HUME CITY COUNCIL

Office Use Only

Application No.: Date Lodged: / /

Application for
Planning Permit

Planning Enquiries
Phone: 03 9205 2200
Web: http://www.hume.vic.gov.au

If you need help to complete this form, read How to complete the Application for Planning Permit form.

⚠ Any material submitted with this application, including plans and personal information, will be made available for public viewing, including electronically, and copies may be made for interested parties for the purpose of enabling consideration and review as part of a planning process under the *Planning and Environment Act 1987*. If you have any concerns, please contact Council's planning department.

⚠ **Questions marked with an asterisk (*) are mandatory and must be completed.**

⚠ **If the space provided on the form is insufficient, attach a separate sheet.**

Clear Form

The Land

(1) Address of the land. Complete the Street Address and one of the Formal Land Descriptions.

Street Address *

Unit No.:	St. No.: 45	St. Name: Fabio Court

Suburb/Locality: Campbellfield | Postcode: 3061

Formal Land Description *
Complete either A or B.

⚠ This information can be found on the certificate of title.

A Lot No.: 50 ◉ Lodged Plan ○ Title Plan ○ Plan of Subdivision No.: 211961

OR

B Crown Allotment No.: Section No.:

Parish/Township Name:

If this application relates to more than one address, please click this button and enter relevant details. Add Address

The Proposal

⚠ You must give full details of your proposal and attach the information required to assess the application. Insufficient or unclear information will delay your application.

(2) **For what use, development or other matter do you require a permit? ***

If you need help about the proposal, read: How to Complete the Application for Planning Permit Form

Select the focus of this application and describe below: Other

Kangaroo Plastics Technology Pty Ltd (Kangaroo Plastics) proposes to establish a plastics reprocessing facility at 45 Fabio Court, Campbellfield in Victoria, Australia. The proposed facility would be capable of sorting, washing, granulating (turning into flake), drying and pelletising separated plastics to produce raw materials substitutes in the form of plastic flake and pellets. The proposed facility would be capable of processing up to approximately 180 tonnes per day (tpd), or 4,000 tonnes per month (tpm) of separated polyethylene terephthalate (PET), polypropylene (PP) and High Density Polyethylene (HDPE), with a proposed maximum processing capacity of 48,000 tonnes per annum (tpa). This facility aims to support

☑ Provide additional information on the proposal, including: plans and elevations; any information required by the planning scheme, requested by Council or outlined in a Council planning permit checklist; and if required, a description of the likely effect of the proposal.

(3) **Estimated cost of development for which the permit is required ***

Cost $ 500000 ⚠ You may be required to verify this estimate. Insert '0' if no development is proposed.

If the application is for land within **metropolitan Melbourne** (as defined in section 3 of the *Planning and Environment Act 1987*) and the estimated cost of the development exceeds $1 million (adjusted annually by CPI) the Metropolitan Planning Levy **must** be paid to the State Revenue Office and a current levy certificate **must** be submitted with the application.
Visit www.sro.vic.gov.au for information.

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Existing Conditions

4 Describe how the land is used and developed now *

eg. vacant, three dwellings, medical centre with two practitioners, licensed restaurant with 80 seats, grazing.

The site has been previously used for industrial purposes, including as a timber recycling plant. The site maintains three industrial units, a site office and hardstand area with 10 existing car parking spaces (including one accessible space).

Provide a plan of the existing conditions. Photos are also helpful.

Title Information

5 Encumbrances on title *

If you need help about the title, read: How to complete the Application for Planning Permit form

Does the proposal breach, in any way, an encumbrance on title such as a restrictrive covenant, section 173 agreement or other obligation such as an easement or building envelope?

- ○ Yes. (If 'yes' contact Council for advice on how to proceed before continuing with this application.)
- ◉ No
- ○ Not applicable (no such encumbrance applies).

Provide a full, current copy of the title for each individual parcel of land forming the subject site. (The title includes: the covering 'register search statement', the title diagram and the associated title documents, known as 'instruments', eg. restrictive covenants.)

Applicant and Owner Details

6 Provide details of the applicant and the owner of the land.

Applicant *

The person who wants the permit.

Name:

Title: Mr | First Name: Frank | Surname: Fraiia

Organisation (if applicable): Kangaroo Plastics Technology Pty Ltd

Postal Address: | If it is a P.O. Box, enter the details here:

Unit No.: | St. No.: 202-204 | St. Name: Northbourne Road

Suburb/Locality: Campbellfield | State: VIC | Postcode: 3061

Where the preferred contact person for the application is different from the applicant, provide the details of that person.

Contact person's details *

Same as applicant (if so, go to 'contact information') ☐

Name:

Title: | First Name: | Surname:

Organisation (if applicable):

Postal Address: | If it is a P.O. Box, enter the details here:

Unit No.: | St. No.: | St. Name:

Suburb/Locality: | State: | Postcode:

Please provide at least one contact phone number *

Contact information

Business Phone: [redacted] | Email: frank.fraiia@kangarooplastics.com.au

Mobile Phone: [redacted] | Fax: [redacted]

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Owner *

The person or organisation who owns the land

Where the owner is different from the applicant, provide the details of that person or organisation.

[redacted]

Declaration

7 This form must be signed by the applicant *

⚠ Remember it is against the law to provide false or misleading information, which could result in a heavy fine and cancellation of the permit.

I declare that I am the applicant; and that all the information in this application is true and correct; and the owner (if not myself) has been notified of the permit application.

Signature: [redacted]

Date: 01/09/2025

day / month / year

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Need help with the Application?

If you need help to complete this form, read How to complete the Application for Planning Permit form
General information about the planning process is available at www.delwp.vic.gov.au/planning

Contact Council's planning department to discuss the specific requirements for this application and obtain a planning permit checklist. Insufficient or unclear information may delay your application.

(8) Has there been a pre-application meeting with a Council planning officer?

○ No ◉ Yes

If 'yes', with whom?: [redacted]

Date: 03/07/2025 day / month / year

Checklist

(9) Have you:

☑ Filled in the form completely?

☑ Paid or included the application fee?

⚠ Most applications require a fee to be paid. Contact Council to determine the appropriate fee.

☑ Provided all necessary supporting information and documents?

- ☑ A full, current copy of title information for each individual parcel of land forming the subject site
- ☑ A plan of existing conditions.
- ☑ Plans showing the layout and details of the proposal
- ☑ Any information required by the planning scheme, requested by council or outlined in a council planning permit checklist.
- ☑ If required, a description of the likely effect of the proposal (eg traffic, noise, environmental impacts).
- ☑ If applicable, a current Metropolitan Planning Levy certificate (a levy certificate expires 90 days after the day on which it is issued by the State Revenue Office and then cannot be used). Failure to comply means the application is void.

☑ Completed the relevant Council planning permit checklist?

☑ Signed the declaration (section 7)?

Lodgement

Lodge the completed and signed form, the fee payment and all documents with:

Hume City Council
PO Box 119 Dallas VIC 3047
Pascoe Vale Road Broadmeadows VIC 3047

Contact information:

Telephone: 61 03 9205 2200
Email: email@hume.vic.gov.au
DX: 94718
Translation: 03 9205 2200 for connection to Hume Link's multilingual telephone information service

Deliver application in person, by fax, or by post:

Print Form

Make sure you deliver any required supporting information and necessary payment when you deliver this form to the above mentioned address. This is usually your local council but can sometimes be the Minister for Planning or another body.

Save Form:

Save Form To Your

You can save this application form to your computer to complete or review later or email it to others to complete relevant sections.

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The Victorian Government acknowledges the Traditional Owners of Victoria and pays respects to their ongoing connection to their Country, History and Culture. The Victorian Government extends this respect to their Elders, past, present and emerging.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 10413 FOLIO 614

Security no : 124125042495X
Produced 04/06/2025 11:58 AM

LAND DESCRIPTION

Lot 50 on Plan of Subdivision 211961E.
PARENT TITLE Volume 09886 Folio 784
Created by instrument V698996D 05/10/1998

REGISTERED PROPRIETOR

[redacted]

ENCUMBRANCES, CAVEATS AND NOTICES

CAVEAT AX919466G 19/04/2024
Caveator
JEMENA ELECTRICITY NETWORKS (VIC) LTD ACN: 064651083
Grounds of Claim
CHARGE CONTAINED IN AN AGREEMENT WITH THE FOLLOWING PARTIES AND DATE.
Parties
THE REGISTERED PROPRIETOR(S)
Date
15/04/2024
Estate or Interest
INTEREST AS CHARGEE
Prohibition
UNLESS I/WE CONSENT IN WRITING
Lodged by
O'DONNELL SALZANO LAWYERS
Notices to
JEMENA ELECTRICITY NETWORKS (VIC) LTD of LEVEL 16 567 COLLINS STREET MELBOURNE VIC 3000

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE LP211961E FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 45 FABIO COURT CAMPBELLFIELD VIC 3061

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REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

ADMINISTRATIVE NOTICES

NIL

[redacted]

DOCUMENT END

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Document Assembled	**04/06/2025 11:58**

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PLAN OF SUBDIVISION OF PART OF CROWN PORTION 12 PARISH OF WILL WILL ROCK COUNTY OF BOURKE

