to determine if the Water Quality is suitable or if pretreatment will be required prior to charging the process systems.

APPENIDX A Trade Waste Schematic

PROJECT RAINBOW LDPE (CPA) - PRELIMINARY TRADE WASTE TREATMENT SCHEMATIC

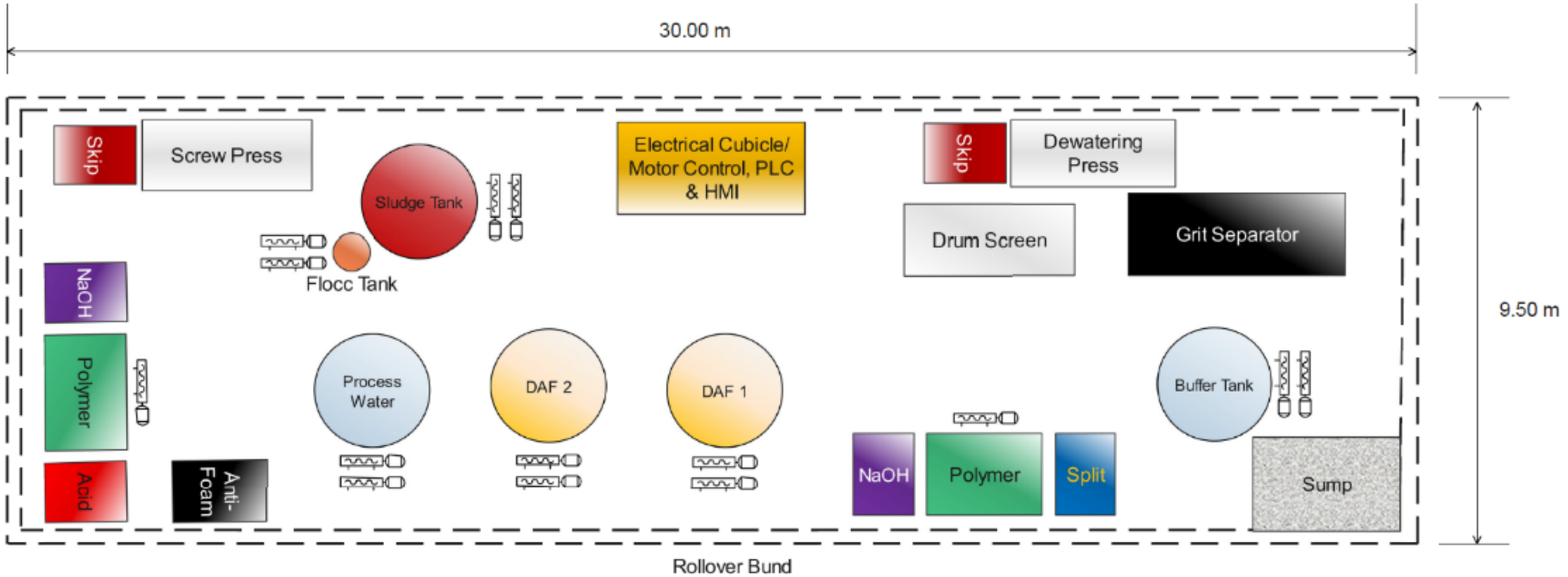


Amendment	Notes	Date	Approved
Rev A - Added Mixer to Process tank and Redirected Supernantant return to Diverion Line		23/01/2024	RGB

Title	Project Rainbow - Trade Waste Treatment Preliminary Schematic		
Client	Circular Plastics Australia (LDPE) - Albury Facility		
Scale: NTS	Drawn: RGB	Date: 18/01/2024	

APPENIDX B Trade Waste Layout/GA

PROJECT RAINBOW LDPE (CPA) - PRELIMINARY TRADE WASTE TREATMENT FACILITY GA

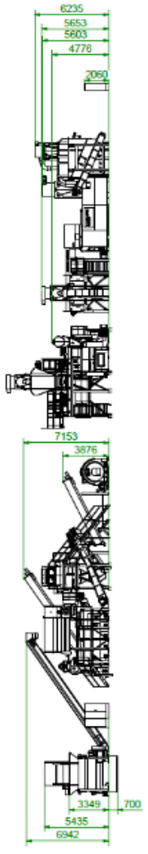


Bund Containment Calculation:
Volume to be contained 25 + 2.5 = 27.5m3
Volume Available 30 x 9.5 x 0.1 = 28.5m3 (no allowance for displacement)
Additional containment volume (pit) = 7.5m3 (50% of 15m3)

Amendment	Notes	Date	Approved

Title	Rainbow Project - Trade WasteTreatment Facility Preliminary GA		
Client	Circular Plastics Australia (LDPE) - Albury		
Scale: NTS	Drawn: RGB	Date: 19/01/2024	

APPENIDX C Lindner Wash Line Layout



HARDSTAND

TRUCK ENTRY

WASTE WATER TREATMENT PLANT

Future silo

Future silo

Future silo

COMPRESSORS

R50

MCC

Fibre transformer

Transformer

Transformer

Transformer

Main HV Switchroom

STAIR 2

PRODUCTION

OFFICE

9650

640

27160

4261

13415

4238

5004

14488

64643

6713

4185

15321

12324

2965

54807

BREEZEWAY

4129

28385

15109

5759

1800

13583

29249

19792

29778

14193

16104

29574

PUMP ROOM

WORKSHOP

HARDSTAND

CAR ENTRY / EXIT

CAR PARK (45)

TRUCK EXIT

LINDNER WASHTECH

Observe protection note ISO 16016

Layout_Pact_Group_04
Pact_Group

1:175

A0

1 of 2

APPENDIX E:

Traffic Impact Assessment report

Spotto CONSULTING

people-oriented traffic and transport solutions

Traffic Impact Assessment

Plastic Recycling Facility

24 McLaurin Road
Ettamogah NSW

February 2024

Prepared by:

Spotto CONSULTING

For:

Pro-Pac Packaging Group

Ref	Version	Date	Revision Details	Author
P0269	A	05 February 2024	Client Review	SWS
	B	02 April 2024	DA Submission	SWS

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1 INTRODUCTION

Spotto Consulting have been engaged by Pro-Pac Packaging Group to complete a Traffic Impact Assessment. The study is in response to a proposed development at 24 McLaurin Road, Ettamogah. The development involves construction of a plastic recycling facility, including a building with a Gross Floor Area (GFA) of 6,949m^2, external storage and loading areas, access to the site from McLaurin Road with off-street parking for 32 cars plus additional room for heavy vehicles.

The purpose of the assessment is to review the existing conditions in the vicinity of the site, including traffic and parking, as well as the performance of the surrounding road network. An evaluation is then undertaken of the traffic and parking requirements for the proposed development, and the impacts on the surrounding road network.

The assessment concluded that:

- Traffic surveys and analysis of key roads and intersections in the vicinity of the site shows that they currently operate at a good Level of Service (LOS A) or better, with minimal delays and ample spare capacity;
- The proposed development will generate an additional 128 vehicle trips per day, with 36 of these in the AM and PM peak periods, which will not have a significant impact on the performance of the surrounding road network (including intersections and freeway interchanges);
- Access to the site is able to be provided from McLaurin Road for both heavy and light vehicles, with adequate sight distance at all locations;
- The provision of 32 off-street parking spaces (including two designated for persons with a disability) does not meet the numerical requirements of the *Albury Development Control Plan 2010*, however the parking provided is considered adequate to cater for anticipated demand. The car parking and access driveways satisfactorily address all matters for consideration under *Albury DCP Part 17* and *Australian Standard AS2890*;
- Adequate provision has been made for persons with a disability;
- Adequate provision has been made for servicing and delivery vehicles; and
- Adequate provision has been made for pedestrians and cyclists.

2 EXISTING CONDITIONS

2.1 Site

The site is located on the western side of McLaurin Road, south of Knowles Road, Ettamogah, within the NEXUS Industrial Precinct approximately 10km north of the Albury CBD. Figure 2-1 shows the location of the site.

Figure 2-1: Locality Plan

The site's address is listed as 24 McLaurin Road, Ettamogah. The site comprises a single lot, being Lot 7 DP1276039, with a total area of approximately 3.06 hectares. It is bounded by McLaurin Road to the east, by private land to the north and south, and by environmental land to the west. Vehicular access to the site is available from McLaurin Road, and the site is currently vacant.

Figure 2-2: Looking south-west at the site across McLaurin Road

Figure 2-3: Looking north-west at the site across McLaurin Road

2.2 Surrounding Land Use

The site and immediate surrounds are currently zoned SP4 Enterprise under the *Albury Local Environmental Plan 2010* (as shown in Figure 2-4, below). As part of the NEXUS Industrial Precinct, nearby land uses include recycling and shed manufacturing facilities, with other lots in the precinct being undeveloped.

Land to the west of the site is zoned C3 Environmental Management, which is reserved for protection of waterways and remnant vegetation.

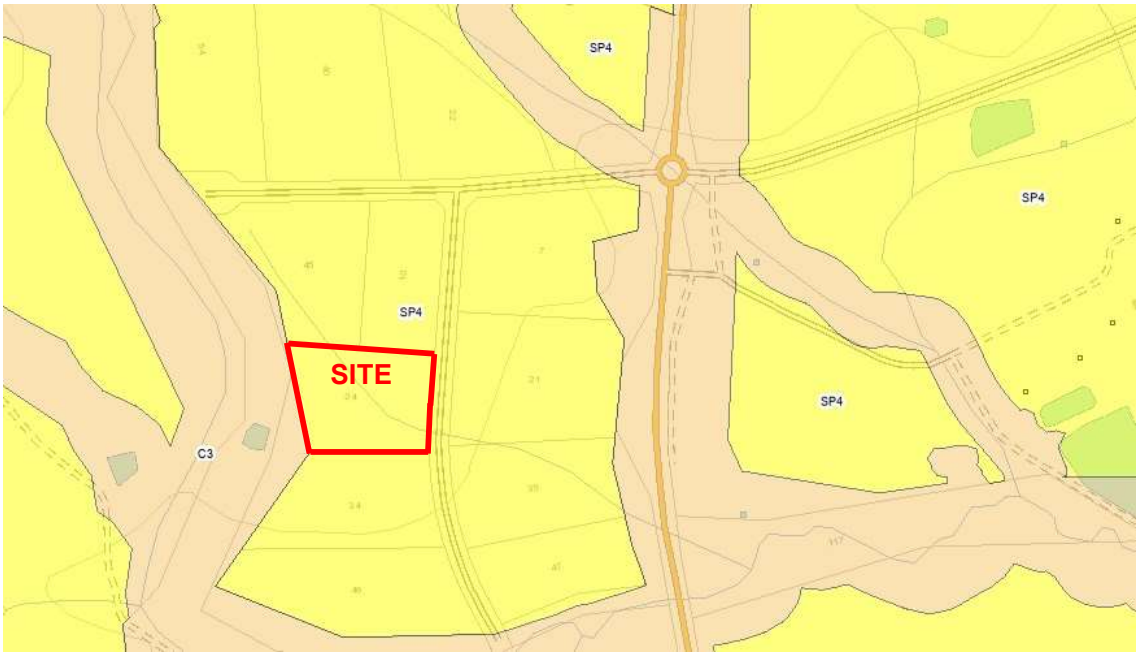


Figure 2-4: Land zoning (Source: NSW Planning Portal)

2.3 Road Network

2.3.1 McLaurin Road and Knowles Road

McLaurin Road and Knowles Road are both located in the Nexus Industrial Precinct. McLaurin Road runs south from its intersection with Knowles Road for a distance of approximately 700m before terminating in a dead end. Knowles Road runs west from its intersection with Gerogery Road for a distance of approximately 600m before terminating in a circular cul-de-sac. Knowles Road and McLaurin Road are the responsibility of Albury City Council. Both roads balance through movement with property access.

In the vicinity of the site, McLaurin Road and Knowles Road are two-lane, two-way sealed roads. Both have carriageways defined by upright kerb and gutter, with a carriageway width of 12.0m (comprising a 3.5m through lane and 2.5m parking lane in each direction). Street lighting and overhead power lines are present on both roads. No speed zone signage is in place, and hence the speed limit is the default urban speed limit of 50km/h.

Figure 2-5: Looking north along McLaurin Road, with the site on the left hand side

Figure 2-6: Looking south along McLaurin Road, with the site on the right hand side

Figure 2-7: Looking west along Knowles Road from near Gerogery Road

Figure 2-8: Looking east along Knowles Road towards the intersection with McLaurin Road

2.3.2 Gerogery Road

Gerogery Road forms part of the former Olympic Way route. It currently runs from Wagga Road at Ettamogah, northwards past the Nexus Industrial Precinct to the town of Gerogery where it meets the Olympic Highway. Gerogery Road in the vicinity of the site is the responsibility of Albury City Council. With limited direct property access, and having approval for B-Doubles to travel from Wagga Road to the Nexus Industrial Estate, Gerogery Road prioritises through movement over access.

In the vicinity of the site, Gerogery Road is a two-lane, two-way rural sealed road. With a variable road reserve width (minimum 30m), Gerogery Road has two 3.5m wide travel lanes with sealed shoulders of varying width (typically 0.5-1.0m). Verges on either side contain table drains for conveying stormwater runoff, with mature native vegetation present within the road reserve. Street lighting along the route is currently limited to major intersections. The speed limit from Wagga Road to Knowles Road is 80km/h, while north of Knowles Road the speed limit is 100km/h.

Figure 2-9: Looking south along Gerogery Road from near intersection with Knowles Road/Hub Road

Figure 2-10: Looking north along Gerogery Road between Knowles Road/Hub Road and Wagga Road

2.3.3 Wagga Road

Wagga Road forms part of the former Hume Highway route. It currently runs from the "Fiveways" intersection with Union Road and Mate Street in Lavington, northwards past Gerogery Road to the Hume Highway at the Davey Road interchange. Wagga Road is the responsibility of Albury City Council. With limited direct property access, and approval as a B-Double route, Wagga Road prioritises through movement over access.

In the vicinity of Gerogery Road, Wagga Road is a two-lane, two-way rural sealed road. With a variable road reserve width (minimum 70m), Wagga Road has two 3.5m wide travel lanes with 1.5m-2.0m wide sealed shoulders. Grassed verges on either side contain table drains for conveying stormwater runoff, as well as a mixture of native and introduced vegetation. Street lighting is present only at key intersections. The speed limit along Wagga Road near the intersection with Gerogery Road is 80 km/h.

2.3.4 Intersections

Key intersections in the vicinity of the site include:

- Knowles Road and McLaurin Road – located north of the site, this is a three leg at-grade intersection with priority given to through vehicles on Knowles Road due to Give Way signage and linemarking on McLaurins Road (the terminating leg)
- Knowles Road/Hub Road and Gerogery Road – located east of the site, this is a four leg roundabout, with a single approach and departure lane on each leg and a single circulating aisle; and
- Gerogery Road and Wagga Road – located south-east of the site, this is a three leg at-grade intersection, with priority given to through vehicles on Wagga Road due to Give Way signage and linemarking on Gerogery Road (the terminating leg), and auxiliary lanes provided for left and right turns from Wagga Road onto Gerogery Road.

Figure 2-11: Looking south-east at the intersection of Knowles Road and McLaurin Road

Figure 2-12: Looking south-west at the intersection of Knowles Road and McLaurin Road

Figure 2-13: Looking south towards the intersection of Knowles Road/Hub Road and Gerogery Road

Figure 2-14: Looking north-east at the intersection of Gerogery Road and Wagga Road

2.4 Existing Traffic Conditions

2.4.1 Data Collection

Turning movement counts were undertaken at the intersections of Knowles Road/Hub Road and Gerogery Road, as well as Gerogery Road and Wagga Road, on Tuesday 30 January 2024, which was within NSW and Victorian school term dates. There were no significant roadworks impacting on the operation of the road network at the time. These surveys were undertaken across the morning and afternoon peak periods, allowing the peak hour in each period to be determined.

2.4.2 Intersections

Using the data and methodology detailed in Section 2.4.1, the traffic movements at key intersections in the vicinity of the site can be accurately determined. The turning movements for the busiest one-hour period in the AM and PM peak periods are summarised for the key intersections, in Figure 2-15, below.

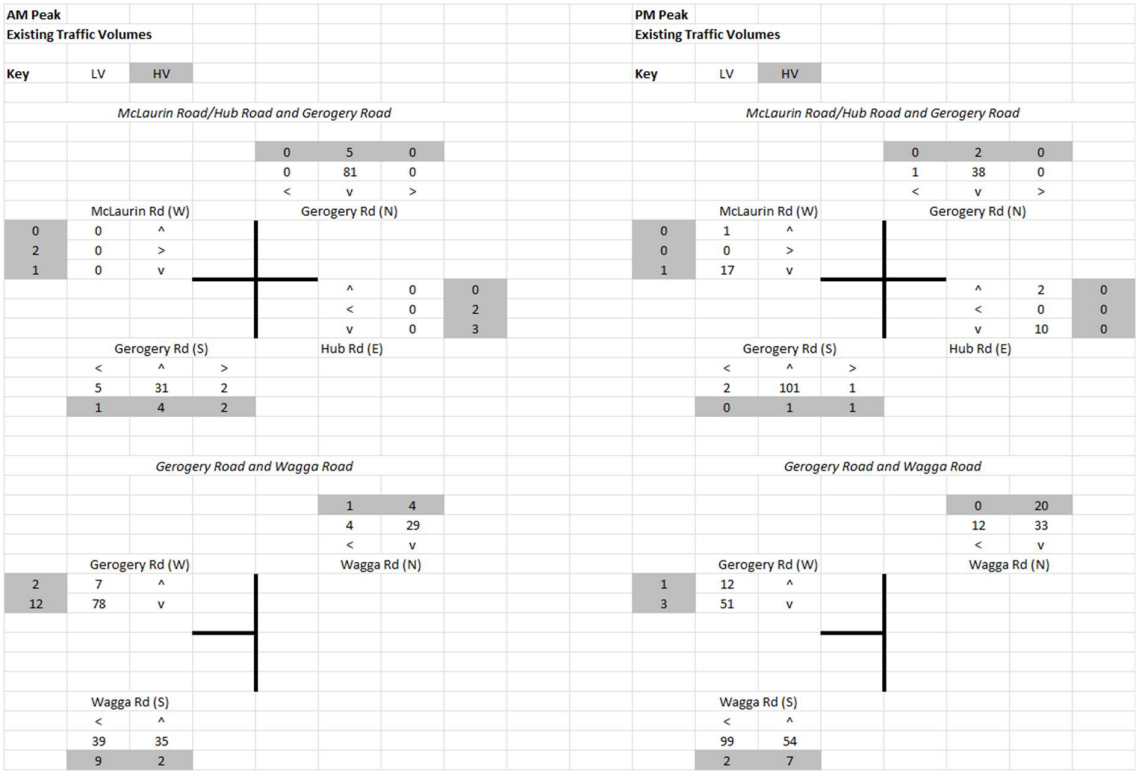


Figure 2-15: AM Peak and PM Peak Hour Intersection Turning Movements - Existing Conditions

It is noted that heavy vehicle proportions ranged from 6-14% across both intersections and time periods.

The performance of these intersections was modelled using the intersection analysis program SIDRA Intersection. Full results for the existing AM and PM peak periods are included in Appendix A, and summarised in Table 2-1, below.