LENGTHS ARE IN METRES

VOL.8177 FOL.246

LP 211961E
EDITION 3
APPROVED 3/7/89

3 SHEETS
SHEET 1

NOTATIONS

LAND APPROPRIATED OR SET APART

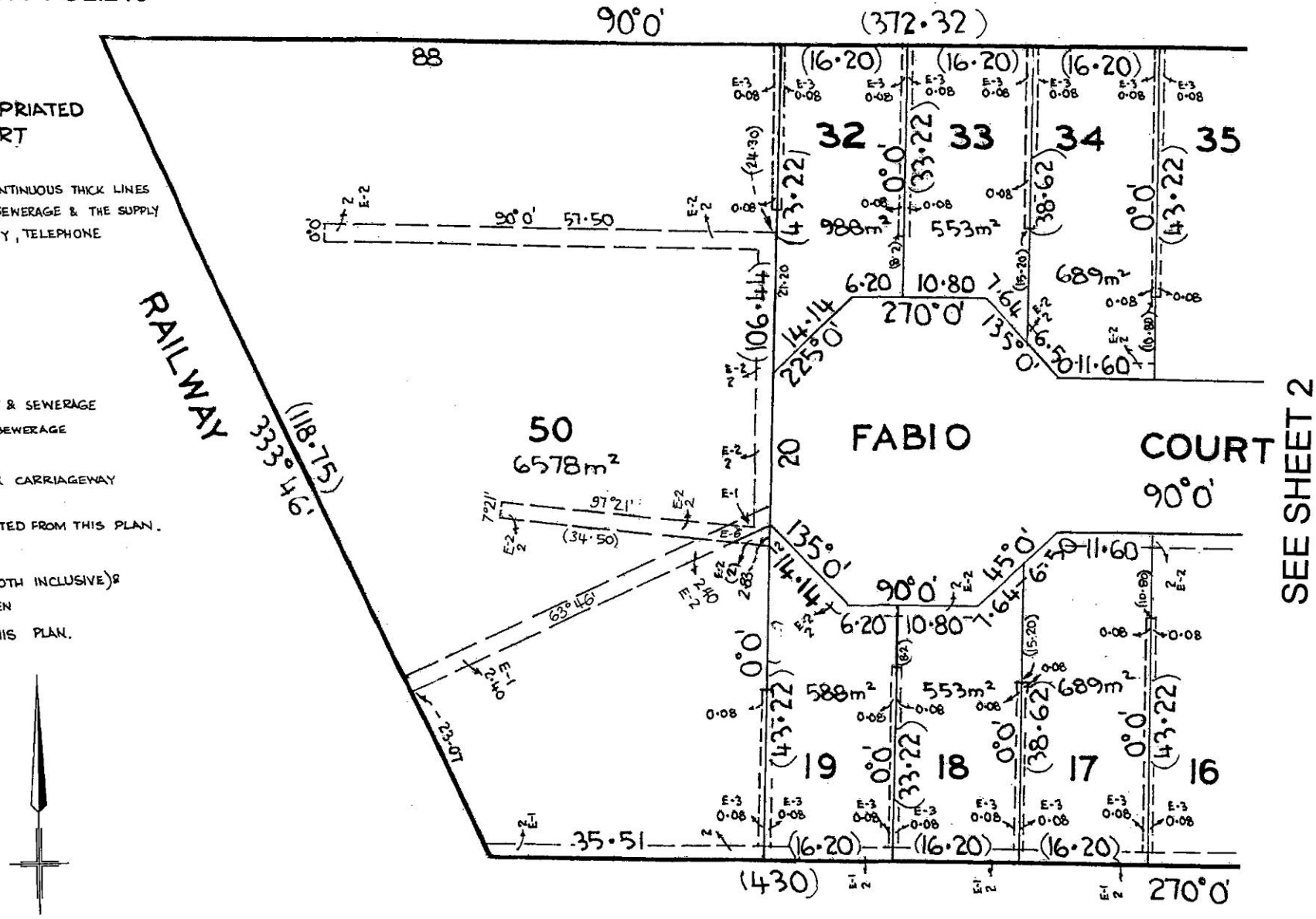
ROADS WITHIN THE CONTINUOUS THICK LINES FOR WAY, DRAINAGE, SEWERAGE & THE SUPPLY OF GAS, ELECTRICITY, TELEPHONE & WATER.

E-1 : DRAINAGE
E-2 : SEWERAGE
E-3 : PARTY WALL
E-4 : CARRIAGEWAY
E-5 : CARRIAGEWAY & SEWERAGE
E-6 : DRAINAGE & SEWERAGE

E-8 : DRAINAGE & CARRIAGEWAY

E-7 HAS BEEN OMITTED FROM THIS PLAN.

LOTS 20 TO 31 (BOTH INCLUSIVE) & LOTS 13, 14 & 15 HAVE BEEN OMITTED FROM THIS PLAN.



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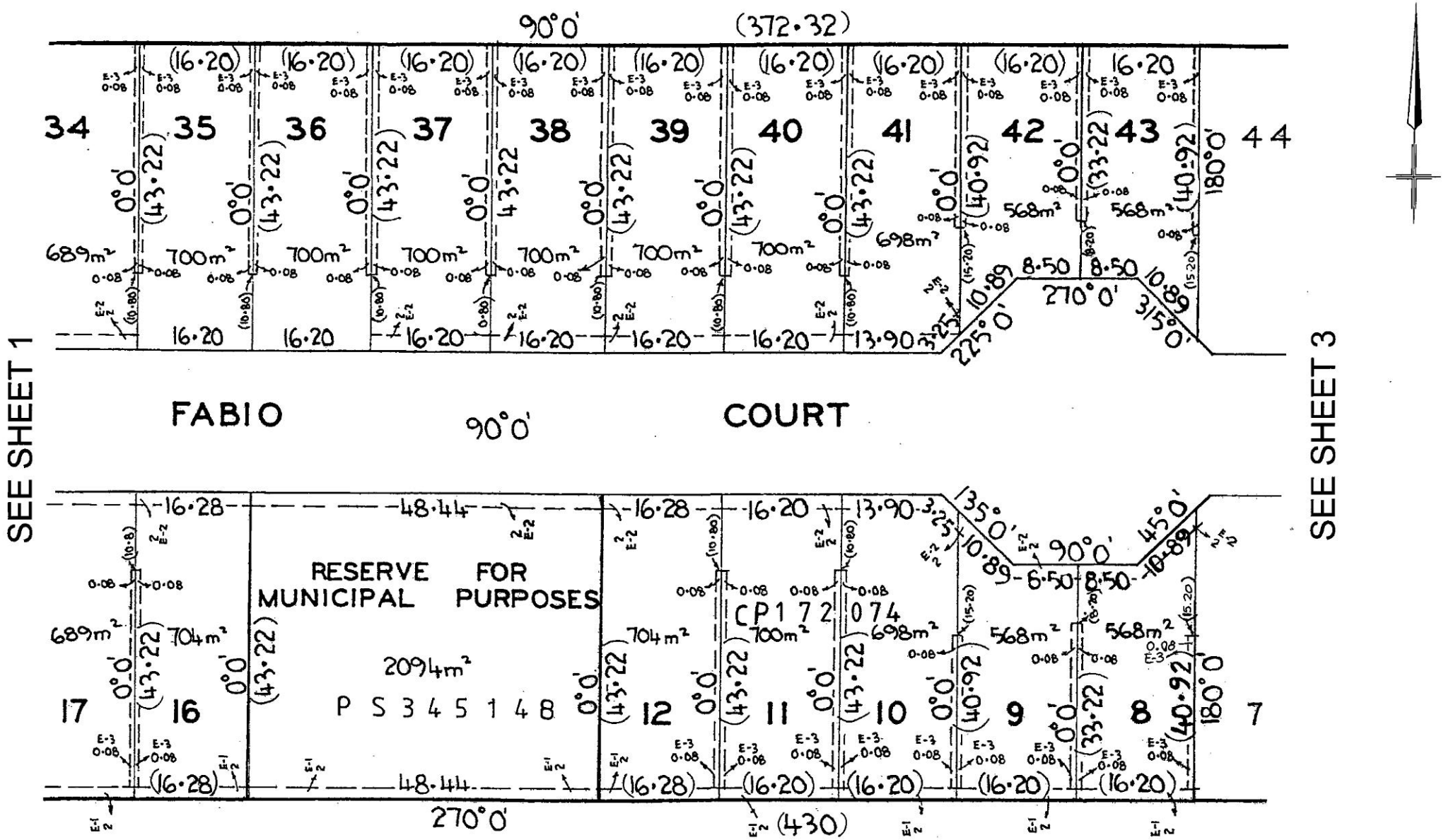

3 SHEETS
SHEET 2

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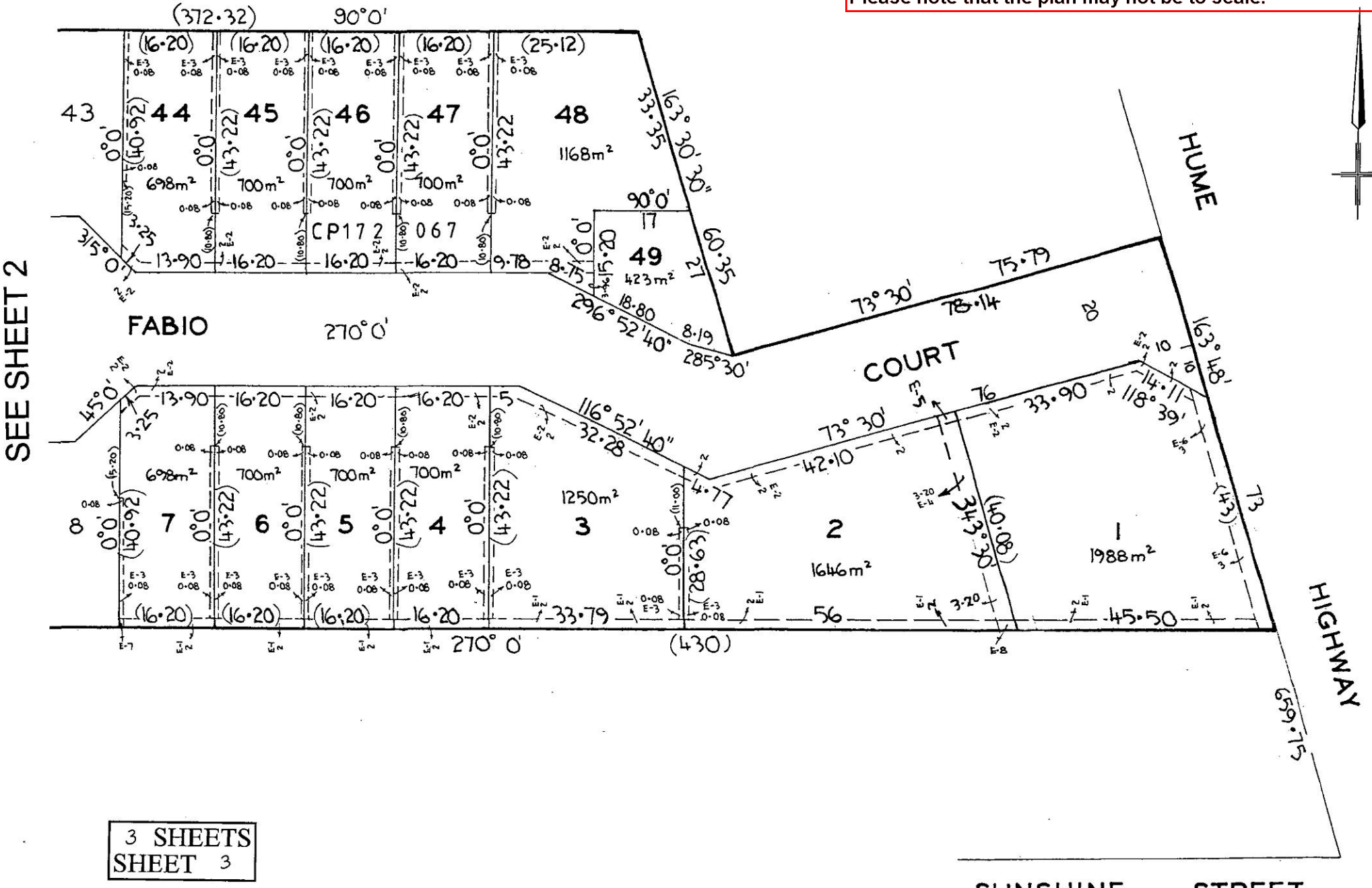

3 SHEETS
SHEET 3

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MODIFICATION TABLE

RECORD OF ALL ADDITIONS OR CHANGES TO THE PLAN

PLAN NUMBER

LP 211961E

AFFECTED LAND / PARCEL	LAND / PARCEL / IDENTIFIER CREATED	MODIFICATION	DEALING NUMBER	DATE	TIME	EDITION NUMBER	ASSISTANT REGISTRAR OF TITLES
RESERVE		SUBDIVISION	PS 345148			2	MLB
LOT 1		REMOVAL OF EASEMENT	PS 348870C			3	MLB.