Table 2-1: Intersection performance summary - existing conditions

Intersection	Total Flow (veh/h)	Degree of Saturation	Average Delay (sec) Avg/Worst	Level of Service* Avg/Worst
Gerogery & Hub/Knowles				
AM	153	0.060	7.5/12.8	A/A
PM	191	0.067	6.7/12.9	A/A
Wagga & Gerogery				
AM	234	0.115	5.4/8.1	A/A
PM	309	0.080	4.6/8.6	A/A

** Level of Service (LOS) is a qualitative assessment of the quantitative effect of factors such as speed, volume of traffic, geometric features, traffic interruptions, delays and freedom to manoeuvre. It ranges from A (best) to F (worst), and is calculated using average delay (as per TfNSW Guidelines).*

The analysis demonstrates that under existing traffic volumes, the intersections currently operate at an excellent Level of Service (LOS A, the highest level) in both the AM and PM peak periods. This indicates intersections operating with low levels of delay and saturation, and with ample spare capacity.

2.4.3 Midblock

A summary of the midblock data for the key sections of roads in the vicinity of the site, including daily traffic volumes (in vehicles per day), peak hour traffic volumes (in vehicles per hour) and Level of Service (LOS) is provided in Table 2-2, below.

Table 2-2: Midblock traffic data – existing conditions

Location	Daily[#]	Weekday AM Peak		Weekday PM Peak	
	Veh/d	Veh/h	LOS*	Veh/h	LOS*
Gerogery Road (South of Hub/Knowles)	1,720	135		174	
Northbound		45	A	106	A
Southbound		90	A	68	A
Wagga Road (South of Gerogery)	2,650	208		269	
Northbound		85	A	162	A
Southbound		123	A	107	A

[#] *Daily traffic volume determined by taking the average of the AM and PM peak hour and assuming this represents 9% of the total daily volume (as per previous surveys of similar sites)*

** Level of Service calculated based on typical midblock capacities for two-way/two-lane urban roads from Austroads Guide to Traffic Management Part 3: Traffic Studies and Analysis.*

Key points to note from the analysis include:

- All midblock sections of road analysed in the vicinity of the site operate at an excellent level of service (LOS A, the highest level) across all time periods. This indicates roads operating with adequate midblock capacity for the current levels of traffic observed in the road network; and
- The flow of traffic is split roughly 60/40 between southbound/northbound traffic in the AM peak period, reflecting travel towards the Lavington and Albury CBDs to the south (generally for employment and education). This split is reversed in the PM, being roughly 40/60 southbound/northbound as employees and students travel home.

2.5 Site Access and Parking

Vehicular access to the site is only available from McLaurin Road, although there are currently no formed driveways across the upright kerb and gutter as the site is undeveloped.

No vehicles were observed parked on-street on McLaurin Road adjacent to the site, which is as expected given the undeveloped nature of the site and other nearby lots. A small number of vehicles were observed during the site inspection parked on-street north of the site near existing industrial development, however the low number of cars meant that a formal parking survey was not warranted.

2.6 Crash Data

Data on crashes was obtained from the Transport for NSW Centre for Road Safety Interactive Crash Statistics database. Locations of crashes in the vicinity of the site for the most recent five year period for which data is available are shown in Figure 2-16, below.

Figure 2-16: Crashes in vicinity of site 2018-2022 (Source: TfNSW Interactive Crash Stats)

Key points from the analysis of the crash data include:

- There were no crashes recorded on either Knowles Road or McLaurin Road;
- Two crashes were recorded on Gerogery Road (both more than 1.5km north of the site), and a further two crashes were recorded on Wagga Road near Gerogery Road (both more than 2km south of the site), with all four crashes involving single vehicles leaving the carriageway or colliding with objects on the road; and
- All other crashes in the road network were more remote from the site.

2.7 Public Transport

The nearest public transport to the site is the town bus service provided by Martins Albury. The 908 route runs along Thurgoona Drive, approximately 5km south of the site, and connects Thurgoona, Lavington and Albury. From central Albury, passengers can transfer on to other town bus services to connect to other parts of Albury or to Wodonga. The 908 runs every 1-2 hours, seven days a week. School buses also travel along Gerogery Road and Wagga Road to the east of the site.

Inter-city coach and rail services are available from the Albury Train Station, which is located approximately 10km south of the site on the eastern edge of the Albury CBD.

2.8 Pedestrians and Cyclists

The nearest dedicated pedestrian or cyclist facility to the site is a 2.5m-wide shared path located on the western side of Wagga Road approximately 3.5km south of the site. This provides a dedicated off-road facility for pedestrians and cyclists, and can be used to access the broader Albury path network.

There are no other dedicated pedestrian or cyclist facilities in the vicinity of the site.

3 PROPOSED DEVELOPMENT

The proposed development consists of the following components:

- Construction of a flexible plastic/packaging recycling facility, comprising a building with a Gross Floor Area (GFA) of 6,949m^2 (consisting of 6,544m^2 industrial and 405m^2 office/amenities);
- Construction of external facilities, including storage areas for a range of liquid and solid materials plus covered canopy areas;
- Access to the site for heavy vehicles, comprising an entry at the northern end of the site from McLaurin Road, one-way anti-clockwise circulation through the site for drop-off of raw materials and collection of finished materials, weighbridge facilities and an exit driveway at the southern end of the site onto McLaurin Road;
- Off-street parking for 32 vehicles (including two spaces designated for persons with a disability), designed to cater for staff (typically eight operational staff working in three 8-hour shifts plus up to nine office/administrative staff working standard business hours) plus visitors, accessed from a combined entry/exit driveway onto McLaurin Road (with secondary connection to the southern exit driveway); and
- Landscaping to the site and surrounds.

An area of the site has also been set aside to cater for future growth – if constructed, this would be to the west of the proposed buildings.

Plans of the proposed development are included in Appendix B.

4 IMPACT OF PROPOSED DEVELOPMENT

4.1 Road Network

4.1.1 Traffic Generation and Distribution

Traffic generation levels for proposed developments are typically determined by reference to published standards such as the *RTA (TfNSW) Guide to Traffic Generating Developments*, with the amount of traffic generated depending on the land use. In some cases, previous studies of similar sites can be used where published standards do not provide clear or up-to-date guidelines. Alternatively, traffic generation rates can be determined by a first-principles approach, based on an understanding of the site's operations.

Plastics are brought to the site by truck in wrapped bales. The facility is designed to receive 15,000 tonnes per year of feedstock, operating 5 days per week for 50 weeks per year. This equates to an average of 300 tonnes per week. With each truck conservatively carrying 20-30 tonnes, it is estimated that no more than 15 trucks per week will be required for delivery, equating to 3 trucks per day.

After processing, the finished materials will be collected by trucks. It is estimated that no more than two trucks per day will be required, resulting in no more than 10 trucks per week (with each truck carrying 20-25 tonnes each, this equates to an average of 200 tonnes per week).

Processing also requires a range of ancillary materials to be delivered and waste to be removed. This is estimated to require an additional 10-15 vehicles per week.

In addition to traffic movements associated with the production process, there will also be some staff movements. The total number of staff employed at the facility is estimated to be 33, however not all staff will be on-site at the same time. Up to nine office-based staff are anticipated to be on-site during typical daytime hours, with the remaining staff separated into three shifts of eight persons each (7AM-2PM, 2PM-10PM and 10PM-7AM). The peak period will therefore be at 2PM, when office-based staff will be present and two of the shifts changeover – even at this time, the maximum number of staff on-site would be 25.

Finally, a small number of other vehicles are expected. This would include service, deliveries, food trucks and contractors, as well as visitors and meetings. It is assumed that up to ten such vehicles could attend site on any one day.

Other assumptions used to determine the traffic generation and distribution include:

- Each truck (materials in/out, deliveries/waste) generates one inbound plus one outbound trip (ie. A single truck represents 2 trips, split 50/50 between inbound and outbound);
- It is assumed that 100% of staff will travel via private motor vehicle to site, with the peak occurring during morning and afternoon periods as staff travel to and from site. Across the course of one day, all 33 staff will travel inbound and outbound, with a small number of additional trips across the course of the day (for example, staff leaving the office to attend external sites for purposes such as meetings);
- Other vehicles will be spread across the day, with no more than 3 other vehicles during peak hour (equating to 6 trips: 3 inbound + 3 outbound);
- Overall traffic at the site will be 60% inbound and 40% outbound in the AM peak, reflecting the net inbound movement of staff and the balanced movement of other vehicles. This will be reversed in the PM peak; and

- 70% of traffic will be to/from the south (all via Gerogery Road and Wagga Road), and 30% will be to/from the north (20% via Gerogery Road south of Knowles Road to Wagga Road and Davey Road and 10% via Gerogery Road north of Knowles Road), in line with observations of existing movements and likely origins/destinations.

The total traffic generated by the proposed development is summarised in Table 4-1, below.

Table 4-1: Traffic Generating Activities

Element	Peak Hour Trips Veh/h	Daily Trips Veh/d	Weekly Trips
Materials In	4	6	30
Materials Out	2	4	20
Deliveries and Waste	2	4	25
Staff	16	80	400
Other	6	20	110
Total	*30*	*114*	*585*

Based on these assumptions, the traffic generated by the proposed development in the AM and PM peak periods is shown in Figure 4-1, below.

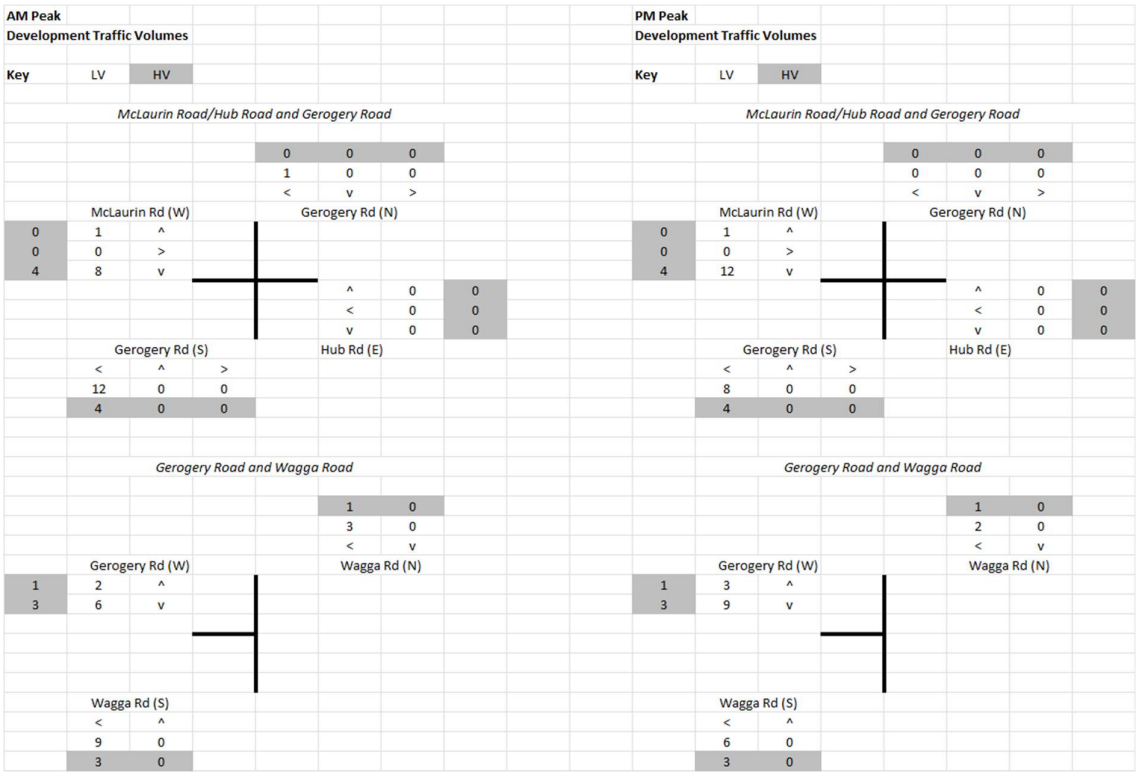


Figure 4-1: AM Peak and PM Peak Hour Intersection Turning Movements – Generated by Proposed Development

An allowance has been made for general growth in background traffic volumes. This has been assumed to be 2% pa for a period of 10 years.

As noted in Section 3, above, an area of the site has been set aside to cater for future growth, which if constructed would add to the site's GFA. It is anticipated that this would add a further three heavy vehicles (two delivery of raw materials plus one collection of finished product) and three employees. The total traffic generated by the proposed development should this expansion proceed is summarised in Table 4-1, below.

Table 4-2: Traffic Generating Activities (Including western expansion area)

Element	Peak Hour Trips Veh/h	Daily Trips Veh/d	Weekly Trips
Materials In	6	10	50
Materials Out	4	6	30
Deliveries and Waste	2	4	25
Staff	18	88	440
Other	6	20	110
Total	*36*	*128*	*655*

Based on these assumptions, the traffic generated by the proposed development in the AM and PM peak periods should this expansion proceed is shown in Figure 4-1, below.

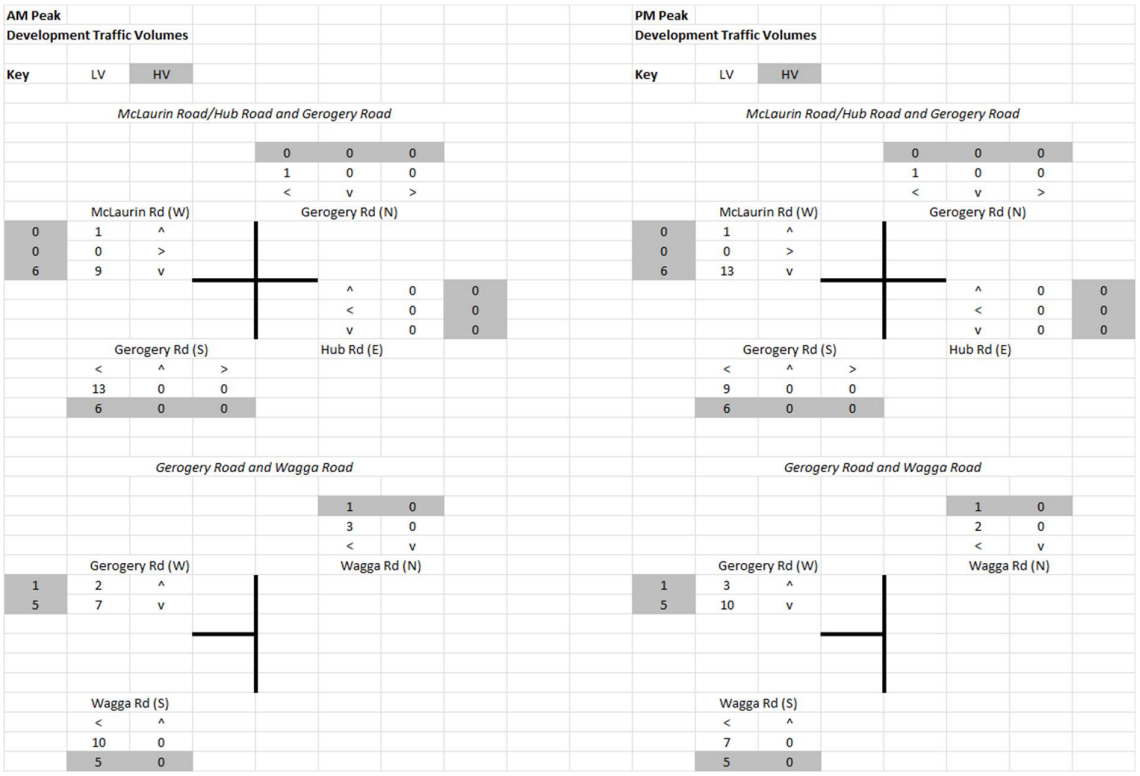


Figure 4-2: AM Peak and PM Peak Hour Intersection Turning Movements – Generated by Proposed Development (Including western expansion area)

4.1.2 Traffic Impact at Intersections

The additional traffic generated by the proposed development was added to the existing traffic flows and growth in background traffic volumes at the nearby key intersections of Gerogery Road and Hub Road/Knowles Road, as well as Gerogery Road and Wagga Road. The performance of these intersections was then modelled using the intersection analysis program SIDRA Intersection. Full results for the AM and PM peak periods are included in Appendix C and summarised in Table 4-3, below.

Table 4-3: Intersection performance summary – with proposed development

Intersection	Total Flow (veh/h)	Degree of Saturation	Average Delay (sec) Avg/Worst	Level of Service Avg/Worst
Stage 1 (Without potential western expansion)				
Gerogery & Hub/Knowles				
AM	207	0.074	7.5/12.9	A/A
PM	256	0.087	6.8/13.0	A/A
Wagga & Gerogery				
AM	309	0.158	5.7/8.5	A/A
PM	400	0.124	5.0/9.3	A/A
Stage 2 (With potential western expansion)				
Gerogery & Hub/Knowles				
AM	214	0.075	7.5/12.9	A/A
PM	263	0.090	6.8/13.0	A/A
Wagga & Gerogery				
AM	316	0.164	5.8/8.6	A/A
PM	406	0.131	5.1/9.4	A/A

The analysis demonstrates that even with the additional traffic generated by the proposed development, both key intersections will continue to operate at an excellent Level of Service (LOS A, the highest level) in both the AM and PM peak periods. This indicates the intersections will continue to operate with low levels of delay and saturation, and with ample spare capacity.

As vehicles travel further throughout the network, traffic generated by the proposed development becomes more dispersed, and hence has a lower net impact on other intersections. Hence if the impact at nearby intersections is within acceptable limits, then beyond these the impact will be even lower.

It is concluded that traffic from the proposed development can be accommodated at key intersections in the vicinity of the site, and that there will be no significant impacts on intersections as a result of the proposed development.

4.1.3 Traffic Impact Midblock

The additional traffic generated by the proposed development was added to the existing traffic volumes on nearby streets. A summary of the midblock data for the key sections of roads in the vicinity of the site, including weekday traffic volumes, peak hour traffic volumes and Level of Service with the proposed development is provided in Table 4-4, below.

Table 4-4: Midblock traffic data – with proposed development

Location	Weekday	Weekday AM Peak		Weekday PM Peak	
	Veh/d	Veh/h	LOS	Veh/h	LOS
Stage 1 (Without potential western expansion)					
Gerogery Road (South of Hub/Knowles)	2,360	189		235	
Northbound		69	A	138	A
Southbound		120	A	97	A
Wagga Road (South of Gerogery)	3,420	271		344	
Northbound		114	A	203	B
Southbound		157	A	141	A
Stage 2 (With potential western expansion)					
Gerogery Road (South of Hub/Knowles)	2,420	195		241	
Northbound		72	A	141	A
Southbound		123	A	100	A
Wagga Road (South of Gerogery)	3,480	277		350	
Northbound		117	A	206	B
Southbound		160	A	144	A

The analysis shows that the level of service reduces to LOS B on Wagga Road (northbound in the PM peak period), which is still considered good. All other segments of road analysed remain excellent, continuing operating at the highest (LOS A), even with the additional traffic generated by the proposed development.

Similar to impacts at intersections, as vehicles travel further throughout the network, traffic generated by the proposed development becomes more dispersed, and hence has a lower net impact on other roads. Hence if the impact on the roads in the vicinity of the site is within acceptable limits, then beyond these roads the impact will be even lower.

It is concluded that there will be no significant impact on roads in the vicinity of the site or further afield as a result of the proposed development.