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WAILINGLAM INVESTMENTS PTY LTD

ACN: 660 523 811

45 Fabio Crt Campbellfield Victoria 3061, Australia

27/05/2025

To whom it may concern,

Re: Operation of 45 Fabio Crt Campbellfield

This is to certify that I [redacted] the owner of the above-mentioned property give authorization to Kangaroo Plastics Pty Ltd to build and operate a Plastic Recovery Facility

on this site.

This includes any development needed to commence operations .

With Best Regards

[redacted]

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This form is only to be used for changes made to a current planning permit application

DECLARATION FOR AMENDMENT TO A PLANNING PERMIT APPLICATION

HUME CITY COUNCIL

PLANNING PERMIT NO:

Office Use Only:

DATE RECEIVED:

FEE PAID: $

Planning and Environment Act 1987 Sections 50 & 50A & 57A. Planning and Environment Regulations, Regulation 16. Council is collecting the information on this form so that it may consider your application in accordance with Part IV of the Planning and Environment Act 1987. Council must make a copy of this application available for any person to inspect free of charge in accordance with Section 51 of the Act.

Please print clearly. Please read the notes on the back before completing this form.

THE APPLICANT: Who is making this amendment

Name:	Mike Ritchie and Associates Pty Ltd (T/A MRA Consulting Group) on behlaf of Kangaroo Plastics Technology Pty Ltd
Tel.:	[redacted]
Address:	202-204 Northbourne Rd, Campbellfield VIC 3061 Lot 50 LP211961

THE LAND: Give the address and title particulars of the land.

45 Fabio Court, Campbellfield VIC 3061

PROPOSED AMENDMENTS: what changes are being requested since lodging the original application for planning permit (attach letter if required)

Reduction of car parking spaces from Hume Planning Scheme requirement to 10 spaces based on actual proposed use need and staffing requirement.

THE OWNER: The owner must be notified of these proposed changes

Name: [redacted]	Tel. Bus. hours: 03 9305 2215
Address: 45 Fabio Crt Campbellfield Victoria 3061, Australia	

DECLARATION TO BE COMPLETED FOR ALL APPLICATIONS
This form must be signed. Please complete A, B or C

A	I declare that I am the Application and Owner of this land that all information given is true and correct	Owner/Applicant Signature: [redacted] Date: 14/07/2026
B	I am the Owner of the land. I have seen this application	Owner Signature: [redacted] Date: 14/07/2026
	I/We the Applicant declare that all information given is true and correct	Applicant Signature: [redacted] Date: 14/07/2026
C	I/We the Applicant declare that I/We have notified the owner about this application and that all information given is true and correct	Applicant Signature [redacted] Date: 14/07/2026

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How to Amend an Application for a Planning Permit

Section 50. Amendment to application at request of applicant before notice

(1) An applicant may ask the responsible authority to amend an application before notice of the application is first given under section 52.
(2) An amendment to an application may include—
- (a) an amendment to the use or development mentioned in the application; and
- (b) an amendment to the description of land to which the application applies; and
- (c) an amendment to any plans and other documents forming part of or accompanying the application.

(3) A request under this section must—
- (a) be accompanied by the prescribed fee (if any); and
- (b) be accompanied by any information or document referred to in section 47(1)(c) to 47(1)(e) that relates to the proposed amendment to the application and that was not provided with the original application; and
- (c) if the applicant is not the owner of the land to which the application applies, be signed by the owner or include a declaration by the applicant, that the applicant has notified the owner about the request.

(4) Subject to subsection (5), the responsible authority must amend the application in accordance with the request.
5) The responsible authority may refuse to amend the application if it considers that the amendment is so substantial that a new application for a permit should be made.
(6) The responsible authority must make a note in the register if any amendment is made to an application under this section.
(7)On the amendment of an application under this section, the amended application is to be taken—
- (a) to be the application for the purposes of this Act; and
- (b) to have been received on the day that the request for amendment was received by the responsible authority.

50A. Amendment of application by responsible authority before notice

(1) With the agreement of the applicant and after giving notice to the owner, the responsible authority may make any amendments to an application that it thinks necessary before notice of the application is first given under section 52.
(2) An amendment to an application may include—
- (a) an amendment to the use or development mentioned in the application; and
- (b) an amendment to the description of land to which the application applies; and
- (c) an amendment to any plans and other documents forming part of or accompanying the application.

(3) The responsible authority may require the applicant—
- (a) to notify the owner under subsection (1); and
- (b) to make a declaration that that notice has been given.

(4) The responsible authority must make a note in the register if any amendment is made to an application under this section.
(5) On the amendment of an application under this section, the amended application is to be taken—
- (a) to be the application for the purposes of this Act; and
- (b) to have been received on the day that the applicant agreed to the amendment.

57A. Amendments to application after notice of application is given

(1) An applicant may ask the responsible authority to amend an application after notice of the application is given under section 52.
(2) An amendment to an application may include—
- (a) an amendment to the use or development mentioned in the application; and
- (b) an amendment to the description of land to which the application applies; and
- (c) an amendment to any plans and other documents forming part of or accompanying the application.

(3) A request under this section must—
- (a) be accompanied by the prescribed fee (if any); and
- (b) be accompanied by any information or document referred to in section 47(1)(c) to 47(1)(e) that relates to the proposed amendment to the application and that was not provided with the original application; and
- (c) if the applicant is not the owner of the land to which the application applies, be signed by the owner or include a declaration by the applicant that the applicant has notified the owner about the request.

(4) Subject to subsection (5), the responsible authority must amend the application in accordance with the request.
(5) The responsible authority may refuse to amend the application if it considers that the amendment is so substantial that a new application for a permit should be made.
(6) The responsible authority must make a note in the register if any amendment is made to an application under this section.
(7) On the amendment of an application under this section—
- (a) the amended application is to be taken—
  - (i) to be the application for the purposes of this Act; and
  - (ii) to have been received on the day that the request for amendment was received by the responsible authority; and
- (b) all objections made in relation to the original application are to be taken to be objections to the amended application.

(8) Nothing in this section affects any right a person may have to make a request under section 87 or 89 in respect of anything done or not done in relation to the original application.
(9) Sections 52 and 55 do not apply to an amended application.

Send your completed form and all documents to the Responsible Authority:

HUME CITY COUNCIL – STATUTORY PLANNING
P O Box 119, Dallas 3047
1079 Pascoe Vale Rd. Broadmeadows

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MRA Consulting Group
ABN 13 143 273 812

Suite 408
Henry Lawson Building
19 Roseby Street
Drummoyne NSW 2047
P +61 2 8541 6169
E info@mraconsulting.com.au

mraconsulting.com.au

19 March 2026

[redacted]

Attn: [redacted]

RE: 45 Fabio Court, Campbellfield – Response to RFI

1 Introduction

This letter report has been prepared as response to RFI addendum to the planning permit report submitted for the proposed development and use of the 45 Fabio Court, Campbellfield site. Hume City Council issued a notice to provide further information on 25 September 2025 and further request issued on 9 October 2025. A subsequent information request from the Victorian EPA was also forwarded by email, dated 20 October 2025. The purpose of this letter is to address the items raised by Council and the EPA.

It is noted that since issuing of this RFI, Kangaroo Plastics has made the decision to remove the extruders from the proposed processing line as a commercial decision. Fundamentally, this does not change the use or process apart from all finished product leaving the site will be a flake material and the extrusion (pelletising) process is no longer required. As such, the amended planning permit report and supporting documentation has been prepared on the basis of no extrusion occurring onsite.

The response to both information request notices is provided in Section 2.

2 Response to Hume Council RFI

2.1 Updated Plans

- *An updated set of drawings to show, including but not limited to:*
  - a. *all lighting (including details of design and type where applicable) within all car parking and loading areas.*
  - b. *elevations or photographs of existing buildings on the site.*
  - c. *the floor layout of the office building (ancillary to the new land use).*
  - d. *landscaping or screen planting on the buffer strip / front setback area next to the office building. Council has Landscape Guidelines on our website to help select recommended vegetation on the Species List.*
  - e. *the location of bin enclosures for collection and storage. Please refer to preliminary concerns section for more information.*
  - f. *the existing vehicle crossover width on Fabio Court.*

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g. *the location of bicycle parking spaces to be provided on the site.*

h. *the total number of car parking spaces on the site with length and width dimensions. Please refer to preliminary concerns section for more information.*

Site plans have been amended to show relevant details as requested above, including:

- flood lights positioned around the site, at main warehouse and office building entry/exit points.
- Wheelie bin storage area.
- Existing vehicle crossover width on Fabio Court (8.2m).
- Location of bicycle parking near front office.
- Dimensioned car parking spaces.

The proposed development will not result in changes to the office layout, and no historical layouts have been able to be discovered.

Similarly, landscaping at the site is not proposed to be amended and will remain consistent with the current conditions as outlined in the planning permit report.

Photographs of the existing buildings on site, including the site frontage are included in the amended planning permit report in Section 4.2.

2.2 Updated documentation

- *An updated set of all application documentation, plans, and reports from resulting changes to the proposal and vice versa.*

  The following concerns have also been identified as part of a preliminary assessment to the proposal. It is recommended that these are resolved as part of the further information response.

This submission is supported by the following additional or amended documents:

- Amended plans
- Amended planning permit report
- Traffic Impact Assessment
- Fire Risk Assessment
- Air Quality Impact Assessment
- Noise Assessment

Relevant assessment documents have been summarised and appended to the submitted amended planning permit report.

Figures 4, 6 and 8 of the amended planning permit report (depicting the internal layout of plant and equipment) have been updated to include labels of equipment and plant in each building for further clarity on the proposed process described.

2.2.1 Vehicle Movements

- *The proposal is to have heavy vehicles access the site. The further information response should contain swept path diagrams (or dimensions of the largest truck) to ensure all vehicles can enter and exit in a forward direction on the site without impacting any bicycle and car parking spaces or vehicle crossovers.*

Swept paths for a 19m articulated vehicle are included in the provided Traffic and Parking Impact assessment completed by EB Traffic Solutions.