4.2 Parking and Site Access

It is proposed that the site be accessed via the following driveways:

- Entry driveway at northern end of site from McLaurin Road for inbound and outbound materials (heavy vehicles);
- Exit driveway at southern end of site onto McLaurin Road for inbound and outbound materials (heavy vehicles); and
- Combined entry and exit driveway from McLaurin Road to off-street car parking (light vehicles).

The entry driveway for heavy vehicles is proposed to be 13.5m wide, with the exit driveway proposed to be 10.0m wide at the boundary (widening to 14.5m at the kerb), both of which comply with the requirements of both *Australian Standard AS2890: Parking Facilities Part 2: Off-street Commercial Vehicle Facilities* (Table 3.1 requires a minimum 4.5m width each for articulated vehicle access) and Albury City Council's *Engineering Design Guidelines for*

Design of Roads (Table 2.2 requires industrial vehicular crossings to be a minimum of 3.6m wide). The access driveway into the off-street car park is proposed to be 6.0m wide, which complies with the requirements of *Australian Standard AS2890: Parking Facilities* (Table 3.2 requires a minimum 5.5m width for a two-way User Class 1 facility with 25-100 parking spaces accessed from a local road. Sight distance to and from access driveways along McLaurin Road is in excess of the 69m required for 50km/h roads (AS2890.1 Figure 3.2) in both directions at all driveways.

Albury Development Control Plan 2010 Part 17: Off Street Car Parking and AS2890 specify a variety of dimensions for car parking spaces and aisle widths, depending on the type of user and configuration of car parking. Parking in the proposed off-street car park is primarily 90-degree angle parking, and the ability of a motorist to enter and exit parking spaces is a combination of the width and length of the parking space, as well as the width of the adjacent parking aisle – a narrower parking space will require a wider parking aisle, and vice-versa. AS2890 recommends that for 90-degree angle parking catering for User Class 1 (employee parking, representing the majority of users), the spaces be a minimum of 2.4m in width x 5.4m in length, with a parking aisle of 6.2m width. All parking spaces are 2.5m x 5.4m, while aisles adjacent to angle parking are 6.2m in width, meeting the minimum requirements.

Albury Development Control Plan 2010 Part 17: Off Street Car Parking specifies the minimum parking spaces required for a development, depending on the land use type, while *Albury Development Control Plan 2010 Part 12: Development in the Industrial Zones* imposes additional requirements. The car parking requirements for the proposed development is summarised in Table 4-5, below.

Table 4-5: Car Parking Requirements

Use	Rate	Unit	Car Parking Spaces Required
Industry	1 per 80m^2 GFA	6,544m^2 GFA	81.8
Office Premises	1 per 40m^2 GFA	405m^2 GFA	10.1
Visitor Parking	1 per 500m^2 GFA (Minimum 1, Maximum 5)	6,949m^2 GFA	5
Total			*96.9 Rounded to 97*

The proposed development incorporates 32 off-street car parking spaces, and therefore has a shortfall of 65 spaces against the requirements of *Albury Development Control Plan 2010*.

It is noted that the Industry rate of 1 space per 80m^2 GFA is very similar to the rate of 1.3 spaces per 100m^2 GFA (equivalent to 1 space per 76m^2 GFA) specified in the *RTA (TfNSW) Guide to Traffic Generating Developments* for Industry (Factories). Section 3.10 of the guide notes that employee density is a key factor in determining the traffic generation and parking demand for industrial land, and the surveys used to determine the parking rate in The Guide noted an average GFA per employee of 50m^2. The surveys in The Guide date from 1978, and modern industrial properties use more machinery and less labour. Even allowing for all 33 employees, the GFA per employee at the proposed development is 210m^2, which is more than four times the rate in the Guide. The rate in The Guide, and by association the rate in Albury DCP Part 17 is therefore considered high.

As discussed in Section 4.1.1, above, employees work in shifts, and the maximum number of employees on-site at any one time would be 25 (this would be when the nine office-based staff

are present, and two 8-person shifts overlap at changeover times). With 32 spaces provided, there is sufficient parking for all of these employees to be present on-site in their own motor vehicle with seven spaces left vacant for other users such as visitors. As noted in Section 4.1.1, above, the area of the site set aside for future growth is not anticipated to result in a significant increase in the number of employees at the site (an additional three is anticipated). The proposed development therefore has sufficient parking to meet anticipated demand.

Two of the off-street car parking spaces are designated for persons with a disability. This meets the requirement of a minimum of one space in 50 that would normally be required for this type of building under the *Building Code of Australia* (a total requirement of one space), and the minimum of one space plus one space per 33 spaces required under Albury DCP Part 17 (a total requirement of two spaces).

Additional parking and manoeuvring areas are provided for heavy vehicles, including semi-trailers and B-Doubles. As shown in the swept paths in Appendix D, all circulation aisles and turning areas are sufficient to allow vehicles to enter and exit the site in a forward direction, and to park clear of any movement areas.

Bicycle racks are proposed at the northern end of the off-street car park, near the entrance to the office. Provision has been made to park up to four bicycles in these racks. Albury DCP Part 17 requires a minimum of one bicycle parking space for each 10 car parking spaces, and the provision of four bicycle spaces is adequate to meet the requirements for the 32 car parking spaces provided in the off-street car park.

It is noted that no dedicated motorcycle parking has been provided within the development. Albury DCP Part 17 requires a minimum of one motorcycle space per 30 car parks, meaning the proposed development should have two spaces dedicated to motorcycles. However it is noted that the development provides adequate parking for all employees and visitors regardless of the type of vehicle used to travel. Motorcycles are able to park in regular vehicle parking spaces, which maximises choice and flexibility for motorists and motorcyclists. Given that there are adequate numbers of parking spaces available, it is considered that appropriate provision has been made for motorcyclists without needing to dedicate spaces.

It is concluded that the proposed development provides adequate numbers of off-street parking spaces to meet the anticipated demand for light and heavy vehicles, without any adverse effect on the surrounding road network. In addition, the layout of the off-street parking area complies with the requirements of the Albury DCP and AS2890, and adequate parking has been provided for persons with a disability.

4.3 Service and Delivery Vehicles

Service and delivery vehicles include deliveries of goods and services such as trades or maintenance persons, as well as collection of refuse.

As discussed in Section 4.2, deliveries of inbound material, collection of outbound material and other services such as waste collection are likely to occur in rigid trucks or articulated vehicles (up to and including B-Doubles). Swept path templates are included in Appendix D, showing that all vehicles are able to enter and exit the site in a forward direction, with adequate room on site to stand clear of other vehicles when parked. It is noted that the number of such vehicles arriving and departing across the course of a day mean it is unlikely that multiple vehicles will be on-site at the same time.

Swept paths have also been prepared for a 12.5m truck, representative of a fire appliance. As such vehicles may enter the site via the car park in order to directly access the office, swept paths for these vehicles show that clear movement is available through the car park and around the building (including around other vehicles that may be parked on-site).

Deliveries of goods and services in standard vehicles or small trucks are able to park in bays in the off-street car park. Vehicles would also be able to park in McLaurin Road adjacent to the proposed development and would not have a significant impact on the availability of on-street car parking.

It is considered that the development provides appropriate facilities for service vehicles.

4.4 Pedestrian and Cyclist Impact

Pedestrian access is available into the office from McLaurin Road at the northern end of the off-street car park. Cyclists would also be able to use this facility to access the site and the proposed bicycle racks. It is not proposed to make any change to pedestrian or cyclist infrastructure in the vicinity of the site.

It is concluded that adequate provision has been made for pedestrians and cyclists within the site, and it is not anticipated that there would be any significant adverse effect on pedestrians or cyclists as a result of the proposed development.

4.5 Albury DCP Part 17 Objectives

In addition to objective numerical considerations it is important that the arrangements that are proposed for parking at the proposed development meet the objectives of Albury DCP Part 17. There are several objectives, which have been listed and addressed in Table 4-6, below.

Table 4-6: Objectives of Albury DCP Part 17: Off-Street Car Parking

Objective	Response
Parking Provision by Land Use	
To ensure that the provision of parking is appropriate for the proposed use or development of the land	As discussed in Section 4.2, the proposed development does not meet the numerical requirements for provision of car parking under Albury DCP Part 17, but is considered to provide adequate off-street parking to meet anticipated demand.
To protect amenity, enhance streetscapes and provide shade	Amenity, streetscape and shade levels will not be adversely affected by the proposed development.
To maintain traffic flow efficiency, improve safety and protect the environment	Access driveways to the site ensure vehicles are able to exit and enter in a forward direction, minimising impacts on traffic flow efficiency and safety.
To ensure convenient and safe provision of off street car parking for disadvantaged persons	The proposed development provides two off-street parking spaces for persons with a disability out of the total number of 32.
To allocate adequate bicycle and motorcycle standing areas	Bicycle racks for four bicycles are proposed, and while no dedicated motorcycle parking is proposed, the development is able to cater for parking regardless of vehicle type.

To ensure convenient and safe space is provided for loading and unloading of goods	Adequate site entry, exit, loading and unloading facilities have been provided for vehicles up to and including a B-Double
To provide convenient and safe access to car parking areas, minimising disruption to traffic and maximising pedestrian safety	Access driveways to the site ensure vehicles are able to exit and enter in a forward direction (minimising disruption to traffic) and are located clear of any pedestrian facilities or access points (maximising pedestrian safety).
To permit the payment of monetary contributions in certain areas for any short fall in off-street car parking	N/A – The site provides adequate parking to meet anticipated demand.
Car Parking Design	
To protect amenity, enhance streetscapes and provide landscaped areas that screen and shade parking and loading areas.	Amenity, streetscape and shade levels will not be adversely affected by the proposed development. Landscaping and screening of parking and loading areas is included in the proposal.
To provide convenient and safe access to parking areas, minimising disruption to traffic and maximising pedestrian safety	Access driveways to the site ensure vehicles are able to exit and enter in a forward direction (minimising disruption to traffic) and are located clear of any pedestrian facilities or access points (maximising pedestrian safety).
Disabled Persons Parking	
To ensure the convenient and safe provision of off-street car parking for disadvantaged persons	The proposed development provides two off-street parking spaces for persons with a disability out of the total number of 32.
Bicycle Racks and Motorcycle Parking Spaces	
To allocate adequate bicycle and motorcycle standing areas	Bicycle racks for four bicycles are proposed, and while no dedicated motorcycle parking is proposed, the development is able to cater for parking regardless of vehicle type.
Off-Street Loading Facilities	
To ensure that convenient and safe space is provided on the site for the loading and unloading of goods	Adequate space has been provided off-street for loading/unloading of inbound and outbound materials, as well as collection of waste and service/delivery vehicles.
Pedestrian Movements	
To maintain traffic flow efficiency and improve safety for both motorists and pedestrians	Access driveways to the site ensure vehicles are able to exit and enter in a forward direction, and are located clear of any pedestrian facilities or access points.
Contributions in lieu of Physical Provision of Car Parking	
To permit the payment of monetary contributions in the Albury and Lavington CBD areas for car parking spaces not provided on a development site	N/A – The site is not located in these areas.

It is concluded that the objectives outlined in Albury DCP Part 17 can be met by the proposed development.

5 CONCLUSIONS AND RECOMMENDATIONS

It is concluded that:

- Traffic surveys and analysis of key roads and intersections in the vicinity of the site shows that they currently operate at a good Level of Service (LOS A) or better, with minimal delays and ample spare capacity;
- The proposed development will generate an additional 128 vehicle trips per day, with 36 of these in the AM and PM peak periods, which will not have a significant impact on the performance of the surrounding road network (including intersections and freeway interchanges);
- Access to the site is able to be provided from McLaurin Road for both heavy and light vehicles, with adequate sight distance at all locations;
- The provision of 32 off-street parking spaces (including two designated for persons with a disability) does not meet the numerical requirements of the *Albury Development Control Plan 2010*, however the parking provided is considered adequate to cater for anticipated demand. The car parking and access driveways satisfactorily address all matters for consideration under *Albury DCP Part 17* and *Australian Standard AS2890*;
- Adequate provision has been made for persons with a disability;
- Adequate provision has been made for servicing and delivery vehicles; and
- Adequate provision has been made for pedestrians and cyclists.

APPENDIX A – INTERSESCTION ANALYSIS – EXISTING

MOVEMENT SUMMARY

Site: [McLaurin/Hub and Gerogery_Existing_AM Peak (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

McLaurin Road/Hub Road and Gerogery Road
Existing Conditions
AM Peak Period
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Gerogery (S)															
1	L2	All MCs	6	16.7	6	16.7	0.033	5.7	LOS A	0.2	1.3	0.06	0.50	0.06	55.1
2	T1	All MCs	37	11.4	37	11.4	0.033	6.3	LOS A	0.2	1.3	0.06	0.50	0.06	67.0
3	R2	All MCs	4	50.0	4	50.0	0.033	12.2	LOS A	0.2	1.3	0.06	0.50	0.06	57.1
Approach			47	15.6	47	15.6	0.033	6.8	LOS A	0.2	1.3	0.06	0.50	0.06	64.1
East: Hub (E)															
4	L2	All MCs	1	0.0	1	0.0	0.007	4.0	LOS A	0.0	0.4	0.26	0.48	0.26	56.2
5	T1	All MCs	2	100.0	2	100.0	0.007	5.3	LOS A	0.0	0.4	0.26	0.48	0.26	47.9
6	R2	All MCs	3	100.0	3	100.0	0.007	10.8	LOS A	0.0	0.4	0.26	0.48	0.26	39.2
Approach			6	83.3	6	83.3	0.007	7.9	LOS A	0.0	0.4	0.26	0.48	0.26	44.1
North: Gerogery (N)															
7	L2	All MCs	1	0.0	1	0.0	0.060	6.8	LOS A	0.3	2.1	0.07	0.53	0.07	63.2
8	T1	All MCs	91	5.8	91	5.8	0.060	8.1	LOS A	0.3	2.1	0.07	0.53	0.07	69.2
9	R2	All MCs	1	0.0	1	0.0	0.060	12.8	LOS A	0.3	2.1	0.07	0.53	0.07	57.4
Approach			93	5.7	93	5.7	0.060	8.1	LOS A	0.3	2.1	0.07	0.53	0.07	69.0
West: McLaurin (W)															
10	L2	All MCs	1	0.0	1	0.0	0.006	2.7	LOS A	0.0	0.3	0.17	0.38	0.17	55.9
11	T1	All MCs	3	66.7	3	66.7	0.006	3.0	LOS A	0.0	0.3	0.17	0.38	0.17	49.0
12	R2	All MCs	2	50.0	2	50.0	0.006	8.1	LOS A	0.0	0.3	0.17	0.38	0.17	44.6
Approach			6	50.0	6	50.0	0.006	4.6	LOS A	0.0	0.3	0.17	0.38	0.17	48.4
All Vehicles			153	13.8	153	13.8	0.060	7.5	LOS A	0.3	2.1	0.08	0.51	0.08	64.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [McLaurin/Hub and Gerogery_Existing_PM Peak (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

McLaurin Road/Hub Road and Gerogery Road
Existing Conditions
PM Peak Period
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Gerogery (S)															
1	L2	All MCs	2	0.0	2	0.0	0.067	5.5	LOS A	0.3	2.3	0.03	0.49	0.03	55.5
2	T1	All MCs	107	1.0	107	1.0	0.067	6.2	LOS A	0.3	2.3	0.03	0.49	0.03	69.6
3	R2	All MCs	2	50.0	2	50.0	0.067	12.2	LOS A	0.3	2.3	0.03	0.49	0.03	57.4
Approach			112	1.9	112	1.9	0.067	6.3	LOS A	0.3	2.3	0.03	0.49	0.03	69.0
East: Hub (E)															
4	L2	All MCs	11	0.0	11	0.0	0.010	3.9	LOS A	0.0	0.3	0.17	0.45	0.17	59.4
5	T1	All MCs	1	0.0	1	0.0	0.010	4.1	LOS A	0.0	0.3	0.17	0.45	0.17	50.4
6	R2	All MCs	2	0.0	2	0.0	0.010	9.2	LOS A	0.0	0.3	0.17	0.45	0.17	62.2
Approach			14	0.0	14	0.0	0.010	4.7	LOS A	0.0	0.3	0.17	0.45	0.17	59.0
North: Gerogery (N)															
7	L2	All MCs	1	0.0	1	0.0	0.031	6.9	LOS A	0.1	1.1	0.10	0.53	0.10	62.9
8	T1	All MCs	42	5.0	42	5.0	0.031	8.1	LOS A	0.1	1.1	0.10	0.53	0.10	69.1
9	R2	All MCs	1	0.0	1	0.0	0.031	12.9	LOS A	0.1	1.1	0.10	0.53	0.10	57.2
Approach			44	4.8	44	4.8	0.031	8.2	LOS A	0.1	1.1	0.10	0.53	0.10	68.6
West: McLaurin (W)															
10	L2	All MCs	1	0.0	1	0.0	0.016	2.9	LOS A	0.1	0.5	0.24	0.54	0.24	53.4
11	T1	All MCs	1	0.0	1	0.0	0.016	2.8	LOS A	0.1	0.5	0.24	0.54	0.24	48.1
12	R2	All MCs	19	5.6	19	5.6	0.016	7.9	LOS A	0.1	0.5	0.24	0.54	0.24	50.2
Approach			21	5.0	21	5.0	0.016	7.4	LOS A	0.1	0.5	0.24	0.54	0.24	50.2
All Vehicles			191	2.8	191	2.8	0.067	6.7	LOS A	0.3	2.3	0.08	0.50	0.08	65.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [Gerogery and Wagga_Existing_AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gerogery Road and Wagga Road, Ettamogah
Existing Conditions
AM Peak Period
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagga (S)															
1	L2	All MCs	51	18.8	51	18.8	0.031	7.3	LOS A	0.0	0.0	0.00	0.63	0.00	58.8
2	T1	All MCs	39	5.4	39	5.4	0.021	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach			89	12.9	89	12.9	0.031	4.1	NA	0.0	0.0	0.00	0.36	0.00	66.5
North: Wagga (N)															
8	T1	All MCs	35	12.1	35	12.1	0.019	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
9	R2	All MCs	5	20.0	5	20.0	0.004	7.5	LOS A	0.0	0.1	0.20	0.58	0.20	57.7
Approach			40	13.2	40	13.2	0.019	1.0	NA	0.0	0.1	0.03	0.08	0.03	76.1
West: Gerogery (W)															
10	L2	All MCs	9	22.2	9	22.2	0.115	7.5	LOS A	0.5	3.7	0.24	0.60	0.24	56.9
12	R2	All MCs	95	13.3	95	13.3	0.115	8.1	LOS A	0.5	3.7	0.24	0.60	0.24	59.4
Approach			104	14.1	104	14.1	0.115	8.1	LOS A	0.5	3.7	0.24	0.60	0.24	59.2
All Vehicles			234	13.5	234	13.5	0.115	5.4	NA	0.5	3.7	0.11	0.41	0.11	64.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [Gerogery and Wagga_Existing_PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gerogery Road and Wagga Road, Ettamogah
Existing Conditions
PM Peak Period
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagga (S)															
1	L2	All MCs	106	2.0	106	2.0	0.058	7.0	LOS A	0.0	0.0	0.00	0.63	0.00	63.9
2	T1	All MCs	64	11.5	64	11.5	0.035	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach			171	5.6	171	5.6	0.058	4.4	NA	0.0	0.0	0.00	0.39	0.00	69.1
North: Wagga (N)															
8	T1	All MCs	56	37.7	56	37.7	0.036	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
9	R2	All MCs	13	0.0	13	0.0	0.010	7.3	LOS A	0.0	0.3	0.27	0.59	0.27	63.5
Approach			68	30.8	68	30.8	0.036	1.4	NA	0.0	0.3	0.05	0.11	0.05	76.3
West: Gerogery (W)															
10	L2	All MCs	14	7.7	14	7.7	0.080	7.4	LOS A	0.3	2.3	0.30	0.61	0.30	60.8
12	R2	All MCs	57	5.6	57	5.6	0.080	8.6	LOS A	0.3	2.3	0.30	0.61	0.30	61.5
Approach			71	6.0	71	6.0	0.080	8.4	LOS A	0.3	2.3	0.30	0.61	0.30	61.3
All Vehicles			309	11.2	309	11.2	0.080	4.6	NA	0.3	2.3	0.08	0.38	0.08	68.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

APPENDIX B – PLANS OF PROPOSED DEVELOPMENT

B1

Nominated Architect: Sammy Glunta - Registration number 7046

Rev	Amendment	App	Date
01	Issued For Information	SG	14.01.2024
02	Issued For Information	SG	17.01.2024
03	Issued For Information	SG	29.01.2024
04	Issued For Information	SG	01.02.2024
05	Issued For Information	SG	14.03.2024
06	Issued For Information	SG	25.03.2024

LOT 9
DP 1276039

LOT 8
DP 1276039

LOT 35
DP 1121146

LOT 4
DP 1252889

LOT 6
DP 1276039

Boundary

100m from creek bank

3.3m wide stormwater and sewer easement

Weighbridge

HARDSTAND

TRUCK ENTRY

10m building setback

3m landscape setback

WASTE WATER TREATMENT PLANT

RWT

RWT

COMPRESSORS

MCC

T-Apex

Transformer

Transformer

Transformer

Main HV Switchboard

OFFICE
FFL 239.000 ± 500mm

Pylon sign

3m wide sewer easement

Fire trail

STORAGE PEN 4
Storage 248m2

STORAGE PEN 3
Storage 248m2

STORAGE PEN 2
Storage 248m2

STORAGE PEN 1
Storage 248m2

HARDSTAND

CVS

CVS

CVS

CVS

CVS

WAREHOUSE
FSL 239.000 ± 500mm

Storage 264m2

EXTRUDER
FSL 239.000 ± 500mm

Storage 274m2

WORKSHOP

CAR ENTRY / EXIT

CAR PARK (32)

McLAURIN ROAD

Sprinkler tank

PUMP RM

HARDSTAND

TRUCK EXIT

Silo

Silo

Silo

Future silo

Future silo

Future silo

Crushed rock for future parking (12 spaces)

DETENTION BASIN

01
A-110

15150 | 7050 | 11300 | 11300 | 11300 | 11300 | 11300 | 8100 | 22250

9 8 7 6 5 4 3 2 1

A B C D

25000 | 25000 | 25000 | 25000 | 27650

01
-
SITE / GROUND FLOOR PLAN
1 : 300

1:300
0m 5 10 15 20 25 30

DEVELOPMENT SCHEDULE

SITE AREA	30,600 m²

FLOOR AREAS

WAREHOUSE	6,396 m²
MOTOR CONTROL CENTRE	78 m²
COMPRESSORS	70 m²
OFFICE	405 m²
TOTAL FLOOR AREA	6,949 m²
CAR PARKING	32 spaces

Architect
Lo Studio
Suite 302
4-14 Buckingham Street
Surry Hills NSW 2010
t 02 9699 1335
e mail@lostudio.com.au
Lo Studio Pty Ltd ACN 142 525 728

Contractor
Joss Group

Project
PROJECT RAINBOW
24 McLaurin Rd, Ettamogah NSW 2640

Title
SITE / GROUND FLOOR PLAN

Cad File
Z:\Projects\23.356\Cad\Plot\A-100.dwg

Drawn By	Approved By
SG	SG

Set
DEVELOPMENT APPLICATION

Project Number
23.356

Drawing Number	Revision
A-100	06

Scale
1:300 (A1)

Issued For Information

APPENDIX C – INTERSECTION ANALYSIS – WITH DEVELOPMENT

MOVEMENT SUMMARY

Site: [McLaurin/Hub and Gerogery_Future_AM Peak (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

McLaurin Road/Hub Road and Gerogery Road
Future Conditions - With Proposed Development
AM Peak Period
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Gerogery (S)															
1	L2	All MCs	24	21.7	24	21.7	0.050	5.8	LOS A	0.3	2.0	0.07	0.50	0.07	55.1
2	T1	All MCs	44	11.9	44	11.9	0.050	6.3	LOS A	0.3	2.0	0.07	0.50	0.07	67.0
3	R2	All MCs	4	50.0	4	50.0	0.050	12.2	LOS A	0.3	2.0	0.07	0.50	0.07	57.2
Approach			73	17.4	73	17.4	0.050	6.5	LOS A	0.3	2.0	0.07	0.50	0.07	62.0
East: Hub (E)															
4	L2	All MCs	1	0.0	1	0.0	0.008	4.1	LOS A	0.0	0.5	0.31	0.49	0.31	55.6
5	T1	All MCs	2	100.0	2	100.0	0.008	5.6	LOS A	0.0	0.5	0.31	0.49	0.31	47.5
6	R2	All MCs	4	100.0	4	100.0	0.008	11.1	LOS A	0.0	0.5	0.31	0.49	0.31	39.0
Approach			7	85.7	7	85.7	0.008	8.5	LOS A	0.0	0.5	0.31	0.49	0.31	43.0
North: Gerogery (N)															
7	L2	All MCs	1	0.0	1	0.0	0.074	6.9	LOS A	0.4	2.7	0.11	0.53	0.11	63.0
8	T1	All MCs	108	5.8	108	5.8	0.074	8.1	LOS A	0.4	2.7	0.11	0.53	0.11	68.9
9	R2	All MCs	1	0.0	1	0.0	0.074	12.9	LOS A	0.4	2.7	0.11	0.53	0.11	57.2
Approach			111	5.7	111	5.7	0.074	8.2	LOS A	0.4	2.7	0.11	0.53	0.11	68.7
West: McLaurin (W)															
10	L2	All MCs	1	0.0	1	0.0	0.015	2.7	LOS A	0.1	0.6	0.18	0.50	0.18	54.1
11	T1	All MCs	2	100.0	2	100.0	0.015	3.3	LOS A	0.1	0.6	0.18	0.50	0.18	47.2
12	R2	All MCs	14	38.5	14	38.5	0.015	8.0	LOS A	0.1	0.6	0.18	0.50	0.18	45.3
Approach			17	43.8	17	43.8	0.015	7.1	LOS A	0.1	0.6	0.18	0.50	0.18	46.0
All Vehicles			207	15.7	207	15.7	0.074	7.5	LOS A	0.4	2.7	0.11	0.51	0.11	62.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [McLaurin/Hub and Gerogery_Future_PM Peak (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

McLaurin Road/Hub Road and Gerogery Road
Future Conditions - With Proposed Development
PM Peak Period
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Gerogery (S)															
1	L2	All MCs	15	28.6	15	28.6	0.087	5.9	LOS A	0.4	3.2	0.04	0.49	0.04	55.3
2	T1	All MCs	128	0.8	128	0.8	0.087	6.2	LOS A	0.4	3.2	0.04	0.49	0.04	69.7
3	R2	All MCs	2	50.0	2	50.0	0.087	12.2	LOS A	0.4	3.2	0.04	0.49	0.04	57.4
Approach			145	4.3	145	4.3	0.087	6.2	LOS A	0.4	3.2	0.04	0.49	0.04	67.7
East: Hub (E)															
4	L2	All MCs	13	0.0	13	0.0	0.012	4.0	LOS A	0.1	0.4	0.22	0.45	0.22	59.3
5	T1	All MCs	1	0.0	1	0.0	0.012	4.2	LOS A	0.1	0.4	0.22	0.45	0.22	50.4
6	R2	All MCs	2	0.0	2	0.0	0.012	9.4	LOS A	0.1	0.4	0.22	0.45	0.22	62.1
Approach			16	0.0	16	0.0	0.012	4.7	LOS A	0.1	0.4	0.22	0.45	0.22	59.0
North: Gerogery (N)															
7	L2	All MCs	1	0.0	1	0.0	0.038	7.0	LOS A	0.2	1.4	0.16	0.52	0.16	62.6
8	T1	All MCs	51	4.2	51	4.2	0.038	8.2	LOS A	0.2	1.4	0.16	0.52	0.16	69.0
9	R2	All MCs	1	0.0	1	0.0	0.038	13.0	LOS A	0.2	1.4	0.16	0.52	0.16	56.9
Approach			53	4.0	53	4.0	0.038	8.3	LOS A	0.2	1.4	0.16	0.52	0.16	68.6
West: McLaurin (W)															
10	L2	All MCs	2	0.0	2	0.0	0.034	3.0	LOS A	0.2	1.2	0.27	0.55	0.27	53.2
11	T1	All MCs	1	0.0	1	0.0	0.034	2.9	LOS A	0.2	1.2	0.27	0.55	0.27	48.0
12	R2	All MCs	39	13.5	39	13.5	0.034	8.1	LOS A	0.2	1.2	0.27	0.55	0.27	48.6
Approach			42	12.5	42	12.5	0.034	7.7	LOS A	0.2	1.2	0.27	0.55	0.27	48.8
All Vehicles			256	5.3	256	5.3	0.087	6.8	LOS A	0.4	3.2	0.11	0.50	0.11	63.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [Gerogery and Wagga_Future_AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gerogery Road and Wagga Road, Ettamogah
Future Conditions - With Proposed Development
AM Peak Period
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagga (S)															
1	L2	All MCs	74	20.0	74	20.0	0.045	7.3	LOS A	0.0	0.0	0.00	0.63	0.00	58.5
2	T1	All MCs	46	4.5	46	4.5	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach			120	14.0	120	14.0	0.045	4.5	NA	0.0	0.0	0.00	0.39	0.00	65.2
North: Wagga (N)															
8	T1	All MCs	42	12.5	42	12.5	0.023	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
9	R2	All MCs	11	20.0	11	20.0	0.009	7.6	LOS A	0.0	0.3	0.24	0.59	0.24	57.5
Approach			53	14.0	53	14.0	0.023	1.5	NA	0.0	0.3	0.05	0.12	0.05	74.2
West: Gerogery (W)															
10	L2	All MCs	14	23.1	14	23.1	0.158	7.6	LOS A	0.7	5.3	0.29	0.61	0.29	56.5
12	R2	All MCs	123	14.5	123	14.5	0.158	8.5	LOS A	0.7	5.3	0.29	0.61	0.29	58.9
Approach			137	15.4	137	15.4	0.158	8.4	LOS A	0.7	5.3	0.29	0.61	0.29	58.6
All Vehicles			309	14.6	309	14.6	0.158	5.7	NA	0.7	5.3	0.14	0.44	0.14	63.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [Gerogery and Wagga_Future_PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gerogery Road and Wagga Road, Ettamogah
Future Conditions - With Proposed Development
PM Peak Period
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagga (S)															
1	L2	All MCs	137	3.8	137	3.8	0.076	7.0	LOS A	0.0	0.0	0.00	0.63	0.00	63.3
2	T1	All MCs	77	11.0	77	11.0	0.042	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach			214	6.4	214	6.4	0.076	4.5	NA	0.0	0.0	0.00	0.40	0.00	68.4
North: Wagga (N)															
8	T1	All MCs	67	37.5	67	37.5	0.043	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
9	R2	All MCs	18	5.9	18	5.9	0.016	7.7	LOS A	0.1	0.5	0.31	0.60	0.31	61.4
Approach			85	30.9	85	30.9	0.043	1.6	NA	0.1	0.5	0.07	0.13	0.07	75.2
West: Gerogery (W)															
10	L2	All MCs	20	10.5	20	10.5	0.124	7.5	LOS A	0.5	3.8	0.35	0.63	0.35	59.5
12	R2	All MCs	81	9.1	81	9.1	0.124	9.3	LOS A	0.5	3.8	0.35	0.63	0.35	59.9
Approach			101	9.4	101	9.4	0.124	8.9	LOS A	0.5	3.8	0.35	0.63	0.35	59.8
All Vehicles			400	12.4	400	12.4	0.124	5.0	NA	0.5	3.8	0.10	0.40	0.10	67.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [McLaurin/Hub and Gerogery_Ultimate_AM Peak (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

McLaurin Road/Hub Road and Gerogery Road
Future Conditions - With Proposed Development Including Potential Western Expansion
AM Peak Period
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Gerogery (S)															
1	L2	All MCs	27	26.9	27	26.9	0.052	5.9	LOS A	0.3	2.2	0.07	0.50	0.07	55.1
2	T1	All MCs	44	11.9	44	11.9	0.052	6.3	LOS A	0.3	2.2	0.07	0.50	0.07	67.1
3	R2	All MCs	4	50.0	4	50.0	0.052	12.2	LOS A	0.3	2.2	0.07	0.50	0.07	57.2
Approach			76	19.4	76	19.4	0.052	6.5	LOS A	0.3	2.2	0.07	0.50	0.07	61.6
East: Hub (E)															
4	L2	All MCs	1	0.0	1	0.0	0.008	4.1	LOS A	0.0	0.5	0.31	0.50	0.31	55.6
5	T1	All MCs	2	100.0	2	100.0	0.008	5.6	LOS A	0.0	0.5	0.31	0.50	0.31	47.5
6	R2	All MCs	4	100.0	4	100.0	0.008	11.1	LOS A	0.0	0.5	0.31	0.50	0.31	39.0
Approach			7	85.7	7	85.7	0.008	8.6	LOS A	0.0	0.5	0.31	0.50	0.31	43.0
North: Gerogery (N)															
7	L2	All MCs	1	0.0	1	0.0	0.075	6.9	LOS A	0.4	2.7	0.12	0.52	0.12	62.9
8	T1	All MCs	108	5.8	108	5.8	0.075	8.1	LOS A	0.4	2.7	0.12	0.52	0.12	68.8
9	R2	All MCs	1	0.0	1	0.0	0.075	12.9	LOS A	0.4	2.7	0.12	0.52	0.12	57.2
Approach			111	5.7	111	5.7	0.075	8.2	LOS A	0.4	2.7	0.12	0.52	0.12	68.6
West: McLaurin (W)															
10	L2	All MCs	1	0.0	1	0.0	0.018	2.7	LOS A	0.1	0.8	0.19	0.51	0.19	54.0
11	T1	All MCs	2	100.0	2	100.0	0.018	3.3	LOS A	0.1	0.8	0.19	0.51	0.19	47.1
12	R2	All MCs	17	43.8	17	43.8	0.018	8.1	LOS A	0.1	0.8	0.19	0.51	0.19	44.4
Approach			20	47.4	20	47.4	0.018	7.3	LOS A	0.1	0.8	0.19	0.51	0.19	45.1
All Vehicles			214	17.2	214	17.2	0.075	7.5	LOS A	0.4	2.7	0.11	0.51	0.11	61.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [McLaurin/Hub and Gerogery_Ultimate_PM Peak (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

McLaurin Road/Hub Road and Gerogery Road
Future Conditions - With Proposed Development Including Potential Western Expansion
PM Peak Period
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Gerogery (S)															
1	L2	All MCs	18	35.3	18	35.3	0.090	6.0	LOS A	0.5	3.3	0.04	0.49	0.04	55.2
2	T1	All MCs	128	0.8	128	0.8	0.090	6.2	LOS A	0.5	3.3	0.04	0.49	0.04	69.6
3	R2	All MCs	2	50.0	2	50.0	0.090	12.2	LOS A	0.5	3.3	0.04	0.49	0.04	57.4
Approach			148	5.7	148	5.7	0.090	6.2	LOS A	0.5	3.3	0.04	0.49	0.04	67.3
East: Hub (E)															
4	L2	All MCs	13	0.0	13	0.0	0.012	4.0	LOS A	0.1	0.4	0.23	0.45	0.23	59.3
5	T1	All MCs	1	0.0	1	0.0	0.012	4.2	LOS A	0.1	0.4	0.23	0.45	0.23	50.3
6	R2	All MCs	2	0.0	2	0.0	0.012	9.4	LOS A	0.1	0.4	0.23	0.45	0.23	62.1
Approach			16	0.0	16	0.0	0.012	4.7	LOS A	0.1	0.4	0.23	0.45	0.23	58.9
North: Gerogery (N)															
7	L2	All MCs	1	0.0	1	0.0	0.039	7.0	LOS A	0.2	1.4	0.16	0.53	0.16	62.5
8	T1	All MCs	51	4.2	51	4.2	0.039	8.2	LOS A	0.2	1.4	0.16	0.53	0.16	68.8
9	R2	All MCs	2	0.0	2	0.0	0.039	13.0	LOS A	0.2	1.4	0.16	0.53	0.16	56.8
Approach			54	3.9	54	3.9	0.039	8.4	LOS A	0.2	1.4	0.16	0.53	0.16	68.1
West: McLaurin (W)															
10	L2	All MCs	2	0.0	2	0.0	0.038	3.0	LOS A	0.2	1.4	0.27	0.55	0.27	53.2
11	T1	All MCs	1	0.0	1	0.0	0.038	2.9	LOS A	0.2	1.4	0.27	0.55	0.27	48.0
12	R2	All MCs	42	17.5	42	17.5	0.038	8.2	LOS A	0.2	1.4	0.27	0.55	0.27	47.9
Approach			45	16.3	45	16.3	0.038	7.8	LOS A	0.2	1.4	0.27	0.55	0.27	48.1
All Vehicles			263	6.8	263	6.8	0.090	6.8	LOS A	0.5	3.3	0.12	0.50	0.12	62.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [Gerogery and Wagga_Ultimate_AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gerogery Road and Wagga Road, Ettamogah
Future Conditions - With Proposed Development Including Potential Western Expansion
AM Peak Period
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagga (S)															
1	L2	All MCs	77	21.9	77	21.9	0.048	7.4	LOS A	0.0	0.0	0.00	0.63	0.00	58.0
2	T1	All MCs	46	4.5	46	4.5	0.024	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach			123	15.4	123	15.4	0.048	4.6	NA	0.0	0.0	0.00	0.39	0.00	64.6
North: Wagga (N)															
8	T1	All MCs	42	12.5	42	12.5	0.023	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
9	R2	All MCs	11	20.0	11	20.0	0.009	7.7	LOS A	0.0	0.3	0.24	0.59	0.24	57.5
Approach			53	14.0	53	14.0	0.023	1.5	NA	0.0	0.3	0.05	0.12	0.05	74.2
West: Gerogery (W)															
10	L2	All MCs	14	23.1	14	23.1	0.164	7.6	LOS A	0.7	5.5	0.30	0.61	0.30	56.5
12	R2	All MCs	126	15.8	126	15.8	0.164	8.6	LOS A	0.7	5.5	0.30	0.61	0.30	58.5
Approach			140	16.5	140	16.5	0.164	8.5	LOS A	0.7	5.5	0.30	0.61	0.30	58.3
All Vehicles			316	15.7	316	15.7	0.164	5.8	NA	0.7	5.5	0.14	0.44	0.14	62.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: [Gerogery and Wagga_Ultimate_PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Gerogery Road and Wagga Road, Ettamogah
Future Conditions - With Proposed Development Including Potential Western Expansion
PM Peak Period
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Wagga (S)															
1	L2	All MCs	140	5.3	140	5.3	0.078	7.1	LOS A	0.0	0.0	0.00	0.63	0.00	62.8
2	T1	All MCs	77	11.0	77	11.0	0.042	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach			217	7.3	217	7.3	0.078	4.6	NA	0.0	0.0	0.00	0.41	0.00	68.0
North: Wagga (N)															
8	T1	All MCs	67	37.5	67	37.5	0.043	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
9	R2	All MCs	18	5.9	18	5.9	0.016	7.7	LOS A	0.1	0.5	0.32	0.60	0.32	61.4
Approach			85	30.9	85	30.9	0.043	1.6	NA	0.1	0.5	0.07	0.13	0.07	75.2
West: Gerogery (W)															
10	L2	All MCs	20	10.5	20	10.5	0.131	7.5	LOS A	0.5	4.0	0.36	0.63	0.36	59.4
12	R2	All MCs	84	11.3	84	11.3	0.131	9.4	LOS A	0.5	4.0	0.36	0.63	0.36	59.3
Approach			104	11.1	104	11.1	0.131	9.0	LOS A	0.5	4.0	0.36	0.63	0.36	59.3
All Vehicles			406	13.2	406	13.2	0.131	5.1	NA	0.5	4.0	0.11	0.41	0.11	66.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