1. *To assess the accessibility of the parking and loading facilities, swept paths analysis produced by a suitably qualified traffic engineer incorporating the standard configurations and practices specified below must be provided.*

   a. *Swept paths must be undertaken using a vehicle speed no lower than 5km/h;*

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b. *Use the dimensions specified in Appendix B of AS/NZS 2890.1:2004;*
c. *Use clearances of at least 300 millimetres for vehicles under or equal to 6.4 metres in length and 500 millimetres for vehicles longer than 6.4 metres in length;*
d. *Ensure clearances are kept clear of vertical obstructions higher than 150 millimetres;*
e. *Ensure vehicles do not turn from stop when travelling in a forward direction (unless it is the initial movement following a reverse movement);*
f. *Use a lock-to-lock time of no greater than 6 seconds;*
g. *A centreline and path icon must be provided for the swept paths;*
h. *Swept paths demonstrating egress from a particular space must be in the same position as any swept path demonstrating entry into the space; and*
i. *Use AS/NZS 2890.1:2004 kerb-to-kerb turning diameters of no lesser than:*
    i. *11.6m for a B85 vehicle (steering angle of 34.1 degrees)*
    ii. *12.6m for a B99 vehicle (steering angle of 33.5 degrees)*

As outlined above, swept paths prepared in accordance with the requirements outlined above are included in the provided Traffic and Parking Impact assessment completed by EB Traffic Solutions. The site has been shown to be suitably accessible by relevant vehicles, including at a maximum, a 19m articulated vehicle.

2. *If the applicant is seeking to gain a reduction in car parking, the applicant must engage a qualified traffic engineer to provide a Car Parking Demand Assessment as outlined by Clause 52.06-7. The Car Parking Demand Assessment must address all the matters outlined by Clause 52.06-7.*

The traffic and parking impact assessment completed by EB Traffic Solutions assesses the parking demand for the site, indicating that the area currently provided for car parking (including the abutting accessway) corresponds to 771.4 sqm, which is in excess of the statutory car parking requirement of 657 sqm.

3. *An industrial development of this size (greater than 2,000 square metres) and operation requires a 19 metre articulated semi trailer as detailed in AS 2890.2-2002 to drive in and out in a forward motion.*

As outlined above.

4. *Any tandem car parking is not supported. On street employees and visitors will avoid the inconvenience of tandem parking and will choose to park on street.*

The tandem parking spaces are existing elements of the parking arrangement at the site and are presently used by shift staff. The proposal is not seeking for the existing tandem parking spaces to be removed but will be relocated further towards Building 1 to facilitate AV truck turning in the hardstand yard.

Tandem spaces would be utilised by site staff, leaving sufficient car parking spaces at the front of the site office for visitors to park at the site, noting that visitors to the site would be infrequent.

Two additional car parking spaces adjacent to the site entrance, opposite of existing parking spaces are capable of being provided for overflow parking.

2.2.2 Waste management

The proposal is to provide appropriate waste management for the new land use. The further information response is to include details on the collection and storage of waste by a private contractor, and specify the size, type, and quantity of all bin enclosures required.

Waste management at the site would remain unchanged compared to current site arrangements.

Bins for the storage of general waste and recycling would be retained nearby the site office and industrial warehouse buildings for disposal of waste generated by personnel onsite. Bins would be serviced onsite by a suitably qualified waste management contractor.

See amended site plans for bin storage location.

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3 Response to Victorian EPA RFI

3.1 Further clarification on the proposed development

1. *Provide a detailed description of the proposal, including:*

    a. *Further clarification on the quantity of materials to be accepted, processed, or stored at any one time (cubic metres),*

Section 2.4 of the submitted planning report outlines the anticipated volumes of waste to be received and stored at the site.

Section 3.4 of the submitted planning report outlines the anticipated volume of material to be stored at the site at anyone time (being 180 tonnes). With reference to the proposed storage arrangements outlined in Section 2.4.4.1 and 2.4.4.2 of the planning report, this translates to approximately 395m^3 of plastic bales held onsite at any one time.

    b. *Whether any liquids will be stored and used as part of the operation. If so, will bunding be provided.*

Water would be used in plastic washing processes which would be connected to a dedicated waste water treatment plant which will be sited under awning, at the rear of the site. The waste water treatment plant will be a contained system with bunding capacity of 110% total liquid volume to prevent the discharge of untreated, treated or other liquids (i.e. fuels used by machinery) from discharging to surface and stormwater systems.

    c. *Location and height of stockpiles and whether any stockpiles will be stored outdoors. This is required to be shown on the plans accompanying the application, and*

Section 2.4 of the submitted planning report outlines the anticipated volumes of waste to be received and stored at the site, including bale storage areas (see Figure 9 specifically) and storage heights. Per the submitted planning permit report, no material is proposed to be stored outdoors.

    d. *Whether waste will be kept outdoors at any stage of the recycling process, including receival, storage, sorting, or processing for recycling.*

Unloading of larger delivery vehicles may be undertaken outside in the hardstand area, with bales being transferred by forklift to the relevant building for storage. In instances of inclement weather, all material unloading would occur indoors.

Otherwise, all material will be handled and stored within one of the three industrial warehouse buildings at all times.

    e. *Details on the location of the sorting area of accepted plastic materials including management of non-plastic materials/contaminants.*

Plastic bales received onsite are derived from a materials recycling facility and therefore, already sorted. Each building plant will be fitted with sorting equipment to remove minor contaminants that would be retained in small bins and removed from the site periodically.

    f. *Information on the length of bales/bulk storage of materials on site.*

Storage of bales and bulk output material is outlined in the planning permit report, in Section 2.4. As noted, the proposed facility is not intended to store material (input or outgoing) for an extended period. A specific timeline is not identified, however is anticipated to be less than 48 hours.

All incoming material would be scheduled to arrive at the site for immediate commencement of processing and outgoing material would begin to be removed from the site by bulk haul vehicles once volumes reach maximum payload capacities for offtake vehicles.

    g. *Details of the extrusion process and other relevant processing components at the facility where extrusion will occur.*

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As noted above, the extrusion process is not longer proposed for the use and should be disregarded.

All documentation has been amended to reflect the removal of previously proposed extruders from the proposal. Instead, all plastic materials would be shredded into a flake and onsold in that form only.

3.2 Further clarification on the proposed development

Confirmation of EPA Permissions required of this proposal (see section 3 for further details).

This should include confirmation of the volumes of materials to be accepted and stored on site, in the units specified under Schedule 1 of the Environment Protection Regulations 2021 for prescribed activity A13a/b (Waste and resource recovery).

Section 2.4 of the submitted planning report outlines the anticipated volumes of waste to be received and stored at the site.

Section 3.4 of the submitted planning report outlines the anticipated volume of material to be stored at the site at anyone time (being 180 tonnes). With reference to the proposed storage arrangements outlined in Section 2.4.4.1 and 2.4.4.2 of the planning report, this translates to approximately 395m^3 of plastic bales held onsite at any one time.

On the basis of the above, the proposal is expected to handle less than 4,000 tonnes of waste material per month and hold onsite at any time, between 5m^3 and 5,000m^3, placing it in the *A13c (Waste and resource recovery—small)* category.

3.3 Environmental Management Plan

- *Provide an assessment that addresses the potential amenity, environmental and human health impacts from the proposal such as noise, dust, air emissions, liquid spills leading to contamination to land and/or water, fire risks, vibration, etc. This can be included in:*
  a. *An Environment Management Plan (EMP) or similar to demonstrate that potential amenity, environmental and human health impacts from the proposed use of the site are fully understood, and how they may be prevented or minimised.*

     The EMP is required to address and include the following (but not limited to):

     i. Stormwater management plan,

     ii. Stockpile management plan,

     iii. How oil and fuel storage areas will be managed,

     iv. Fire management including fire water run-off,

     v. Emergency management plan,

     vi. Details on the wastewater system and how this will manage and prevent contamination to the surface and stormwater systems. This includes any fuel leaks from machinery as well as wastewater resulting from the proposed operations.

A Site environmental management plan (SEMP) governing the operation of the site would be prepared and issued to the EPA with the Environmental Registration, prior to commencement of operations as proposed. Kangaroo Plastics operate a similar facility at the Northborne site, for which the related EMP has been included as a template for the Fabio Court operation. The SEMP would contain procedural and operational information as detailed in the submitted planning permit report, and would be supplemented with specific information related to plant and equipment once commissioned.

The site is existing and no additional earthworks are proposed, therefore a Stormwater management plan is not deemed necessary.

Fuel and oil may only be stored in minimal quantities and would be generally indoors, but away from stockpile and operational areas. Any fuels or oils would be stored in self bunded containers or within containers in a bunded area.

Fire assessment conducted by DDEG is included as Appendix G of the planning permit report.

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Emergency management plan (EMP) based on Northbourne site EMP is included for reference. A detailed site specific EMP will be prepared prior to commencement of operations.

The wastewater treatment plant will be a contained system with bunding capacity of 110% total liquid volume to prevent the discharge of untreated, treated or other liquids (i.e. fuels used by machinery) from discharging to surface and stormwater systems.

3.4 Noise

- *Demonstrate whether the proposed hours of operation during evening and night period will not impact or affect sensitive receptors in the surrounding area. In particular, provide an assessment on how the following statement outlined in Section 6.2.2 of the Planning Report was reached:*
    - *"Noise levels from the proposed development are predicted to comply with all relevant standards during the specified operating hours."*

  Under the Environment Protection Regulations 2021:
    - *Evening period means— (i) Monday to Saturday, from 6 p.m. to 10 p.m.; and*
    - *Night period means 10 p.m. to 7 a.m. the following day.*

A Noise Assessment prepared by Audiometric and Acoustic Services, included as Appendix E of the amended planning report outlines the predicted noise levels and demonstrates compliance for noise output during proposed hours of operation at nearby sensitive receptors.

Results of the noise assessment indicate levels for the proposed plastic recycling facility are not expected to significantly alter the existing noise environment. Furthermore, the siting of plant and equipment within the existing shed buildings would serve to further reduce the noise impact of the proposed operating, therefore providing further confidence that site noise levels would be complaint.

3.5 Air Quality

- *Given the discharges that will occur (including the volatile organic compounds (VOCs) as part of the operation, information on how odour emissions will be captured, treated and exhausted out of the buildings is required. Will an exhaust system or other systems (such as odour scrubber, stacks) to capture the VOC, and odour emissions be provided?*

Per the above sections, the extrusion process is not longer proposed for the site and therefore, the likelihood for the generation of VOCs from this process is no longer relevant to the project. An Air Quality Assessment (AQA) was conducted by Vipac Engineers & Scientists, included as Appendix D of the amended planning permit report. The assessment was conducted according to the following scope of works:

- An emissions inventory of PM_{10}, $PM_{2.5}$, odours and other pollutants for the Facility was compiled and was estimated based on a review of literature on plastic reprocessing, as well as publicly available source emission measurements from comparable facilities.
- The emissions data was used as input for air dispersion modelling. The modelling techniques were based on a combination of measured meteorological data from the closest Vic EPA AQMS at Alphington, The Air Pollution Model (TAPM) prognostic meteorological model (developed by CSIRO), CALMET and the AERMOD dispersion model with reference to the requirements of the EPA Publication 1957 – 'Guide to Air Pollution Modelling', and EPA Publication 1961.2 – 'Guideline for assessing and minimising air pollution in Victoria'.
- The atmospheric dispersion modelling results were assessed by comparison between scenarios and relevant assessment criteria.