APPENDIX D – SWEPT PATH TEMPLATES

LOT 9
DP 1276039

LOT 8
DP 1276039

WEIGHBRIDGE

SWEPT PATH OF
VEHICLE BODY

PROPOSED B-DOUBLE
SWEPT PATH

ENTRY

LOT 35
DP 1121146

LOT 7 DP 127603922
24 McLAURIN ROAD

HARDSTAND

WASTE WATER
TREATMENT PLANT

COMPRESSORS

MCC

OFFICE
FFL 239.000 ± 500mm

Pylon sign

DESIGN VEHICLE
26M B-DOUBLE

McLAURIN ROAD

WORKSHOP

CAR ENTRY / EXIT

CAR PARK (32)

EXIT

TRUCK EXIT

Sprinkler tank

PUMP RM

Silo

Silo

Silo

Future silo

Future silo

Future silo

Crushed rock for future parking
(12 spaces)

DETENTION BASIN

Boundary

Fire trail

3.00
8.05
12.50
1.40
8.05
0.00
9.15
0.00
1.40
4.50
0.45

B-DOUBLE 26M

SITE PLAN - VEHICLE MOVEMENTS 26M B-DOUBLE

SCALE 5 0 5 10 15

DIAL BEFORE YOU DIG www.1100.com.au

Spotto CONSULTING

DATE	AMENDMENT	INIT.
MAR 2024	"B" - SITE PLAN UPDATED TO REVISION 6	BDC

REVISIONS

SURVEY
FIELD BOOK | LEVEL BOOK
DATUM
GRID

DESIGNED BDC
DRAWN BDC
____/____/____
APPROVED

SPOTTO CONSULTING

PROJECT RAINBOW
LOT 7 DP 1276039, 24 McLAURIN ROAD, ETTAMOGAH
PROPOSED PLASTCIS RECYCLING PLANT
VEHICLE MOVEMENTS - 26M B-DOUBLE

SCALE 1 : 400
No OF SHEETS 3
SHEET No. 1
DRAWING NUMBER 0269-01
REV. B

LOT 9
DP 1276039

LOT 8
DP 1276039

LOT 35
DP 1121146

LOT 7 DP 127603922
24 McLAURIN ROAD

SWEPT PATH OF VEHICLE BODY

PROPOSED B-DOUBLE SWEPT PATH

ENTRY

EXIT

CAR ENTRY / EXIT

CAR PARK (32)

WORKSHOP

WASTE WATER TREATMENT PLANT

COMPRESSORS

MCC

OFFICE
FFL 239.000 x 500mm

HARDSTAND

PUMP RM

Sprinkler tank

Weighbridge

Silo

Future silo

Crushed rock for future parking (12 spaces)

DESIGN VEHICLE
26M B-DOUBLE

McLAURIN ROAD

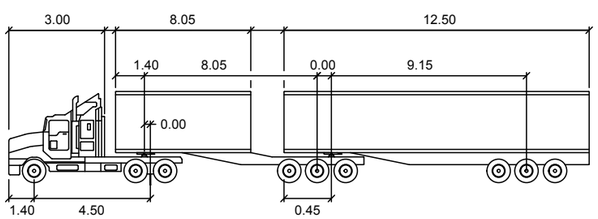
DETENTION BASIN

Boundary

3.0m wide stormwater and sewer easement

Fire trail

Pylon sign



B-DOUBLE 26M

SITE PLAN - PARKING MANOEUVRES - 26M B-DOUBLE

SCALE 5 0 5 10 15

DIAL BEFORE YOU DIG www.1100.com.au

Spotto CONSULTING

DATE	AMENDMENT	INIT.
MAR 2024	"B" - SITE PLAN UPDATED TO REVISION 6	BDC

REVISIONS

SURVEY
FIELD BOOK | LEVEL BOOK
DATUM
GRID

DESIGNED BDC
DRAWN BDC
____/____/____
APPROVED

SPOTTO CONSULTING

PROJECT RAINBOW
LOT 7 DP 1276039, 24 McLAURIN ROAD, ETTAMOGAH
PROPOSED PLASTCIS RECYCLING PLANT
PARKING MANOEUVRES - 26M B-DOUBLE

SCALE	1 : 400	
No OF SHEETS	3	SHEET No. 2
DRAWING NUMBER	0269-02	REV. B

LOT 9
DP 1276039

LOT 8
DP 1276039

LOT 35
DP 1121146

LOT 7 DP 127603922
24 McLAURIN ROAD

McLAURIN ROAD

Boundary

3.0m wide stormwater and sewer easement

Weighbridge

HARDSTAND

TRUCK ENTRY

ENTRY

WASTE WATER TREATMENT PLANT

COMPRESSORS

MCC

Transformer

Transformer

Transformer

Main LV Switchboard

OFFICE
FFL 239.000 ± 500mm

Pylon sign

DESIN VEHICLE - SPECIALIST FIRE APPLIANCE
AS 2890.2 - HEAVY RIGID VEHICLE (HRV)

Fire trail

HARDSTAND

SWEPT PATH OF
VEHICLE BODY

PROPOSED PERIMETER VEHICULAR
ACCESS SWEPT PATH

WORKSHOP

CAR PARK (32)

CAR ENTRY / EXIT

3m wide sewer easement

Boundary

Sprinkler tank

PUMP RM

HARDSTAND

EXIT

UCK EXIT

Silo

Silo

Silo

Future silo

Future silo

Future silo

Crushed rock for future parking
(12 spaces)

DETENTION BASIN

Boundary

LOT 6

12.50

2.20

6.85

SU TRUCK (HRV)

SITE PLAN - VEHICLE MOVEMENTS FIRE APPLIANCE (SU TRUCK) - MAIN ENTRY

SCALE 5 0 5 10 15

DIAL BEFORE YOU DIG www.1100.com.au

Spotto CONSULTING

DATE	AMENDMENT	INIT.
MAR 2024	"B" - SITE PLAN UPDATED TO REVISION 6	BDC

REVISIONS

SURVEY

FIELD BOOK | LEVEL BOOK

DATUM

GRID

DESIGNED BDC

DRAWN BDC

____ /____ /____

APPROVED

SPOTTO CONSULTING

PROJECT RAINBOW
LOT 7 DP 1276039, 24 McLAURIN ROAD, ETTAMOGAH
PROPOSED PLASTCIS RECYCLING PLANT
FIRE APPLIANCE (SU TRUCK) - MAIN ENTRY ACCESS

SCALE 1 : 400

No OF SHEETS 3 | SHEET No. 3

DRAWING NUMBER 0269-03 | REV. B

APPENDIX F:

Dangerous goods, quantities, storage and transportation screening thresholds assessment

State Environmental Planning Policy (Resilience and Hazards) 2021 **– Dangerous goods, quantities, storage and transportation screening thresholds assessment**

Overview

Dangerous goods, as defined in *The Australian Dangerous Goods Code Edition 7.8*[44] (ADG Code), will be stored in the 'wastewater treatment plant' area and the 'workshop' area as shown in the **attached** DA plan set.

Dangerous goods screening thresholds

The screening threshold quantities for dangerous goods stored and transported under *Applying SEPP 33: Hazardous and Offensive Development Application Guideline* (DUAP, 1994) are provided respectively in **Table F1** (p. 45) and **Table F2** (p. 40).

Assumptions

The Proponent advises that the Proposal will have –

- dangerous goods stored onsite at the locations advised above and in the quantities as shown in **Table F3** with transportation as shown in **Table F4** and no other dangerous goods will be stored onsite (except 2-stroke fuel and oil for portable backpack blower machines for Site cleaning – generally <40L unleaded petrol and <2L oil), and
- dangerous goods will generally be transported in 8.8m, 12.5m rigid or 19m semi-trailer trucks.

Dangerous goods vehicle deliveries

The Proposal provides a separate vehicle accessway for delivery vehicles along the northern boundary of the Site via McLaurin Road. Delivery vehicle transfer of dangerous goods from vehicles to container storages will comply with the ADG Code.

[44] https://www.ntc.gov.au/codes-and-guidelines/australian-dangerous-goods-code

Table F1: Dangerous goods storage screening quantities

Class	Screening Threshold	Description
1.2	5 tonne	or are located within 100 m of a residential area
1.3	10 tonne	or are located within 100 m of a residential area
2.1	(LPG only — not including automotive retail outlets[1])	
	10 tonne or16 m^3	if stored above ground
	40 tonne or 64 m^3	if stored underground or mounded
2.3	5 tonne	anhydrous ammonia, kept in the same manner as for liquefied flammable gases and not kept for sale
	1 tonne	chlorine and sulfur dioxide stored as liquefied gas in containers <100 kg
	2.5 tonne	chlorine and sulphur dioxide stored as liquefied gas in containers >100 kg
	100 kg	liquefied gas kept in or on premises
	100 kg	other poisonous gases
4.1	5 tonne	
4.2	1 tonne	
4.3	1 tonne	
5.1	25 tonne	ammonium nitrate — high density fertiliser grade, kept on land zoned rural where rural industry is carried out, if the depot is at least 50 metres from the site boundary
	5 tonne	ammonium nitrate — elsewhere
	2.5 tonne	dry pool chlorine — if at a dedicated
		pool supply shop, in containers <30 kg
	1 tonne	dry pool chlorine — if at a dedicated pool supply shop, in containers >30 kg
	5 tonne	any other class 5.1
5.2	10 tonne	
6.1	0.5 tonne	packing group I
	2.5 tonne	packing groups II and III
6.2	0.5 tonne	includes clinical waste
7	all	should demonstrate compliance with Australian codes
8	5 tonne	packing group I
	25 tonne	packing group II
	50 tonne	packing group III

Note: *The classes used are those referred to in the Australian Dangerous Goods Code and are explained in Appendix 7.*

Table F2: Dangerous goods transport screening quantities

	Vehicle Movements		Minimum quantity* per load (tonne)	
	Cumulative	Peak		
Class	Annual *or*	Weekly	Bulk	Packages
1	see note	see note	see note	
2.1	>500	>30	2	5
2.3	>100	>6	1	2
3PGI	>500	>30	1	1
3PGII	>750	>45	3	10
3PGIII	>1000	>60	10	no limit
4.1	>200	>12	1	2
4.2	>100	>3	2	5
4.3	>200	>12	5	10
5	>500	>30	2	5
6.1	all	all	1	3
6.2	see note	see note	see note	
7	see note	see note	see note	
8	>500	>30	2	5
9	>1000	>60	no limit	

Note: *Where proposals include materials of class 1, 6.2 or 7, the Department of Planning should be contacted for advice. Classes used are those referred to in the Dangerous Goods Code and are explained in Appendix 7.*

** If quantities are below this level, the potential risk is unlikely to be significant unless the number of traffic movements is high.*

Dangerous goods screening analysis

The screening results for the dangerous goods stored as a part of the Proposal are provided in **Table F3** and **Table F4**.

Table F3: Dangerous goods screening results

Dangerous good class	***Type***	***Quantity stored (kg)***	***Total (kg)***	***Quantity stored threshold (kg)***	***Comment***
Class 8 Packing Group II	Sodium Hydroxide 50% solution (Caustic Soda)	3,040	5,840	25,000	Complies.
	Sulphuric Acid <51% solution	2,800			

Table F4: Dangerous goods vehicle deliveries per year

Dangerous good class	***Type***	***Maximum movements per year and week***		***Transport thresholds***		***Comment***
		per year	***per week***	***per year***	***per week***	
Class 8 Packing Group II	Sodium Hydroxide 50% solution (Caustic Soda)	50	1	>500	>30	Complies.
	Sulphuric Acid <51% solution	13	0.25			

Conclusion

No dangerous good storage or transportation screening threshold will be exceeded under *Applying SEPP 33: Hazardous and Offensive Development Application Guideline* (DUAP, 1994).

Therefore, the Proposal is not considered potentially hazardous, therefore a preliminary hazard analysis (PHA) is not required, and, therefore, no further consideration under *State Environmental Planning Policy (Resilience and Hazards) 2021* is required.

APPENDIX G:

Signage assessment

	Response
State Environmental Planning Policy (Industry and Employment) 2021	
Clause 3.1: Aims, objectives etc	
(1) This Chapter aims:	
(a) to ensure that signage (including advertising):	
(i) is compatible with the desired amenity and visual character of an area, and	Complies – The proposed signs are compatible with the desired amenity and visual character of the NEXUS Industrial Precinct as they are appropriately located and are proportional in scale to the Site to which they relate and provide effective communication in suitable locations because they show business identification information and they are located immediately adjacent to the main staff and visitor accessway to the Site at the northeast corner of the Site. All signs would act as important 'way finding' signage for visitors intending to visit the Proposal.
(ii) provides effective communication in suitable locations, and	
(iii) is of high quality design and finish, and	The proposed signs are of high-quality design and finish.
Clause 3.4: Signage to which this Chapter applies	
(1) This Chapter applies to all signage that –	
(a) can be displayed with or without development consent under another environmental planning instrument that applies to the signage, and	Applies – All proposed "signage" as defined in the Dictionary of the LEP comprising the Proposal is permitted by the LEP under the SP4 zone as "business identification sign/s".

(b) is visible from any public place or public reserve,	Applies – All proposed "signage" as defined in the Dictionary of the LEP comprising the Proposal is able to be seen from the public domain of McLaurin Road.
except as provided by this Chapter.	
Clause 3.6: Granting of consent to signage	
A consent authority must not grant development consent to an application to display signage unless the consent authority is satisfied –	
(a) that the signage is consistent with the objectives of this Chapter as set out in 3.1(1)(a), and	Complies – As demonstrated above and below and in the main report, it is considered that the proposed signs are compatible with the amenity and visual character of the area.
(b) that the signage the subject of the application satisfies the assessment criteria specified in Schedule 5.	Refer below.
Schedule 5: Assessment criteria	
1. Character of the area	
• *Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?*	It is considered that the proposed signs are compatible with the character of the NEXUS Industrial Precinct area because – • their heights, widths and areas proportionally relate to the large circa 6,950m^2 building and circa 3ha land areas that they are associated with, • the locations of the signs, the land to which they relate, and the area surrounding the signs and the Site is slightly sloping, being

	generally unelevated land that is unable to be seen from afar or outside the immediate visual environment surrounding the Site, • the signs are not located in or a part of any known important or recognised viewscape, view corridor, or landscape backdrop, and • the signs would not be able to be reasonably seen from Gerogery Road to the east being the nearest arterial road to the Site but even if they were able to be seen it would not matter in this visual assessment context.
• *Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?*	There is no known established theme for outdoor advertising in the area or locality. The Site is the location of the third development in the NEXUS Industrial Precinct to the west of Gerogery Road.
2. Special areas	
• *Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?*	It is considered that the proposed signs do not have any of these areas in or around them.
3. Views and vistas	
• *Does the proposal obscure or compromise important views?*	The proposed signs are not located in or a part of any known important or recognised viewscape, view corridor, vista, or landscape backdrop.
• *Does the proposal dominate the skyline and reduce the quality of vistas?*	
• *Does the proposal respect the viewing rights of other advertisers?*	Not relevant as none would be affected as none presently exist.
4. Streetscape, setting or landscape	

• *Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?*	It is considered that the scale, proportion, and form of the proposed signs are compatible with the streetscape of McLaurin Road and the industrial and business zone settings of the area because – • their heights, widths and areas proportionally relate to the large circa 6,950m^2 building and circa 3ha land areas that they are associated with, • the locations of the signs, the land to which they relate, and the area surrounding the signs and the Site is slightly sloping, being generally unelevated land that is unable to be seen from afar or outside the immediate visual environment surrounding the Site, • the signs are not located in or a part of any known important or recognised viewscape, view corridor, or landscape backdrop, and • the signs would not be able to be reasonably seen from Gerogery Road to the east being the nearest arterial road to the Site but even if they were able to be seen it would not matter in this visual assessment context.
• *Does the proposal contribute to the visual interest of the streetscape, setting or landscape?*	The proposed signs contribute to visual interest by being appropriately located as 'way finding' signage, by being limited in number, by displaying business identification information, and by being constructed of high-quality materials and finishes with externally illuminated lighting.
• *Does the proposal reduce clutter by rationalising and simplifying existing advertising?*	Not relevant to existing conditions at the Site.
• *Does the proposal screen unsightliness?*	No.
• *Does the proposal protrude above buildings, structures or tree canopies in the area or locality?*	No.

• *Does the proposal require ongoing vegetation management?*	No.
5. Site and building	
• *Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?*	Yes, the proposed signs would be compatible with the scale, proportion and other characteristics of the Proposal and Site, on which the proposed signage is to be located because their heights, widths and areas proportionally relate to the large circa 6,950m^2 building and circa 3ha land areas that they are associated with.
• *Does the proposal respect important features of the site or building, or both?*	It is not considered that the Site has important features which the proposed signs should have regard to, for example built heritage values etc.
• *Does the proposal show innovation and imagination in its relationship to the site or building, or both?*	Not especially with the proposed signs being standard business identification signs.
6. Associated devices and logos with advertisements and advertising structures	
• *Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?*	Yes, external lighting has been integrated into design.
7. Illumination	
• *Would illumination result in unacceptable glare?*	No.
• *Would illumination affect safety for pedestrians, vehicles or aircraft?*	No.

• *Would illumination detract from the amenity of any residence or other form of accommodation?*	No.
• *Can the intensity of the illumination be adjusted, if necessary?*	No.
• *Is the illumination subject to a curfew?*	No.
8. Safety	
• *Would the proposal reduce the safety for any public road?*	No.
• *Would the proposal reduce the safety for pedestrians or bicyclists?*	No.
• *Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?*	No.

*****

APPENDIX H:

Industrial process description

PROJECT RAINBOW
STATEMENT OF INDUSTRIAL PROCESS

Rev 3.0
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Executive Summary

The Modern Manufacturing Initiative is a key element of the Australian Government's Modern Manufacturing Strategy, which aims to help Australian manufacturers scale-up, compete internationally and create jobs.

This development application provides an overview of Pro-Pac Packaging Group's (PPG) intention to build a plastics flexible film reprocessing facility in Albury and improve Australia's local closed-loop solutions for the recycling and remanufacturing of plastic.

Following a Meeting of the Environment Ministers in 2018, the state and federal government agreed to Australia's four 2025 National Packaging Targets which have provided a clear mandate to deliver a new, sustainable path for packaging. Achieving these targets requires the collaboration of stakeholders involved in designing, managing, and governing the packaging supply chain in Australia.