The results of the modelling assessment have identified that the predicted incremental 24-hour and annual average concentrations of PM_{10} and $PM_{2.5}$ at the closest identified sensitive receptors, for both emission scenarios, were well below the applicable assessment criteria. Predicted concentrations were below 50 µg/m³ (24-hour) and 20 µg/m³ (annual) for PM_{10}, and below 25 µg/m³ (24-hour) and 8 µg/m³ (annual) for PM2.5. Furthermore, the predicted

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cumulative 24-hour and annual PM_{10} and $PM_{2.5}$ concentrations, for both emission scenarios, were also below the respective criteria of 50 µg/m^3 for PM_{10} and 25 µg/m^3 for $PM_{2.5}$ at the closest sensitive receptors.

Overall, outcomes of modelling results indicate a low risk of air quality and odour impacts at nearby sensitive receptors resultant from the proposed use and therefore, no specific measures are proposed, however the AQA did recommend the following procedural measures be adopted at or prior to commissioning of the facility:

- odour and air quality management plan is developed for the facility including a complaints management procedure.

7. *Section 6.1.2 of the Planning Permit Report provides details on the Guideline for Assessing and Minimising Air Pollution in Victoria (GAMAPV). Demonstrate how the proposal has been aligned with level 1 assessment as per the GAMAPV.*

The assessment undertaken by Vipac (see Appendix D of the planning permit report) utilises dispersion modelling to compare different emission scenarios through the analysis of the relative variations in predicted ground level odour concentration and Air Quality Assessment Criteria (AQACs) to determine potential air quality impact of the proposed use. This approach is consistent with a Level 2 assessment with respect to the GAMAPV.

3.6 Fire

- *Provide an assessment of fire risk. This may be in the form of a Fire Risk Assessment. The assessment should:*
  - a. *be prepared by a suitably qualified professional*
  - b. *be consistent with the EPA Publication 1667.3: Management and storage of combustible recyclable and waste materials – guideline or any other relevant guidelines*
  - c. *quantify the level of risk from the proposed operations and activities*
  - d. *include an emergency management plan consistent with EPA Publication 1667.3*
  - e. *inform whether inform whether any modifications to the proposal are required*
  - f. *Include any mandatory or recommended controls and mitigation measures to be implemented to prevent and/ or minimise fire risks at the site*

  EPA recommends that the suitably qualified professional has the attributes of a fire safety specialist within the meaning of EPA Publication 1667.3. Additional advice may be sourced from the relevant fire authority.

A Fire Risk Assessment (included as Appendix G of the amended planning permit report) was prepared by DDEG, according to the provisions of the *EPA Publication 1667.3: Management and storage of combustible recyclable and waste materials – guideline or any other relevant guidelines*.

The assessment details risk level of proposed activities and identifies measures and recommendations for implementation to minimise fire risk.

As outlined above, an SEMP and EMP will be developed in accordance with the final provisions and conditions of the site, prior to commissioning of the facility. It will be prepared to address the requirements of the fire risk assessment, and maintain consistency with the *EPA Publication 1667.3*.

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4 Summary and Conclusions

This letter

Overall, the proposed use at 45 Fabio Court, Campbellfield is suitable for the site.

For clarification on any of the additional information provided, please do not hesitate to contact the undersigned.

Sincerely,

[redacted]

James Cosgrove / Principal Environmental Consultant
james.cosgrove@mraconsulting.com.au / [redacted]

MRA Consulting Group
02 8541 6169
Suite 408 Henry Lawson Building
19 Roseby Street, Drummoyne NSW 2047
mraconsulting.com.au

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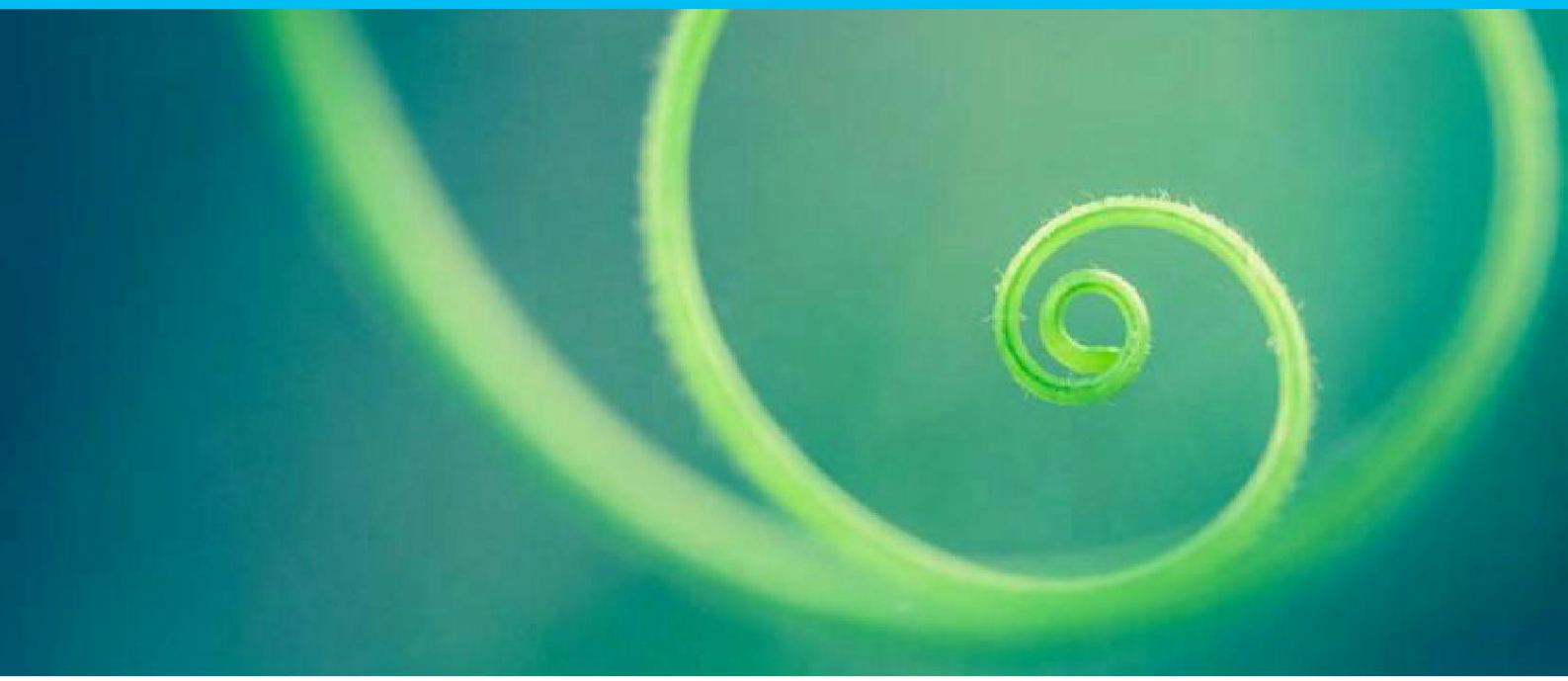
Planning Permit Report Plastics Processing Facility – 45 Fabio Court, Campbellfield

A Submission to Hume City Council on behalf of Kangaroo Plastics

19th March 2026



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45 Fabio Court, Campbellfield – Planning Permit Report

A Submission to Hume City Council on behalf of Kangaroo Plastics Technology Pty Ltd (ABN 68 154 019 119)
Job No. 225-1013861

Prepared by

Mike Ritchie & Associates Pty Ltd
trading as MRA Consulting Group
ABN 13 143 273 812

Suite 408 Henry Lawson Building
19 Roseby Street
Drummoyne NSW 2047

+61 2 8541 6169
info@mraconsulting.com.au
mraconsulting.com.au

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In the spirit of reconciliation MRA Consulting Group acknowledges the Traditional Custodians of Country throughout Australia and their connection to land, sea and community. We pay our respects to Aboriginal and Torres Strait Islander peoples and to Elders past, present and emerging.

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Glossary

Terminology	Description
AHD	Australian Height Datum
BAU	Business as usual
C&I	Commercial and Industrial (waste)
CFA	Country Fire Authority
DG	Dangerous Goods
EPA	Environment Protection Authority (Victoria)
EPU	Equivalent Passenger Unit
FTE	Full Time Equivalent
HDPE	High Density Polyethylene
LGA	Local Government Area
MFB	Metropolitan Fire Brigade
MRA	MRA Consulting Group
OHS	Operational Health and Safety
PET	Polyethylene Terephthalate
PP	Polypropylene
SWRRIP	Statewide Resource Recovery Infrastructure Plan
tpa	Tonnes per annum
WMP	Waste Management Policy
IN1Z	Industrial 1 Zone
WHS	Work Health and Safety

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1 Introduction

Kangaroo Plastics Technology Pty Ltd (Kangaroo Plastics) proposes to establish a plastics reprocessing facility at 45 Fabio Court, Campbellfield in Victoria, Australia. The proposed facility would be capable of sorting, washing, granulating (turning into flake) and drying separated plastics to produce raw materials substitutes in the form of plastic flake. The proposed facility would be capable of processing up to approximately 180 tonnes per day (tpd), or 4,000 tonnes per month (tpm) of separated polyethylene terephthalate (PET), polypropylene (PP) and High Density Polyethylene (HDPE), with a proposed maximum processing capacity of 48,000 tonnes per annum (tpa). This facility aims to support sustainable waste management by reprocessing plastics for local use in manufacturing as a raw material substitute, contributing to resource recovery and landfill diversion.

The proposed development of this facility would involve the installation of plant and equipment to accommodate operation as a plastics reprocessing plant, however no construction works to the site are expected to be necessary to support the proposed use. The proposal would require a planning permit, and environmental approvals in accordance with Victorian EPA requirements. The facility would comply with relevant regulations, ensuring a smooth and efficient licensing and operational process. This report outlines the core components of the proposed development proposal, its compliance framework, and environmental management strategies, supporting the successful development and operation of the facility.

1.1 Proposed Development

The objective of the proposed plastics processing and reprocess facility is to establish a compliant and efficient processing operation, including:

- Use of the site for plastics reprocessing, with an expected maximum capacity of approximately 48,000 tonnes per annum;
- Installation of plant and equipment necessary to operate the proposed facility (see Section 2.2 for detailed breakdown of plant and equipment);
- employ 8 full time equivalent (FTE) operational staff members; and
- facilitate the reprocessing and reuse of plastic materials which would have environmental and financial benefits, by reusing materials in accordance with circular economy principles.