Recycled content has the potential to unlock countless opportunities for change within Australia's packaging industry. Targets for recycled content are set at 50% with further targets for each material stream. However, the volume of plastics is growing in total packaging given their low cost, light weight, and versatility in meeting diverse requirements.

Locally sourcing, recycling and manufacturing this material means that Australia will have a self-sustainable recycling stream. It will also result in job creation for decades.

The aim of this project is to create a local fully circular supply chain to divert an annual volume of 15,000 tonnes of flexible plastic from landfill into high value flexible packaging products.

This will be achieved through a $30m investment and value chain collaboration to develop a supply chain for the collection of waste and the installation of a mechanical recycling facility to accept, sort, clean and process flexible packaging into recycled pellets (recycled resin). Recycled pellets will be used by PPG to remanufacture it into commercially viable recycled flexible film products for local use, with potential to launch into the recycled pellet and flexible film export markets.

This investment in the Nexus Industrial Precinct (Ettamogah / Albury) will lead to significant benefits to the local economy in the short and long term. The project is expected to create employment opportunities for approximately 100 people through the construction and commissioning phase. Once fully operational, it will create more than 30 full time and part time roles in the local community.

The project will remove flexible packaging away from land fill into new packaging films, adding value to the recycling supply chain by utilising world leading technology to increase the quality and maintain the high value of flexible packaging recycled material, providing end-to-end solutions for collecting, recycling, and remanufacturing of used flexible plastic

The project has the support of the Australian Government through the Modern Manufacturing Initiative – Recycling & Clean Energy and received nearly $14 million grant.

This new facility will create environmental, financial, and social benefits that will not only serve the local community but also Australians for generations to come.

Introduction

"Australians instinctively know that strong, successful manufacturing businesses make for a stronger country.

The world knows too, that when Australians promise, we deliver. We are recognised for our reliability, our ingenuity and our quality products. Now in a disrupted global economy we have the opportunity to grow that reputation."

(source: Make it Happen: The Australian Government's Modern Manufacturing Strategy - The Hon Karen Andrews MP Minister for Industry, Science and Technology)

The Australian Government is manufacturing a new future for our nation through the Modern Manufacturing Strategy.

The strategy is a key feature of the government's JobMaker plan to harness Australian manufacturing capability and drive our economic recovery and future resilience. The vision for the strategy is for Australia to be recognised as a high-quality and sustainable manufacturing nation that helps to deliver a strong, modern and resilient economy for all Australians.

Australia currently places over 320,000 tonnes per year of flexible plastics, made from low density polyethylene (LDPE) or linear low-density polyethylene (LLDPE), on market. The Australian Packaging Covenant Organisation states that the recovery rate for these flexible plastic films is less than 4%. This poor recovery rate is due to several reasons including the technical difficulty in recycling and remanufacturing flexible plastics, a lack of purpose-build infrastructure for flexible film recovery, and logistical and economic challenges of recovery due to the geographically dispersed and light-weight nature of the material.

The aim of the project is to create Australia first circular supply chain to divert 15,000 tonnes per year of flexible plastic from landfill into high value flexible packaging products. This will be achieved through an investment of approximately $30 million.

This project put together all the elements for a successful solution on the recycling and circular economy:

- ✓ **Supply chain**: Sourcing of feedstock & Logistics
- ✓ **Process**: Recycling know-how
- ✓ **Demand**: Product Development

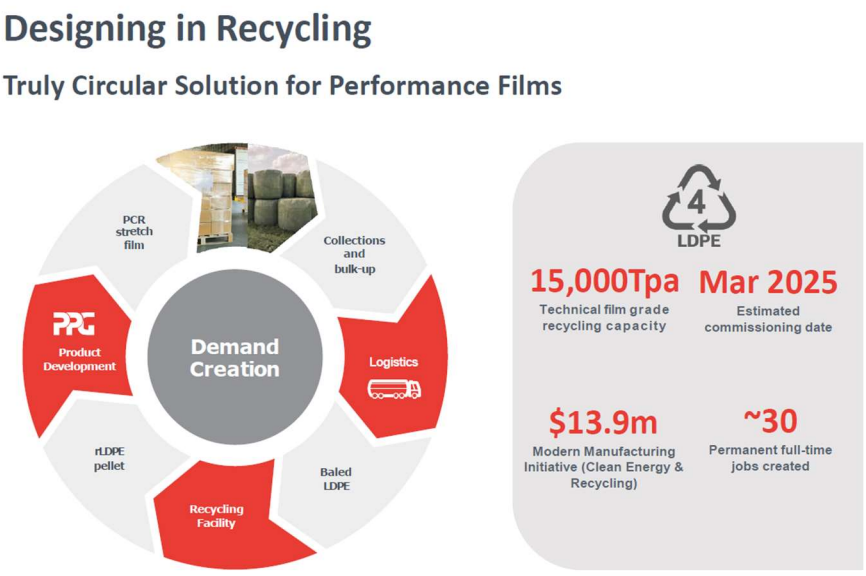

Figure 1: Designing in Recycling

Background

The Modern Manufacturing Strategy road map indicates 6 key areas of focus developed with Australian industry to set out plans to strengthen Australia's manufacturing capability:

1. Space
2. Medical Products
3. Resources Technology and Critical Minerals Processing
4. Food and Beverage
5. Defence
6. **Recycling & Clean Energy**

Some of the objectives of the Manufacturing Integration Stream are to:

- Support and increase the capability of Australian manufacturing businesses and entrepreneurs to identify and participate in local and global value chains
- Encourage manufacturers to adopt new technologies to support entry into new markets with innovative solutions to build scale and capability
- Create new jobs in the manufacturing sector, by integrating into new local and global value chains
- Support Australian manufacturers to pivot to high value-added activities at either end of the 'manufacturing smile curve'
- Identify opportunities for Australian manufacturing businesses, particularly in the National Manufacturing Priorities, to connect and network with local and global customers
- Increase Australian exports through greater participation in global value chains, contributing to Gross Domestic Product

PPG is a well-established Australian public packaging company of more than 38 years. PPG manufactures approximately 55,000 tonnes of flexible film each year, including "back of store" packaging and silage, using 100% virgin resin. The company operates 12 facilities in Australia and New Zealand with around 600 employees with an annual revenue of approximately AUD$400 million. In terms of quality PPG has accreditation with the top global organisations as FSSC22000, HACCP, ISO9001 and Sedex. The group has globally awarded flexographic print capabilities.

Figure 6: Overview of PPG

PPG have identified an opportunity to recycle 27% of its total market and be a significant contributor to achieving the 2025 National Packaging Targets, and the goals of the Modern Manufacturing Strategy Road Map.

Latest figures show only 40,000 tonnes per year of 7% of the soft plastic places on market is recovered/recycled each year. While this figure is alarmingly low, what is more startling is that the recovery we'll need by 2024/2025, which is just around the corner, is amounting to just over 400,00 tonnes per year.

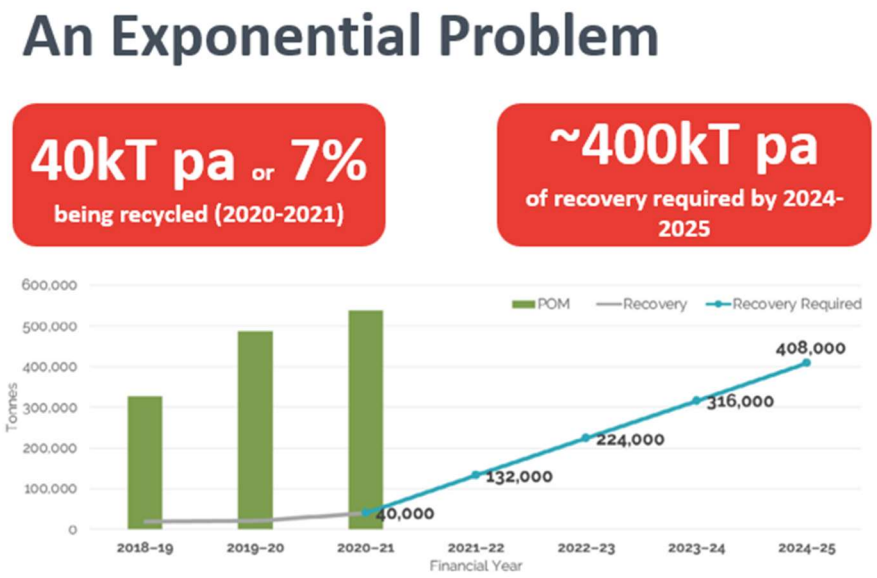

Figure 2: Historical and required progress to Target 2 for flexible plastics
(source: Review of the 2025 National Packaging Targets (packagingcovenant.org.au) April 2023)

For LDPE specifically, there is currently an annual 292,000 tonnes reprocessing shortfall in 2020-2021.

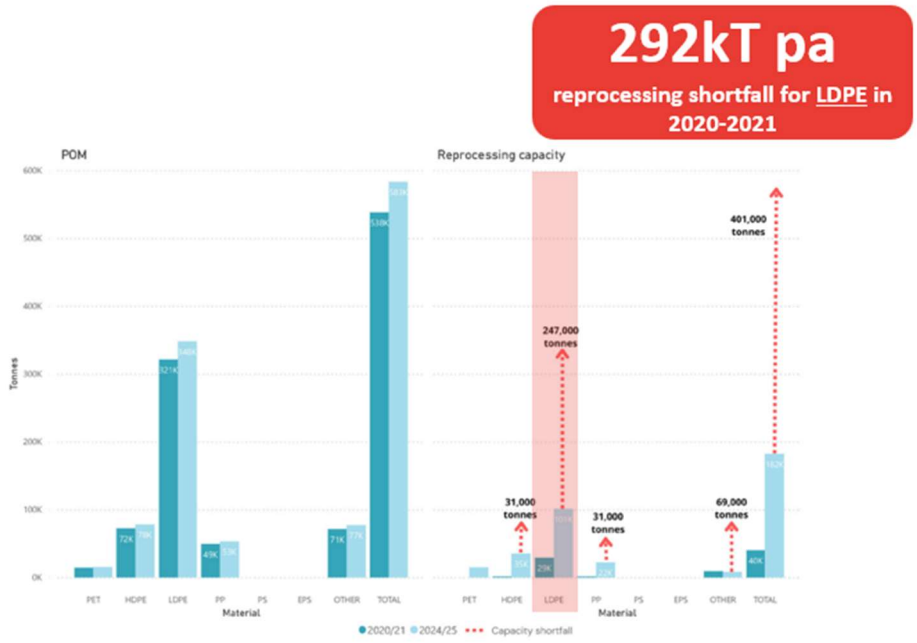

Figure 3: Estimated current and projected figures for flexible plastic packaging
(source: Review of the 2025 National Packaging Targets (packagingcovenant.org.au) April 2023)

The government is introducing mandates for the use of recycled materials as the industry has not moved fast enough under voluntary schemes to date:

- Recycling and Waste Reduction Act 2020 (federal)
  - Plastic banned from exports since 1 July 2021
  - 31 organisations with exemptions as lacking domestic infrastructure
- 2025 National Packaging Targets
  - 100% of packaging to be reusable, recyclable, or compostable (2021 – 86%)
  - 50% average recycled content (10% for flexible films) (2021 - 39%)
  - 70% of plastic packaging being recycled or composted (2021 - 18%)

Recycled content is a powerful lever for change throughout the packaging supply chain and is a key indicator of the circularity and efficiency of Australia's packaging system.

The plastics recycled content rate is the lowest of all material types being 3%. This brings down the overall packaging recycling rate to 35%, despite high rates for paper/cardboard and glass. There is no denying the large challenges we face in Australia to increase recycled content in plastics. For this reason, there is one overall target for plastics at 20% and one for each major polymer relevant to their proportion of the market, current recycled content rates and reprocessing capacity in Australia.

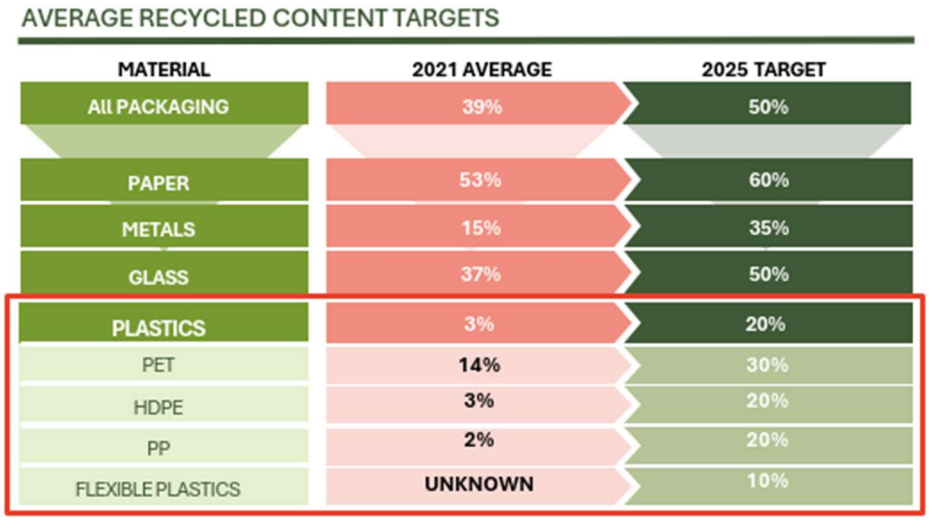

Figure 4: Recycled Content Targets

PPG successfully applied for the **MMI Recycling & Clean Energy Integration Stream Round 2** Grant, to support a project that will collect waste from commercial "back of store" flexible plastics (back of store plastic and silage wrap) at retailers' and agriculture sites as post-use silage film, and build and operate a 2T/hr facility in NSW to recycle these products.

The project addresses the key objectives for recycling infrastructure:

- Increase the recovery and local reprocessing of materials
- Increase the use and market demand of recovered materials in remanufacturing
- Increase economic development opportunities such as jobs, economic performance and growth of precincts
- Increase the use of recycled content to make new products, and
- Reduce the amount and environmental impact of waste going to landfill

This "back of store" packaging currently goes to landfill or is being stockpiled because of waste export bans. The silage film is widely used by the agricultural sector to wrap hay bales, and currently is disposed of in landfill, buried, or burned on the farm site.

The facility will have capacity to process 15,000 tonnes per annum of feedstock into recycled resin of rLDPE or rLLDPE.

Infeed	Annual Tonnage
Clear	11,000
Mixed	1,000
Silage / Cotton	3,000
Total	**15,000**

Table 1 – Feedstock breakdown

Our proposed facility will contribute around 6% of the recovery and reprocessing needed.

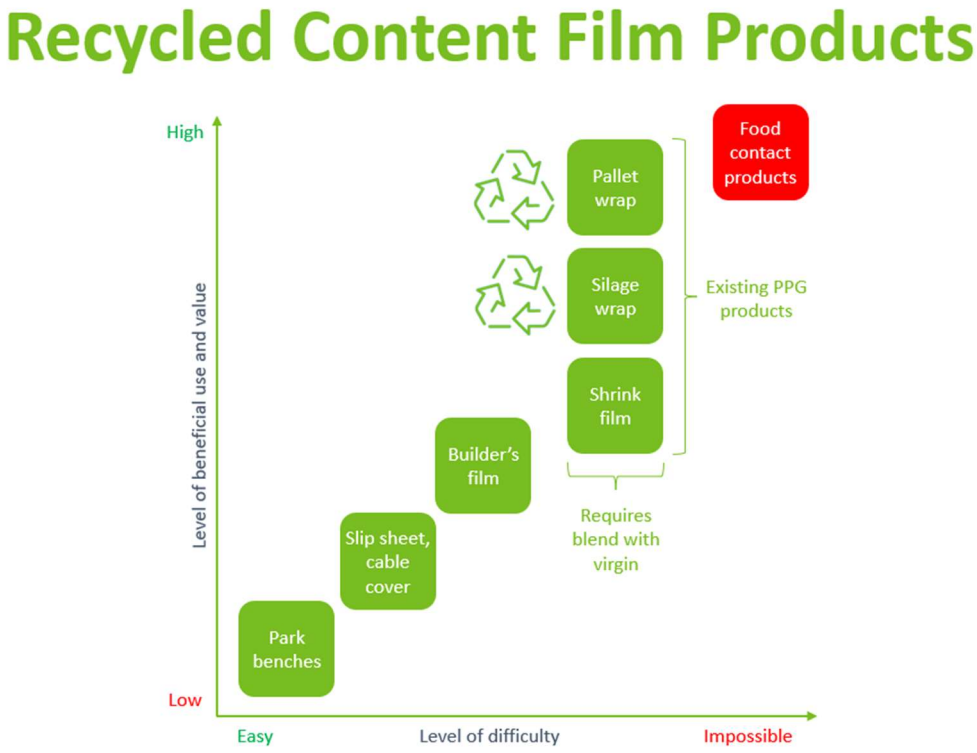

Figure 5: Recycled content film products difficulty level

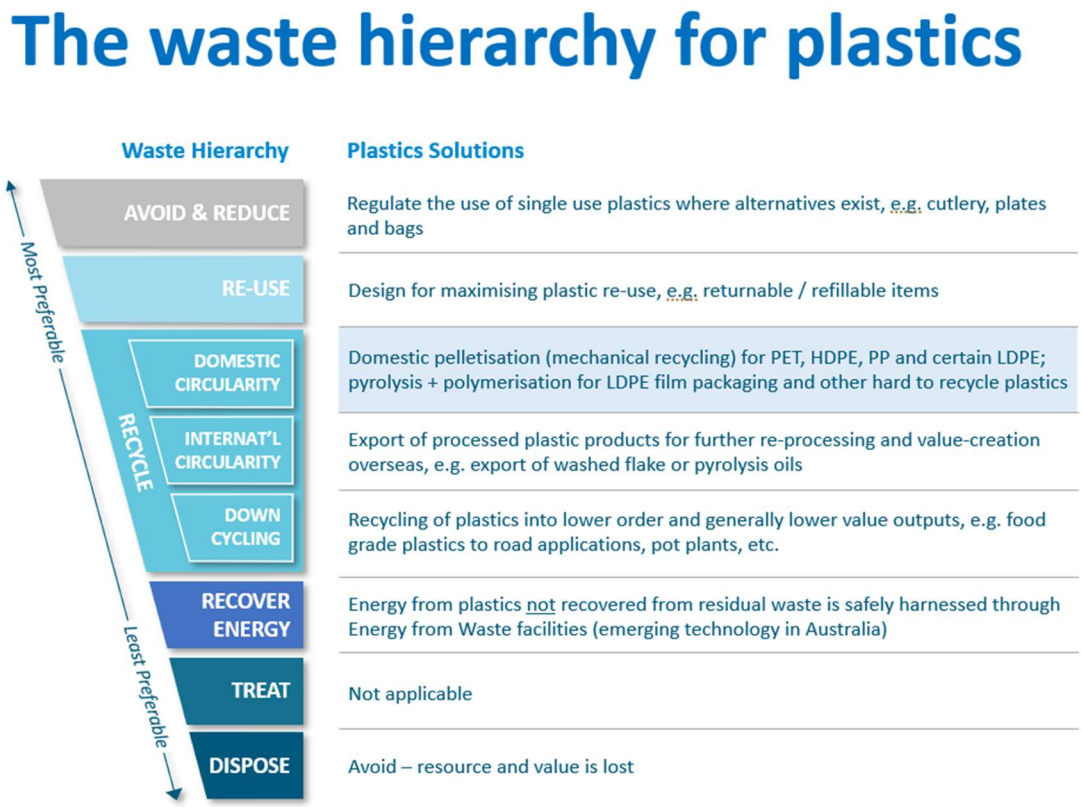

Figure 6: The waste hierarchy for plastics

With a total of $30,000,000 invested into this project, this will lead to a significant benefit to the local economy in Albury. Over the course of the 12-month construction/commissioning phase, it is estimated that this project will generate employment for approximately 100 people across various tradesmen and consultants involved. This includes engineers, plumbers, electricians, concreters and so on. Further to this, this facility will be employing a total of 30 direct and indirect staff for daily operations.