The proposed facility would accept post-consumer PET, PP, and HDPE plastics from various materials recycling facilities (MRF) located in the broader Melbourne metropolitan area. MRFs receive, sort, and process mixed kerbside recycling collected from households – typically including materials such as paper, cardboard, plastics, metals and glass. MRFs use a combination of mechanical and manual sorting technologies such as conveyors, screens, magnets, eddy currents, and optical sorters to separate materials by type and quality. Once sorted, the materials are baled and sent to recyclers or manufacturers such as the proposed plastics reprocess facility for reprocessing into new products. The proposed development would accept separated bales or containers of PET, PP and HDPE.

Operations will utilise three existing industrial sheds for the establishment of various elements of the processing, washing and flaking process. The existing buildings are sufficiently sized to contain the proposed equipment and infrastructure, also maintaining adequate space to store incoming and outgoing material within the buildings.

The facility process would include an initial sorting and pre-treatment stage, where input separated plastic materials are screened for contaminants such as labels, metals, and non-target plastics. This ensures that only clean, compatible plastics continue through the process for a pure output product. Once sorted, plastics undergo a washing process, typically involving both hot and cold washes to further remove any sugars and residual impurities (such as residue in drink bottles). Cleaned plastics are then mechanically granulated into flakes, which are more manageable for storage and further processing. These flakes are subsequently dried, using air or thermal drying systems, to remove any remaining moisture.

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After drying, flake material is stored in bays or bulk containers (e.g. bulka bags) for offtake by tertiary manufacturers, who use them as feedstock for producing new plastic products such as packaging, containers, or construction materials; or

The above procedure for flake material would generally be determined by customers of Kangaroo Plastics and their specific needs. Overall, the proposed process assists in the diversion of plastics from landfill, returns recycled materials into value raw materials for new products and reduces low grade material being transported overseas for reprocessing.

Site layouts and proposed infrastructure designs are provided in Appendix D.

A detailed description of the proposal is provided in Section 2.

1.2 Scope of Planning Permit Application

This report provides an overview of the site, its surroundings, and the proposed plastics processing operation. It outlines matters for consideration under the *Victorian Planning and Environment Act 1987* and the *Hume Planning Scheme*. The report includes high level assessment of environmental impacts and management strategies to mitigate potential risks associated with the operation, including noise, air quality, and traffic impacts.

1.3 Location

The proposed Site is located at:

45 Fabio Court, Campbellfield VIC 3061

Lot 50 LP 211961

Hume City Council

IN1Z – Industrial 1 Zone

The site is located within the industrial area of Campbellfield, adjacent the railway corridor within the City of Hume. The site has been previously developed and used as a timber storage and distribution facility, and currently contains three warehouses, an office building and a gated storage yard with existing parking spaces.

The property's certificate of title has been included as Appendix A.

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Figure 1: Site context (*Source: Nearmap, 2025*)

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1.4 Site History

The site has been previously used for industrial purposes, including as a timber recycling plant. The existing sheds and infrastructure will be repurposed to support the new plastics reprocess facility, minimising the need for extensive construction work.

As shown in Figure 2, the site is approximately 6,575m^2 in size, consisting of three existing industrial buildings, a site office, external hardstand, small awning near the rear of the site and onsite staff parking. The hardstand area at the front of the site office supports existing staff and visitor parking (10 parking spaces in total, including one accessible parking space). Car parking requirements for the proposed plastics reprocess plant would be less than provisions of the existing site and therefore, no change is proposed to the parking provision for the site.



Figure 2: The site and existing infrastructure (*Source: Nearmap 2025*)

1.5 Staff

The facility will employ approximately eight operational and support (office) staff to ensure smooth and efficient operations. six staff members, comprising operational technicians and an operations manager would be responsible for the operation of the proposed plastics facility equipment. Furthermore, two office

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staff would be employed to manage incomings and outgoings and various other administrative functions to support facility operations. The operations manager would be responsible for overseeing the daily operations, ensuring that all activities run smoothly and that operational standards are consistently met.

Any shift changes could be staggered between use of buildings to avoid excessive staff crossover

1.6 Landowner's consent

Confirmation has been provided that the landowner consents to the application being made in respect of their land. A signed letter of consent is included as Appendix B.

1.7 Cost of works

The estimated cost of works for the proposal is approximately **$500,000** based on the preliminary expectations of plant and equipment installation and connection to sewer for the wastewater treatment plant. The overall capital investment for the proposal would also include value of plant and equipment required to operate the proposed plastics processing facility, however these elements would not change the built form of the existing site and would be able to be removed from the site if the site use changes in future.

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2 Description of Activities

2.1 Proposed Construction

The infrastructure (buildings) present at the subject site is consistent with the needs of the proposed plastics facility and therefore, no major clearing, demolition, excavation or construction works are anticipated. Works would be limited to:

- Installation of plastics processing and reprocess equipment within the existing buildings;
- Installing an above ground wastewater treatment plant on the western edge of the hardstand area, under the existing awning which may require minor works to connect to existing water/sewer lines;
- Establish bunding around water treatment plant; and
- Line marking for car parking and turning areas.

Works proposed to be undertaken at the site are detailed in site plans according to Appendix D.

2.2 Plant and Equipment

The proposed plastics reprocess facility would maintain a range of equipment related for the sorting, washing, and granulating into flake. The following serves as an equipment list for the proposed facility, in order of processing operation:

- Belt conveyors (multiple between main equipment pieces);
- Optical sorter;
- Plastic crusher/shredder;
- Pre-wash plant;
- Main wash plant, including:
    - Rinsing tank,
    - Screw conveyor, and
    - Dewatering machine.
- Flake sorting machine; and
- Boiler and water treatment plant (under existing awning).

2.3 Hours of Operation

The facility will operate from 7:30am to 11pm Monday to Saturday approximately 21 working days per month (equivalent to approximately 262 days per year). Weekend operations on Saturdays would be limited to processing to clear material received and stored through the previous week. No materials are proposed to be received at the site on Saturdays. Kangaroo Plastics' regular operating schedule will be as follows:

Material Receival

- Monday to Friday – 7:30am to 3pm;
- Saturday – N/A; and
- Sunday and Public Holidays – Closed.

Material Processing

- Monday to Friday – 7:30am to 11pm;
- Saturday – 7:30am to 11pm; and

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- Sunday and Public Holidays – Closed.

2.4 Proposed Operations

Site operations are described below. An indicative general layout of the site as proposed is included in Appendix D and Figure 3.

Figure 4 to Figure 8 shows the indicative proposed layouts, sections and 3d representation of the proposed use of each of the three industrial units on the site.

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LOT 50 ON PLAN OF SUBDIVISION No. LP211961E
CROWN PORTION 12 (PART)
PARISH OF WILL-WILL-ROOK
COUNTY OF BOURKE

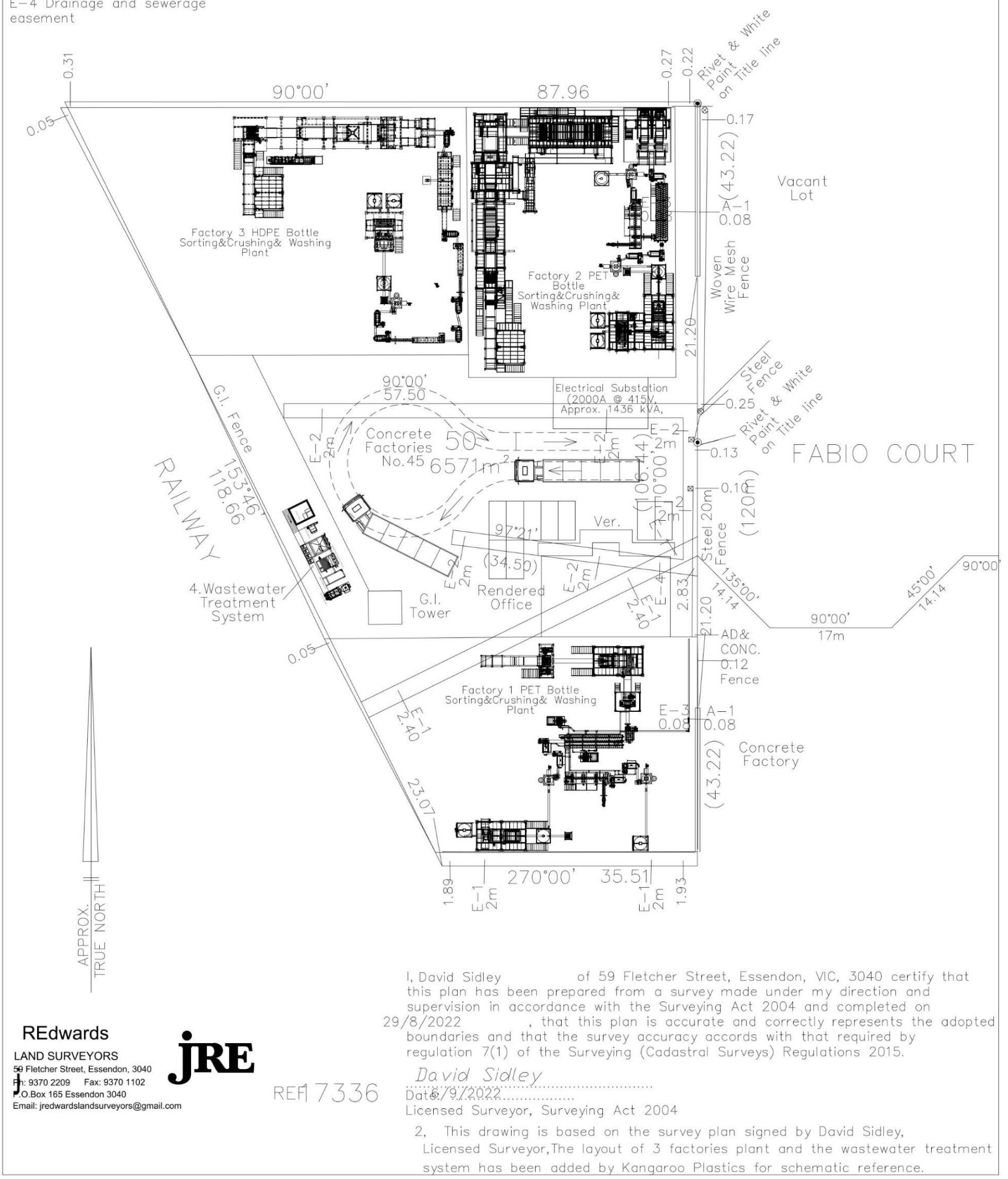
RELOCATION SURVEY

Scale 1 : 500

5 0 5 10 15 20 25

LENGTHS ARE IN METRES

E-1 Drainage easement
E-2 Sewerage easement
E-3 Party Wall easement
A-1 Party Wall easement
E-4 Drainage and sewerage easement



REdwards
LAND SURVEYORS
59 Fletcher Street, Essendon, 3040
Ph: 9370 2209 Fax: 9370 1102
P.O.Box 165 Essendon 3040
Email: jredwardslandsurveyors@gmail.com

JRE

REF 17336

I, David Sidley of 59 Fletcher Street, Essendon, VIC, 3040 certify that this plan has been prepared from a survey made under my direction and supervision in accordance with the Surveying Act 2004 and completed on 29/8/2022 , that this plan is accurate and correctly represents the adopted boundaries and that the survey accuracy accords with that required by regulation 7(1) of the Surveying (Cadastral Surveys) Regulations 2015.