Separately, this facility is designed with the intention of hosting school, university, special interest group visitor tours and education programs. This is reflected by the incorporation of various design elements such as a specific elevated viewing platform to be installed for visitors to witness the operations within the facility firsthand.

Project Description

Location

PPG has selected the LOT 7 at Nexus Industrial Precinct to build the new facility. Nexus Industrial Precinct is a 450ha site available for **large scale heavy industry and logistics operations** only 10 minutes from Albury, one of Australia's premier regional centres. The precinct offers the following key advantages (source: NEXUS (nexusalbury.com.au):

- 10km north of Albury, the major commercial, retail, administrative, and cultural centre for a growing regional population of around 200,000 people.
- 2km from Albury Airport which offers up to 180 flights each week to Melbourne and Sydney.
- Direct road and rail access to Melbourne - Sydney, including the Ettamogah Rail Hub, Inland Rail Corridor and Hume Highway access at the Davey Road
- 75% of the Australian population serviced by next day delivery.
- Fully serviced sites with electricity, natural gas, NBN fibre, reticulated potable water, sewage, and wastewater.
- Flexibility to operate 24/7 with customisable land options.

- Access to well-qualified workforce with a high proportion of people in the prime working age group of 15 to 54 years.
- An existing industrial base with specialisations in manufacturing, transport, and logistics.

Figure 7: *Proposed site (Lot 7) at the Nexus Industrial Precinct*

Figure 8: *Proposed site near existing CPA facility (LOT 8)*

Feedstock

The feedstock sources for the Albury facility will be commercial "back of store" soft plastics and post-consumer agricultural soft plastics.

• Commercial "Back of Store" Plastics: The major feedstock stream will be sourced from commercial sources, particularly retailers' "back of store" soft plastics, including materials like pallet wrap. The major supermarkets alone generate up to 5,000 tonnes each of this waste every year. The project aims to divert

these materials from landfill or stockpiling, a result of waste export bans. It will obtain this feedstock through a value chain partnership who already have access to this material.

• Agricultural soft plastics: Post-consumer silage and cotton wrap will constitute approximately 25% of the Albury facility's feedstock. While this type of plastic can be disposed of in landfill, Dairy Australia estimate that between 40 and 60% of silage wrap is buried or burned on farm which has far greater environmental consequences. With the initiation of the silage stewardship program, facilitated by Plasback, a dedicated effort to collect and recycle silage film will contribute to the feedstock. The program's rollout by 2025 is expected to bolster the availability of this feedstock. Cotton wrap will be secured through our partnership with a leading agricultural distributer, who have already committed to recycling silage through their funding of Plasback. They wish to extend their product stewardship into cotton wrap through this project.

The primary source of silage feedstock will be from western Victoria, while the cotton wraps and "back of store' soft plastics will be mainly from the Eastern seaboard. All feedstocks will be processed in the Albury recycling facility. PPG is the primary offtake partner for that facility.

The Recycling Process – Summary

Plastic recycling is necessary to reduce natural resource depletion. Higher recycling quotas are helping to decrease oil consumption and greenhouse-gas emissions. The goal of circular economy is to fully close the loop. Figure 10 below summarises the process:

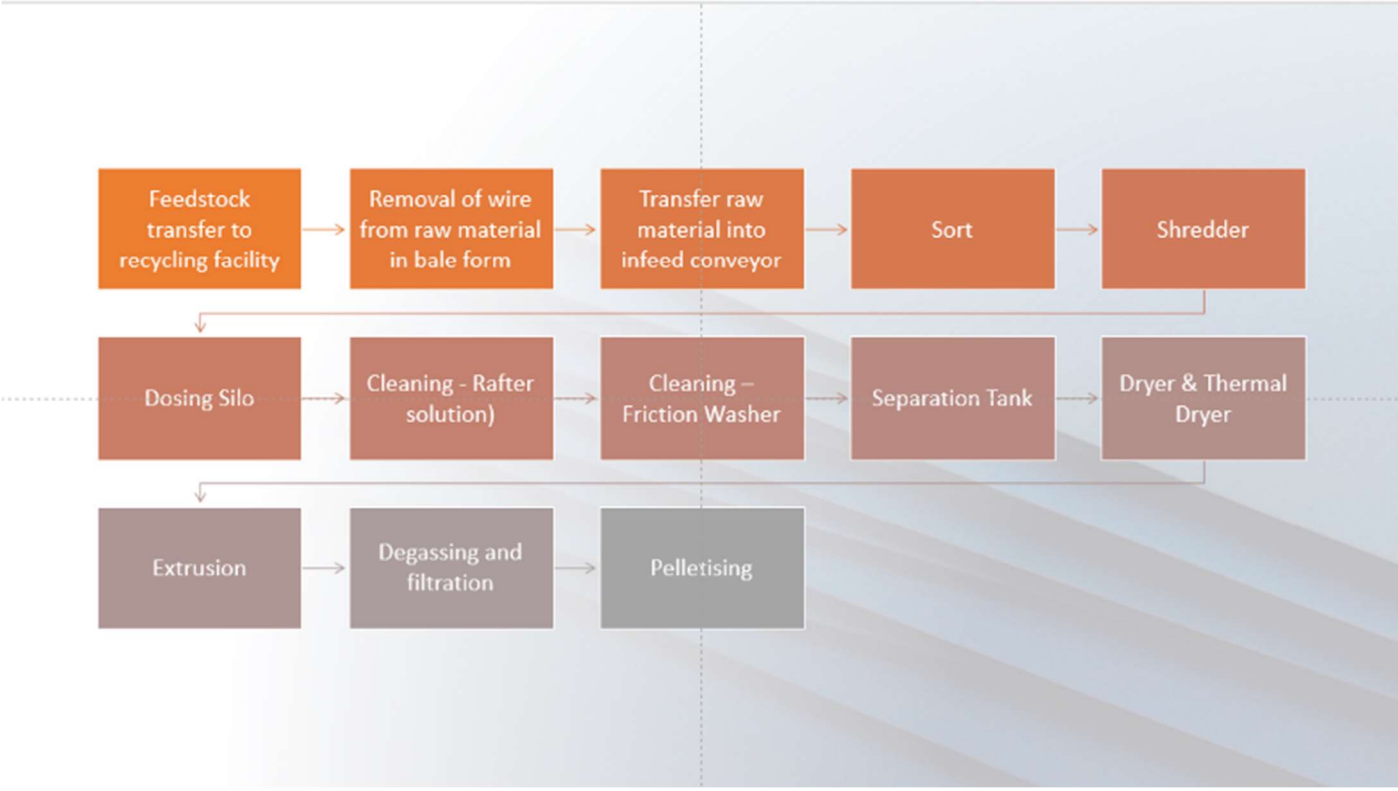

Figure 10: *Process flow summarised*

The mechanical recycling process that will be utilised by PPG in this project consists of 3 main steps:

- **Sort**
- **Wash**
- **Extrusion**

PPG selected equipment for Sort and Wash from Lindner, Germany and for Extrusion from Starlinger, Austria. Both suppliers are known as best in class for their solutions.

The Recycling Process – Sort and Wash (Lindner – Germany)

(for illustration purpose only)

The sorting plant helps to purify plastic waste and to get a higher quality of the input material for the washing line.

The complete recycling line works on a high standard of automatization. The maximum capacity with LDPE film will be higher than 2.000 kg/h. In comparison, a manually sorting line needs a minimum 10 people to reach this capacity and results in a poorer quality. Due the fact that the sorting and washing plant are working inline, makes the operation much more efficient. Both lines are equipped with a control touch panel. With this touch panel each machine can be adjusted separately. All engines are controlled with a frequency converter, which has the advantage that the main control system can regulate the speed of each engine by themselves.

The biggest innovation of this new recycling facility is the combination of sorting plant and washing line. Market leaders in Europe like CEDO or Attero are having such an inline recycling line for film.

The process starts with bales being de-wired and open, metals are then removed as well as the fines (Figure 11). Next, through a series of Tomra's NIR (near infrared technology) devices and conveyors the material is sorted and ready to progress into the wash line.

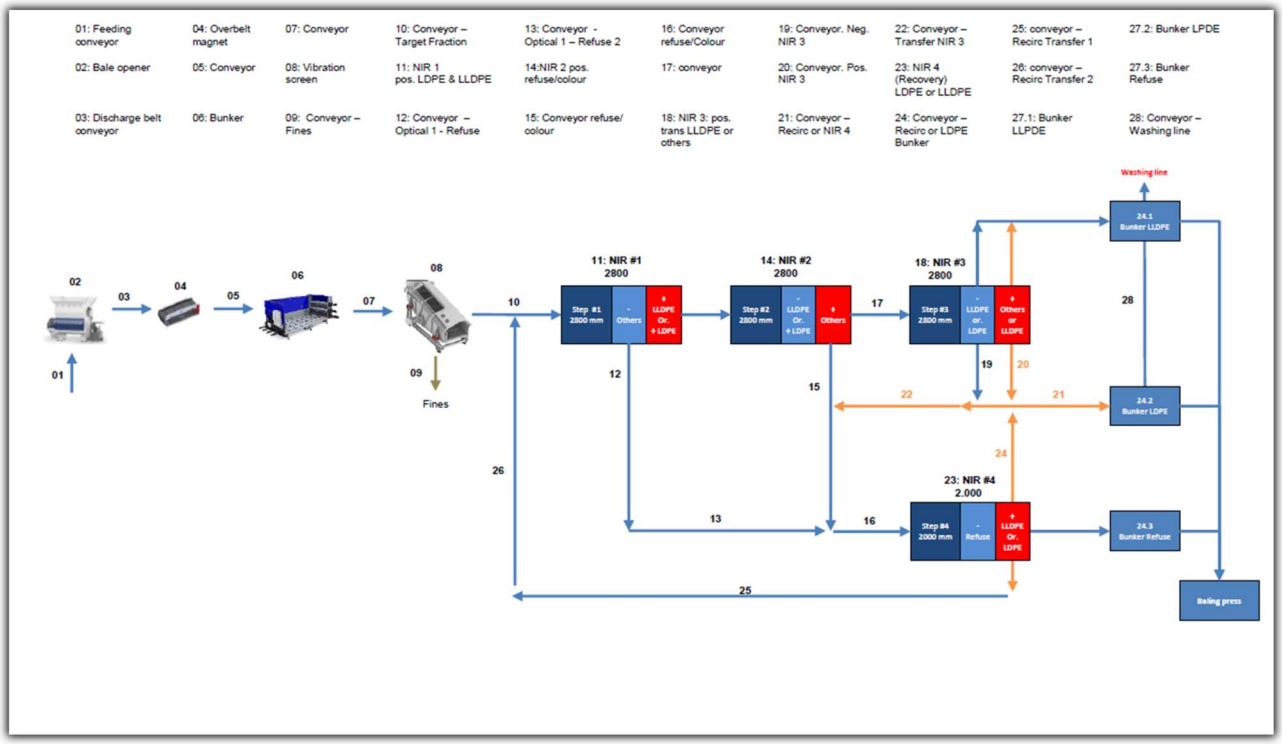

Figure 11: Sort Line

After sortation the material is transferred to the wash line (Figure 12).

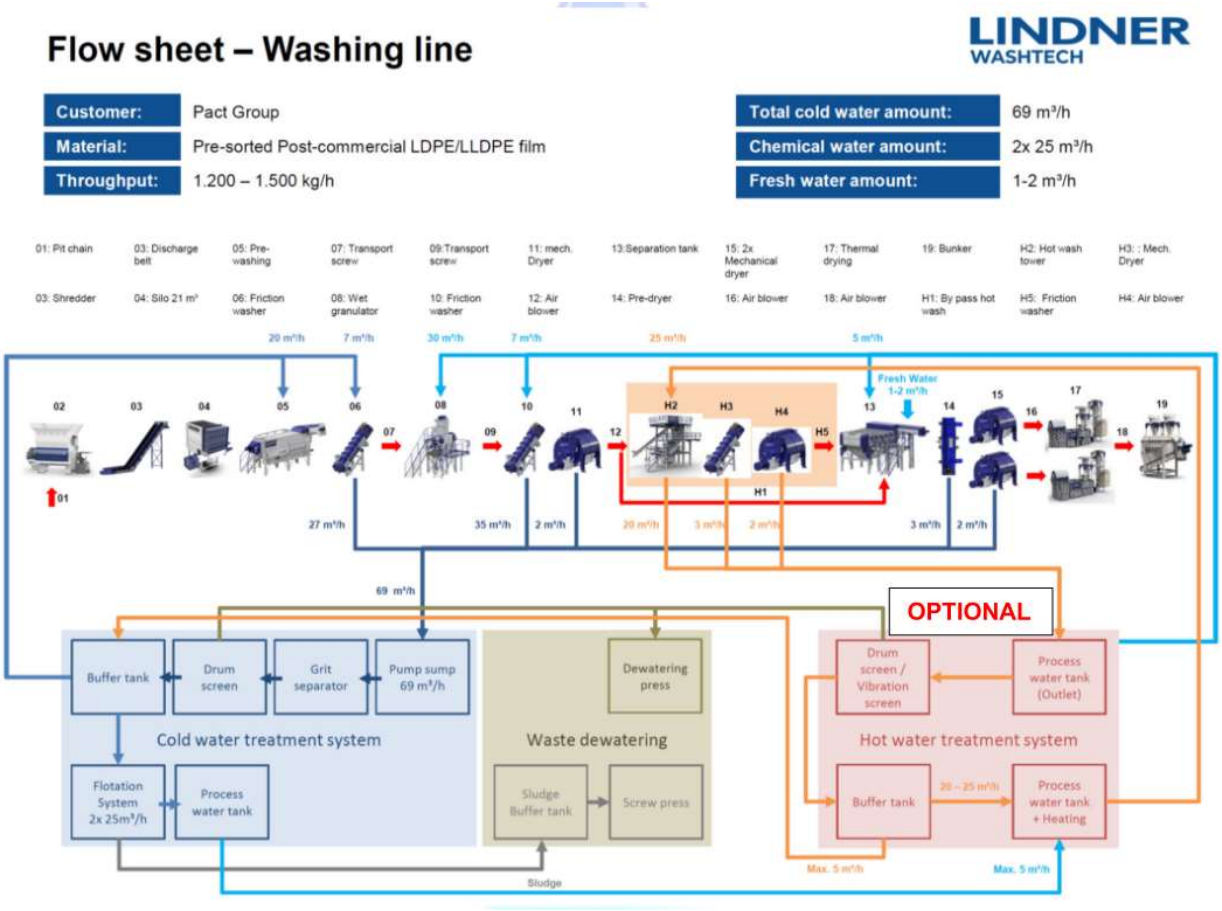

Figure 12: Wash Line

The first step in the wash line is the shredded using the Shredder Micromat (Lindner brand) 2000 solution.

Figure 13: Shredder Micromat 2000

The Micromat shredder is an extremely efficient machine in range of universal shredders for processing plastics and other waste. Ambitious European targets for sustainability, climate and environmental protection requires recycling companies to increase their production capacities among other things. The recycling rate for plastic packaging, for example, is scheduled to reach at least 80% and the waste produced by the lightweight plastic-processing industry will increase significantly. For this reason, many recycling companies and producers of secondary raw materials who are adapting to this dynamic development are already searching for shredding systems that ensure more output without consuming any more space. With the higher performance of the Micromat series, Lindner can now meet all these requirements.

To achieve this progress, Lindner re-designed the rotor geometry to allow the knives to be used more efficiently per rotation. The optimised Siemens control unit also contributes towards this goal, meaning that now more than ever before, the new Micromat is an ideal choice for customers who want an extremely cost-efficient and productive means to shred plastic waste and all other kinds of municipal, industrial, and commercial waste to an exact, pre-defined grain size. As with all Lindner models, the knives can be replaced with minimal effort – which keeps maintenance downtimes short.

Thanks to the superbly executed gearbox and the connected safety clutch, damage to the machine caused by foreign objects and obstructions can be avoided – meaning no more long machine downtimes. The hydraulically operated maintenance door makes it possible to quickly remove foreign objects and comfortably access the rotor. Additionally, the internal pusher system ensures efficient material feeding.

After shredding a Dosing Silo guarantees a constant feeding of the washing line and due this fact, the line works without energy peaks. The discharging screw is controlled by a frequency converter, that means the capacity of the washing line can be adjusted automatically. Depending on the content of stretch film, there is the possibility to reduce the throughput to ensure a perfect washing – and moisture result.

Figure 14: Dosing Silo

A rafter system presents innovative gentle and efficient solution for cleaning of highly contaminated, pre-shredded plastic waste – e.g., packaging, bottles, or film – by removing extraneous material and pre-washing the charge in one single step. This machine marks the rise of a new generation of plastic washing equipment of more compact design and superior economic efficiency.

The cleaning process performed in the Rafter comprised three phases.

First, a special conveyor screw pulls the contaminated material under the water surface so that heavy contaminations such as metals, stones or glass can precipitate in a calm initial step.

In a second phase, particles adhering to the plastic such as sand, soil or other contaminants are removed by a paddled rotor. The rotor's rotational speed (rpm) can be adapted to the degree of contamination, thus providing direct control of the cleanliness achieved. This step is performed in a stationary drum, with floating and precipitated particles being separated by means of plate screens. Upon completion of the washing cycle, the pre-cleaned waste rises to the surface again from where it is delivered to the following process steps by a feed screw. The separated extraneous materials and removed contaminants are discharged by drag-chain conveyor.

These two steps bring two big advantages:

1. The material is continuously under the water during the complete pre-wash process, means that the material is completely wet when it exits the process.

2. The contamination is separated in multiple stages/steps. This process brings much better cleaning results than standard pre-wash technology. All contaminations will be discharged with a drag-chain conveyor into a box, meaning that contaminations will be separated before the material enters in the next washing process and doesn't follow into the water treatment system.

With a nominal throughput of 1,500 – 2,000 kg/h the Rafter matches the capacity nowadays of a typical recycling line. It thus supports continuous in-line reconditioning of plastic waste all the way to the finished granulated recycled material or recycled film, respectively. The machine's actual throughput can be adapted perfectly to the pace of upstream and downstream equipment by using a frequency converter. Moreover, the Rafter is particularly cost-efficient to operate thanks to its energy-optimized drive system and a water demand of 10 m³/h. Unique characteristics of the Rafter are slow running effective cleaning of material under the water; solid heavy duty rotor; easy access during maintenance; reduction of fines during cleaning process; changeable screen cassette; water prove bearings and low energy consumption.

Figure 15: Rafter

The material then goes through the heavy-duty friction washer. This is a specially designed machine to remove all contamination out from processed plastic material. Thanks to unique features and innovative design as solid heavy rotor, changeable rotor paddles, changeable screens and water prove bearings the machine performs great throughput during a long time of operation.