David Sidley
.....
Date 6/9/2022
Licensed Surveyor, Surveying Act 2004

2, This drawing is based on the survey plan signed by David Sidley, Licensed Surveyor,The layout of 3 factories plant and the wastewater treatment system has been added by Kangaroo Plastics for schematic reference.

Figure 3: Proposed plastics processing facility general layout (*Source: JREdwards Land Surveyors, 2025*)

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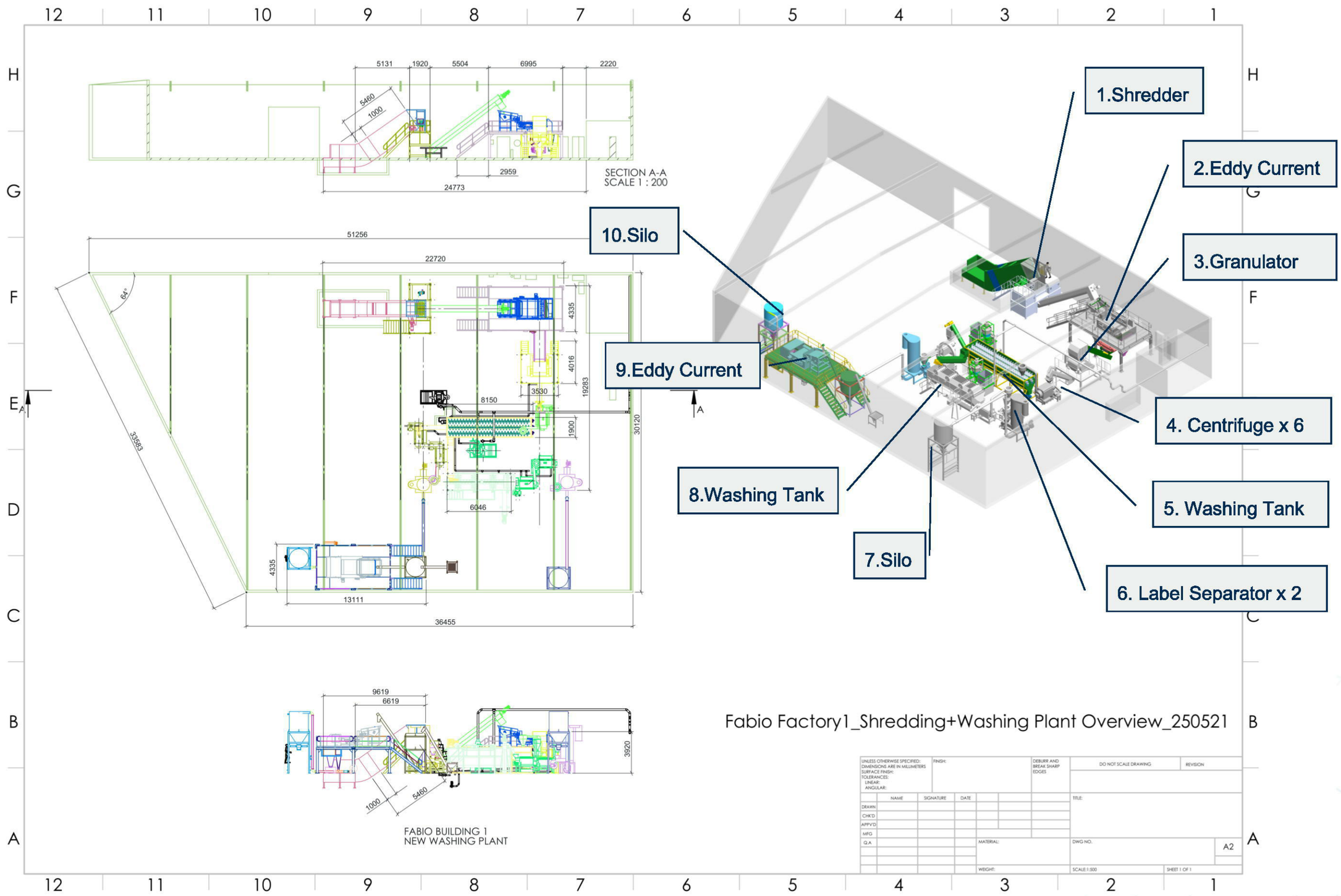

Figure 4: Indicative Building 1 Layout. Section and Model Diagram (Source: JREdwards Land Surveyors, 2025)

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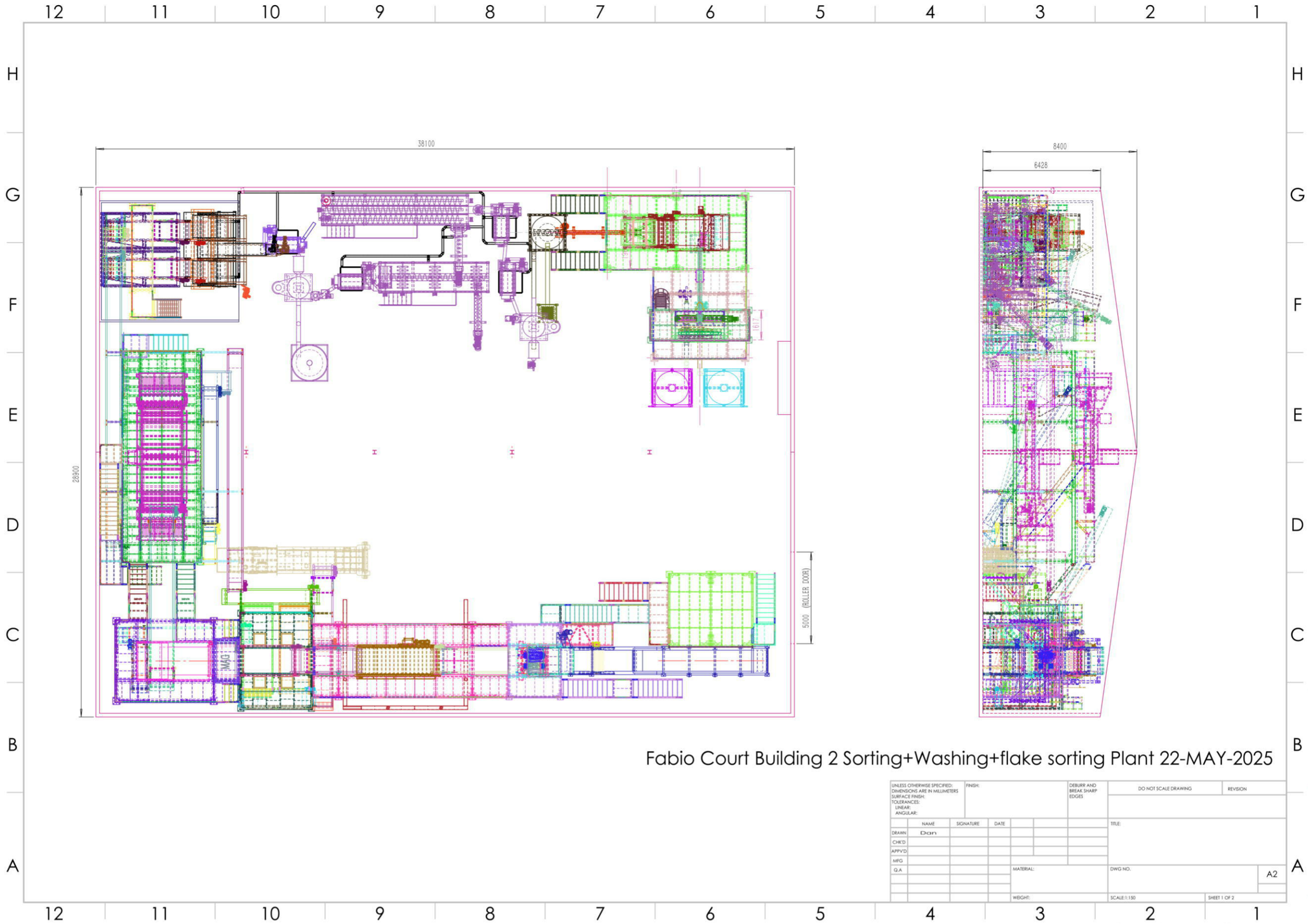

Figure 5: Indicative Building 2 Layout and Section (Source: JREdwards Land Surveyors, 2025)

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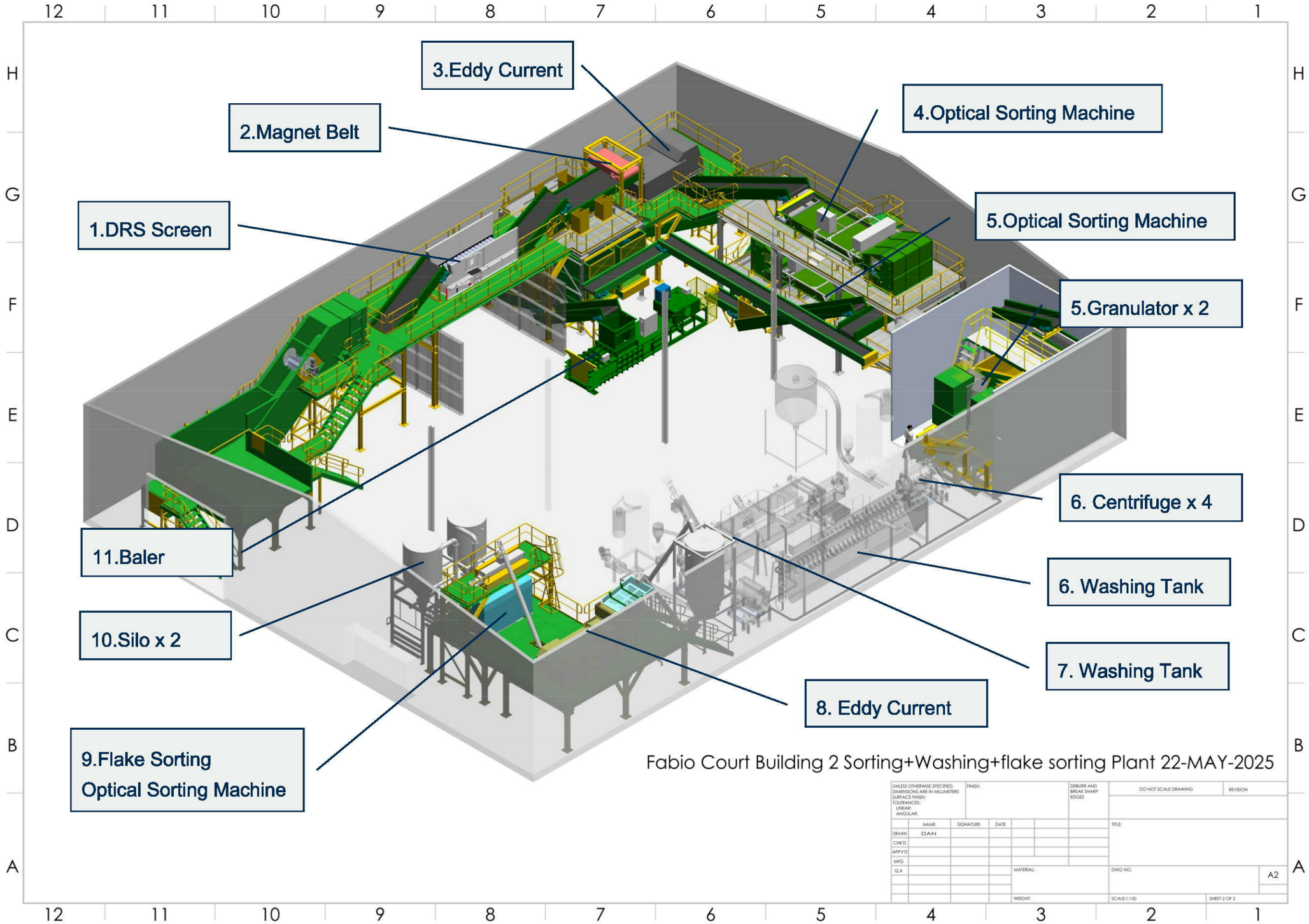