Figure 16: Friction Washer

From the Friction Washer the material travels through the Wet Granulator. Working in wet mode to ensure highest cleaning effect during the second step of size reduction. Special frame and double walled bearings protect leaking of water. Special designed service door easy maintenance and extreme wear resistant rotor allows long term running with no downtime.

Figure 17: Wet Granulator

The Wet Granulator is a special designed separation tank with feeding rotor to press the material first under water which results in ahighly efficient separation of different kind of plastics. Customized size of tank ensures continuous flow of material without blockages. Discharge drags chain conveyor in special configuration to avoid extraction of water and separated contaminations aren't going into the water treatment system. Special design on the discharge to guarantee lower water consumption.

Figure 18: Separation Tank

A new mechanical dryer with a total Rotor length of 3.000 mm, this is one of the biggest mechanical dryers in the market is then used to dry the material. Heavy duty design, with a total weight of 8.800 kg. Due to a special design of the extraction, there is no air extraction system needed. Drum screen designed to ensure effective drying of material and to remove paper fibres. 360 ° cleaning device around the screen to avoid blockages at the screen area. Using of high-quality bearings, which a placed outside of the machine Maintenance doors for perfect access to the rotor, for cleaning and maintenance.

Figure 19: Dryer

Finally, the newest development of Lindner Washtech. The Innovative Thermal Drying solution for the final drying of the flakes. With a completely new design and concept it can save with up to 30% of energy compared to previous and existing solutions in the market. Furthermore, the control and adjustment are much more precise.

Figure 20: Thermal Drying

Fully automated system to control and adjust the complete system as well as single components, according to material input quality requirements and needs.

(for illustration purpose only)

The Recycling Process – Extrusion (Starlinger – Austria)

The washed flakes the go through the Extrusion process to where will be pelletised into recycled resin ready to be used. The Extrusion process includes the extrusion itself followed by filtration degassing and final treatment (see Figure 21 below).

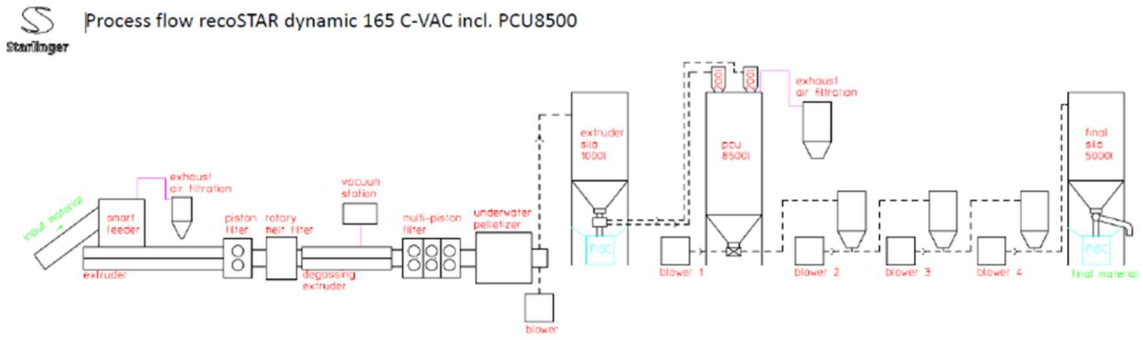

Figure 21: Extrusion Process

Based on the combination of SMART (Starlinger brand) feeder and extruder, the machine enables the processing of thermoplastic waste, especially film, fibres, foamed material as well as pre-ground hygroscopic material and flakes from washing lines. The final product is uniform, melt filtrated and dry pellets.

RecoSTAR (Starlinger brand) dynamic is the answer to the requirements of the modern plastics recycling industry. It features:

- Higher automation & output
- Increased energy efficiency with rECO (Starlinger brand)
- Wider range of applications / processing of thermoplastic waste, especially film, fibres, foamed material as well as pre-ground hygroscopic material and flakes from washing lines.

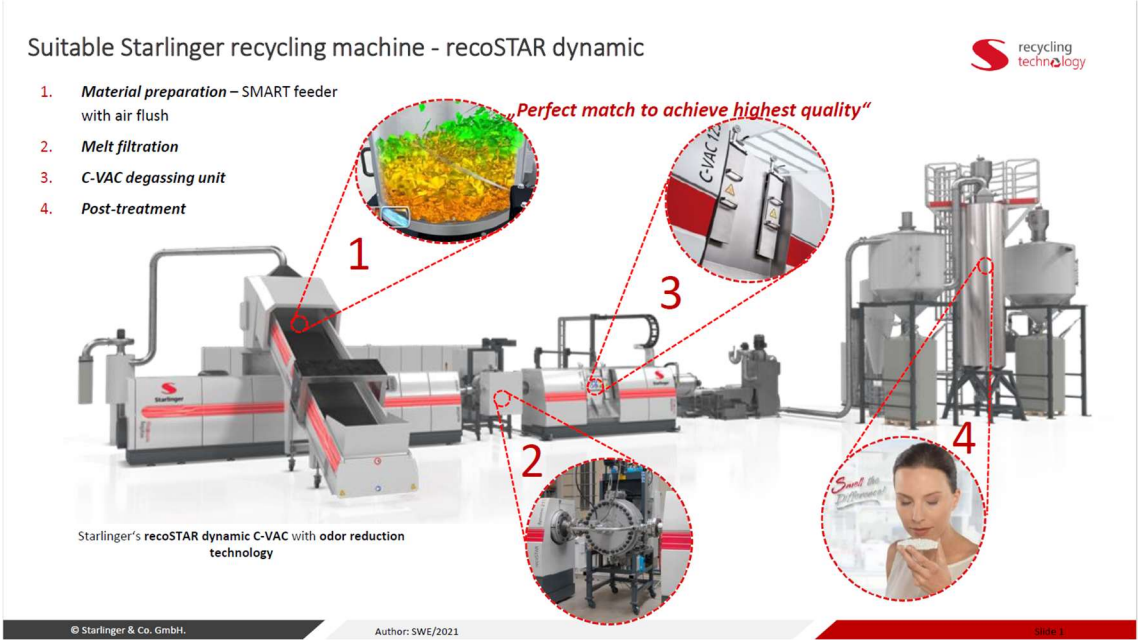

Figure 22: Starlinger Extrusion Process Benefits

rECO (Starlinger brand) is an innovative approach that improves the energy efficiency of the recycling line. The overall energy consumption is reduced considerably. The benefit for the business is a reduced costs process, and the benefit for the community and environment is reduced carbon footprint.

Post-consumer plastic waste is converted to permanently smell-improved re-granulate fit for re-use in end applications with higher quality demands. Starlinger recycling technology puts a focus on smell reduction

during and after the recycling process. The odour reduction process in the recoSTAR dynamic C-VAC with post treatment will be individually adapted depending on the starting material and the requirements of the end application.

The line consists of the following elements:

1. **Conveyor belt with metal detector**:
    a. Conveyor belt with metal-free zone suitable for assembling a metal detector. The conveyor belt is provided with lugs in approx. 0.5 m distances. On the lower surface the belt is provided with a stripping device, to ensure the cleaning of the belt. The upper roll is provided with bearings on the inside, preventing a wrapping of the material around the bearings. For easier maintenance and access the drive is installed at the lower roll. Metal detector with double-layer coil for detecting of all metallic materials (such as Fe, Ni, Co, stainless steel, Cu, Al, CuZn, Pb). If a metallic material is detected, the conveyor belt stops automatically and emits an acoustic and optical alarm. After removing of the metal by the operator, the alarm must be reset manually.
2. **Smart feeder**:
    a. The material to be processed is optimally prepared in the SMART feeder and fed with centrifugal force into the intake zone of the screw. The opening between SMART feeder and extruder is defined by the position of the controlled intake slider. The SMART feeder fulfils the following operations simultaneously and ensures ideal material:
        i. preparation prior to extrusion.
        ii. **S** shrink & cut
        iii. **M** mix & homogenize
        iv. **A** active feed & control
        v. **R** rotate & friction
        vi. **T** temperature & dry
        vii. Benefits are high output of extruder and wide operation window.
3. **Air flush from Smart feeder unit**:
    a. Radiant heat of the extruder is recycled and introduced into the bottom of the SMART feeder to flush the plastic with hot air. This additional drying step allows processing of material with higher level of humidity.
4. **Dust and steam exhaust from Smart feeder unit**:
    a. Dust and steam which is created in the SMART Feeder will be extracted by a blower and pre-separated in a dust cyclone. Exhaust air will be connected with the site ventilation/filtration system.
5. **Extruder**:
    a. The extruder barrel is of a bimetallic design. The screw is nitride-hardened and armour-plated. The extruder screw plasticizes and homogenizes the material. The extruder screw is driven directly and optionally speed controlled. The extruder is equipped with a melt pressure display.
6. **Continuous Blade Filter**:
    a. Contamination which is in the melt is kept in front of a screen which is a perforated plate in disc shape. If the pressure level has reached a set value for cleaning, the scraper starts to rotate and removes the contamination from the screen which is transported to the outside through a drain valve.
7. **Cascade vacuum unit**:
    a. The cascade solution enables a melt filtration before the degassing. This is an advantage especially for printed or temperature sensitive material that requires superior degassing. Consisting of a 16 L/D Extruder with a degassing opening, condensate-separating container, and water ring vacuum pump. The plastic material strongly compressed in the metering zone of the extruder expands within the degassing zone of the screw. The free volatile components of the melt are evacuated via the condensate tank by a vacuum pump. Closed water circulation for the water of the vacuum pump, equipped with a water-water heat exchanger and a water tank. The water consumption of the vacuum pump is reduced from approx. 200 l/h to approx. 10 l/h.
8. **Watering Pelletizing**:
    a. The melt is pressed out through a die plate, cut off in hot condition by rotating knives and floated onto a perforated plate by the process water, where a portion of the water is separated. Via a separator of coarse grains, the remaining water floats the pellets into the drying centrifuge. By taking advantage of the residual material heat and due to the quick

rotary motion of the centrifuge the drying process is finished, and the re-granulate reaches the piping system to the storage silo already in a completely dry condition. The unit includes a water-water heat exchanger and a temperature controller for the process water. Thanks to the closed water circuit the water consumption is reduced from 30,000 litres to approx. 17 litres.

The above description of the extrusion process highlights that exhaust emissions will occur, some of which will be exhausted internally as hot air, some exhausted externally to the facility with moisture content, dust, and some levels of Volatile Organic Compounds (VOC). Advice has been received from the equipment suppliers as experts in their field for the volume, flow rate and contaminants that may exist within those emissions. An assessment of the local impact of these emissions has been undertaken by Todoroski Air Sciences (www.airsciences.com.au) and their report is attached to the submission for development consent. This report forms the basis for the design of exhaust air stacks that are added to the facility in a manner to ensure negligible impact to the public environment and adjacent properties.

The Recycling Process – Water Treatment

The water used in the wash process will be treated and re-used to a large extent. The system is not perfectly efficient and completely closed, there some discharge occurs to trade waste sewer. A water treatment facility is included in the proposed project to the north west corner of the building, covered by an awning, and in an accessible location for maintenance access. sustainable ideas Pty Ltd are a suitably experienced water, environmental and sustainability consulting firm with relevant experience in treating wash water from plastic recycling facilities. Sustainable ideas (www.sustainableideas.com.au) have developed a schematic arrangement for a suitable water treatment process, and generated a schematic design for development into the facility after review of the Lindner Wash Plant proposed for this facility, during the development of this application. Their design advice and schematic design is including in the submission for development consent, and informs the project's hydraulic and trade waste design where applicable to the trade water treatment process.

The Facility

The facility includes a warehouse, office, switch room, compressor room, workshop and fire pump room with a nett lettable area of approx. 6984m2.

In addition to this, surrounding the facility are spaces allocated to electrical transformers, external packaged chillers, storage silos, with 3 proposed and space for 3 future silos, the water treatment facility, fire sprinkler tanks, and rain water harvesting storage tanks.

A weighbridge is included for weighing feed materials, which will deliver materials for unloading via forklift underneath an external canopy.

Feedstock material storage will be held within the warehouse, after lessons learned from Project Duet in Lot 8 within Nexus.

The site plans indicate an area allocation for a future expansion project that may occur in future. An additional area of 3172.5m2 for a future perimeter fire access track is allocated to this, and may be included in the excavation works to be delivered under stage 1, and finished as external crushed rock hardstand. Flexibility to undertake earthworks can ensure that should this future stage occur, disruptive earthworks/excavation activity will not be required around and within an operating environment.

An access path for a Heavy rigid fire appliance is provided to the rear of the facility will allow appliances to pass any obstruction within the rear access road, and suitable space adjacent the pump room and water storage tanks is made available such that a parked appliance will not restrict access for others in an emergency scenario.

A detention dam is proposed for stormwater detention along the southern property, which is a design that is hindered by a 300mm connection stub made available in the stormwater mains for the property. Our design proposed upgrading this to a 525mm pipe to assist in reducing the detained storage volume on site.

The sort, wash, and extrusion line will operate on a 24 x 5 regime The facility will run 50 weeks per annum and it will be staffed accordingly as highlighted in Table 2 below

Position	Direct or Indirect	Location	Shift	Total	8am-5pm	7am-2pm	2pm-10pm	10pm-7am
Shift leader	Direct	Factory	Yes	3		1	1	1
Operator Sort & Wash	Direct	Factory	Yes	6		2	2	2
Operator Extrusion	Direct	Factory	Yes	3		1	1	1
Forklift Driver	Direct	Factory	Yes	6		2	2	2
Maintenance (fitter & electrician)	Indirect	Factory	Yes	6		2	2	2
Plant Manager	Indirect	Office	No	1	1			
Quality Control	Indirect	Lab	No	1	1			
Admin	Indirect	Office	No	1	1			
Accounts Clerk	Indirect	Office	No	1	1			
Logistics Manager	Indirect	Office	No	1	1			
Area Supervisor	Indirect	Office	No	1	1			
Maintenance Engineer	Indirect	Workshop	No	1	1			
Potential Temporary Workers/hot desks	Indirect	Office	No	2	2			
			Total	33	9	8	8	8

Table 2 – Operational Resource Summary

Essentially, the facility will be occupied by seven administrative staff and eight production staff per shift with hours of operation as follows:

Production: Sort/Wash (Lindner) - Run 24 x 5, starting Monday morning and finishing Saturday morning (three shifts) stopping during some public holidays.

Extrusion (Starlinger) - Run 24 x 5, starting Monday morning and finishing Saturday morning (three shifts) stopping during some public holidays.

Preventative maintenance of the sort, wash and extrusion lines will be carried out on weekends. The whole plant will shut down two times per year for a week each for preventive maintenance

The facility includes a single storey office of approx. 412m2 and carparking for 32 people to allow for the max capacity of 9 office staff, 16 shift workers during a change of shift, and 7 visitors concurrently.

Daily Operations

Traffic Movements

Feedstock receivals

Delivery of feedstock will occur from Monday to Friday, excluding public holidays, from 0600 hours to 1700 hours. The vehicles delivering incoming feedstock will have to drive over a weighbridge within the property before parking in front of the feedstock bale storage area. Subsequently, the incoming material will be offloaded from the truck with a forklift and stockpiled in the designated undercover storage area. On average two 26m b-double trucks per day will deliver feedstock to the plant between 6 am and 6 pm.

The bales of recycled product will be transferred from the storage area into the de-wiring and infeed conveyor of the Sort plant. This conveyor can weigh each bale before it proceeds.

Finished Goods Dispatch

Dispatch of finished goods will occur via bulk bags or via silo. Vehicles will not need to use a weighbridge to measure outgoing product as the product is weighed in the bags and in the silos. Vehicle movement for export of finished goods are intended to occur at intervals of 1 per day as a 26m B Double.

General waste handling

The facility will manage waste via a 6m3 bin, which is expected to be changed over each day in a worst case scenario. This will carry general waste from the office, warehouse operations, and solid waste from the water treatment process, expected to be approx. 2m3 per week.

In addition, minor deliveries of consumables and parts will occur at an ongoing rate of 1-2 small delivery vans or trucks per week.

Swept Paths of these movements confirm adequate space and compliant access and are included in a traffic management report is attached to the DA Application.

Quality control and maintenance

The pelletised recycled resin will be continuously tested for quality assurance according to PPG requirements and certifications for ISO9001, ISO14001.

A small testing room is provided with a trade waste discharge and Gross Pollutant Trap for disposing of spoiled samples or waste.

Other Mobile Plant/Equipment

A total of four no. forklifts (LPG fuel) will be operated on-site. There will be a sweeper as well to clean the floor as required.

There will be plastic bale wrap compactor for the other polyolefins as well as for the metal and bale wire collected. Note that neither of these two by-products will go to landfill.

Security / Access Control

Doors within the facility will require swipe card access (provided to staff). Visitors will enter the lobby of the office where there will be a phone to ring admin staff to provide access.

CCTV/Security cameras will also be provided throughout the facility.

Ecologically Sustainable Development (ESD) Principles

Given the nature of the project being a recycling facility, adopting ecologically sustainable development (ESD) principles is a primary focus from inception to final delivery of the project. This can be displayed by the effective integration of social, economic, and environmental considerations throughout the design and life cycle of the project.

For instance, this was a key factor in the selection of the Lindner and Starlinger equipment as they have been able to demonstrate ESD principles within the system as outlined above.

In addition, we have conducted a thorough air quality assessment to be included in the Development Approval (DA) submission which outlines the details of all emissions made by the plant and how it meets the requirements of the Environment Protection Authority (EPA), and similarlry, undertaken a thorough assessment of the wash plant and proposed a suitable water treatment design.

There are several ESD principles that have been implemented in the building design or equipment system in order to reduce the overall infrastructure usage:

- Rainwater from Roof Harvesting

  Rainwater tanks are added with a view to target use in amenities and landscape irrigation, to minimise demand on the water supply.

- Stormwater Treatment

  To control the quantity and quality of discharge into the stormwater, we are proposing to treat run-off from the feed material hardstand areas through a a GPT (to capture solids and debris). See stormwater drawings to review further how this is achieved

  Cleaning/washing of both external storage hardstand and internal warehouse areas typically will occur via a sweeper, with an appropriate wash point provided to discharge into trade waste sewer, to avoid any runoff entering the stormwater system.

- Energy Optimisation

  As presented earlier, both Lindner and Starlinger are deeply engaged in providing the most optimised energy system.

  The building structure will be designed for the installation (in future) of a solar system to the maximum possible extent to supplement power consumption where possible.

The submission assumed the installation of a 30kW solar system to support power consumption of the office directly.

Compliance to National Construction Code

Regarding the National Construction Code (NCC 2019), the building has a classification of Class 8 consistent with an industrial factory building. With the building's proposed floor area and volume, the building will be constructed as a large isolated building in accordance with the NCC provisions including vehicular access around the perimeter of the building for fire brigade vehicles. The building contains further fire safety provisions such as a fire sprinkler system installed throughout, a fire hydrant system and fire hose reels. Accessibility provisions for people with disabilities will also be provided to and into the facility in accordance with the NCC requirements, including accessible carparking spaces, general access and accessible sanitary facilities.

The facility will comply with the National Construction Code by using a combination of performance solutions and deemed-to-satisfy solutions.

Conclusion

Overall, this world class LDPE/LLDPE recycling facility will bring together a local closed-loop solution for the recycling and remanufacture of plastic. In addition, this facility will ultimately result in cost-saving to the triple bottom line with environmental, financial and social benefits being achieved for all. Ultimately, it will help achieve environmental benefits for future generations by conserving the ecological integrity and reducing the amount of plastic pollution to the planet.