Figure 6: Indicative Building 2 Model Diagram (Source: JREdwards Land Surveyors, 2025)

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Figure 7: Indicative Building 3 Layout and Section (Source: JREdwards Land Surveyors, 2025)

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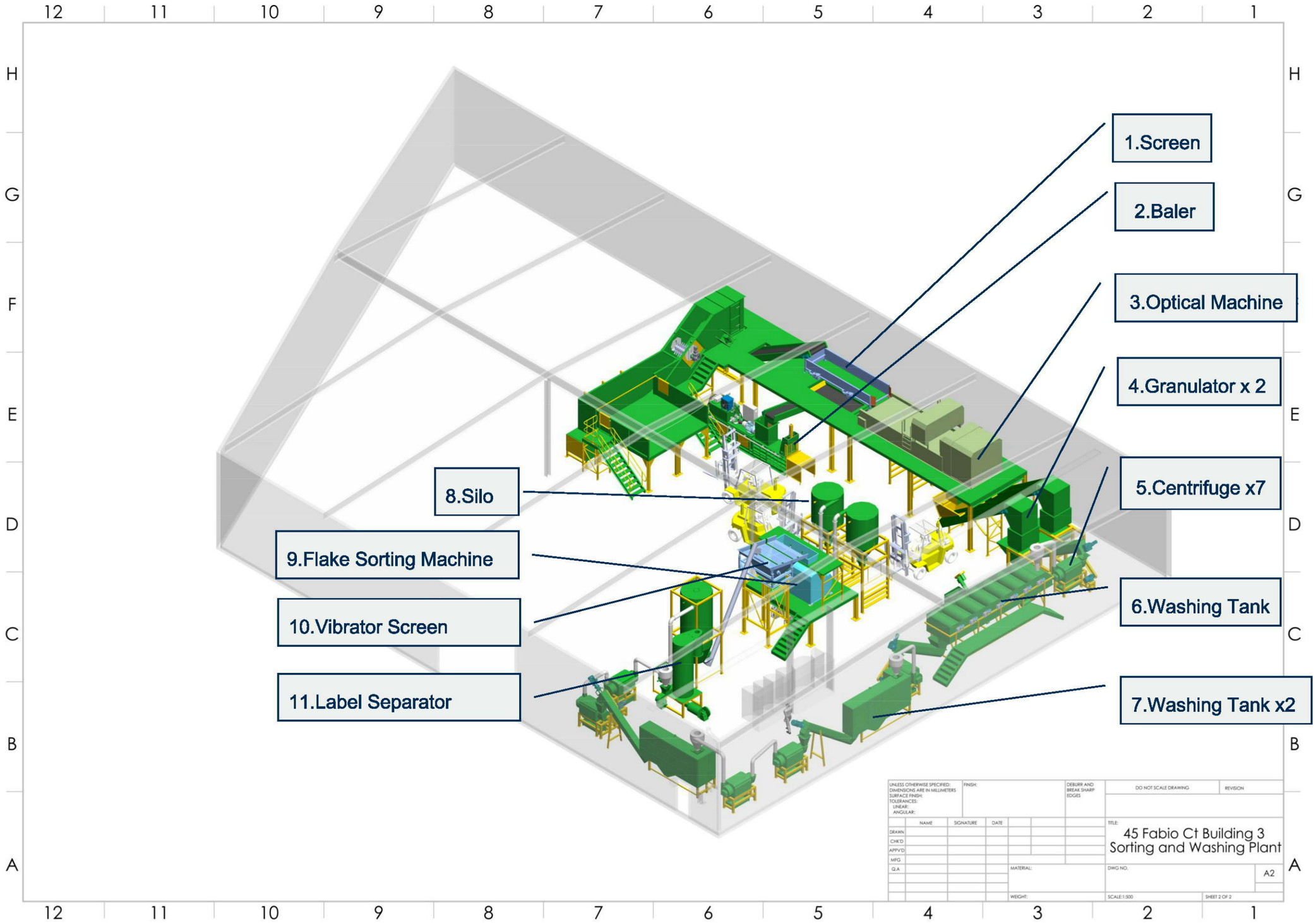

Figure 8: Indicative Building 3 Model Diagram (Source: JREdwards Land Surveyors, 2025)

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2.4.1 Stage 1 – Receival

Vehicles would enter and exit the site in a forward-facing direction from the main entrance from Fabio Court. Receival of incoming material would occur on the external yard and then be moved immediately into the relevant warehouse buildings for storage prior to processing. Input materials would be consolidated in a storage bay inside the building according to plastic type (separated PET, separated HDPE and separated PP).

The proposed facility will receive pre-separated materials as described above and therefore, the risk of receiving non-compliant or contaminated materials would be low. In the event that material received at the site is determined to be non-compliant or contaminated, it would be reject and returned the originating source.

The plant is proposed to process approximately 180 tonnes a day at maximum capacity and would in peak operating conditions receive up to 8 material deliveries per day on semi-trailers.

2.4.2 Stage 2 – Optical sorting

The proposed facility would incorporate an advanced optical sorting line as a means of further reducing any residual contaminants in incoming pre-sorted plastics. Optical sorting of separate plastic streams would remove minor elements of residual material such as paper, non-grade plastics and mixed plastics (contaminants).

Contaminants removed by the optical sorting process would be removed to a separate bin for residual material and removed offsite for disposal. It is expected that the residual component of total input material would be less than 1%.

2.4.3 Stage 3 – Processing of Plastics

Incoming plastic material would be processed separately, according to plastic type (PET, HDPE and PP). The plastics processing line will shred to flake product. Flaking adds value to plastics.

As depicted in Figure 4 to Figure 8, each of the three industrial buildings at the site will house a processing line for each of the distinct plastic types proposed to be reprocessed at the site, outlined as follows:

- Building 1 – PET sort, wash, flake
- Building 2 – PP sort, wash, flake
- Building 3 – HDPE sort, wash, flake

The following activities would occur as part of the main processing function:

- Pre-sorted recovered plastics received at the site will be consisting of PET, PP and HDPE plastic types;
- Optical sorting will remove further any contaminants from pre-sorted plastics;
- The decontaminated plastics are then loaded into a shredder with prewash using clean water to produce plastic flakes;
- Plastic flakes are then conveyed to a plastic wash plant to remove any residual contamination (namely sugars and other residual materials from drinking containers);
- Cleaned plastic flakes are dried in a drying hopper; and
- Clean and dry plastics flakes are sold as a raw plastic substitute or for further reprocessing into pellets offsite.

2.4.4 Stage 4 – Storage and Offtake

The final products will be stored in bulka bags at the site prior to offsite dispatch. Input materials and final products would be stored in the respective buildings by type as marked on to site plans (see Appendix D.

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Plastic flake products would be stored in separate bins according to plastic stream within the warehouse and packaged into bulka bags for offtake locally and overseas. In line with incoming material loads, approximately 5-6 outgoing loads of finished plastic flake would be transported from the site per day at maximum capacity.

Storage of all incoming materials would be in accordance with the provisions of the EPA VIC Publication 1667:3 *Management and Storage of Combustible Recyclable and Waste Materials – Guideline*.

2.4.4.1 Material Storage Requirements and Provisions

All incoming material to the site would be in bales, approximately dimensioned 800mm wide, 800mm high and 1200mm depth. Bales of plastic are assumed to be approximately 350kg. The majority of incoming baled material would be able to be stored in Building 3 in designated areas. Smaller temporary storage areas in Building 1 and 2 would be available for holding baled plastics immediately prior to being processed (see Figure 9). Temporary storage areas in building 1 and 2 would be capable of achieving separation distances set out in the *EPA VIC guidelines*[1], however the main storage area in Building 3 would require additional fire prevention and control measures, outlined as follows:

- Thermal detection cameras pointed at the storage area;
- Installation of a concrete bay structure to separate the stockpile area and the rest of the building;
- Installation of firefighting equipment in proximity to the proposed storage area; and
- Training and emergency procedures specific to the storage area in Building 3.

It is expected that the combination of the above measures would be sufficient to mitigate the risk associated with the proposed material stockpile area, as it relates to the provisions of the EPA VIC Guidelines.

2.4.4.2 Proposed Bale Storage Arrangement

All outgoing materials would be in the form of plastic flakes and would be removed from the site in bulka bags of approximate dimensions of 900mm wide, 900mm depth 1200mm height. Density for plastic flake is averaged at 400kg/m^3 for storage estimates. Bulka bags would be stored near the entrance to each building for ease of loading. Overflow capacity (if required) is available under the existing awning structure, adjacent to the western boundary of the site.

Material storage areas for each building are summarised below, including approximate dimensions and capacities outlined.

- Building 1 –
  - Plastic bale storage: 7.5m x 3.5m x 4 bales high = 96 bales or **~34 tonnes**
  - Finished product storage: 6m x 5m x 2 bulka bags stacked = 60 bulka bags or **~24 (flake)** tonnes
- Building 2 –
  - Plastic bale storage: 7.5m x 3.5m x 4 bales high = 96 bales or **~34 tonnes**
  - Finished product storage: 6m x 3.6m x 2 bulka bags stacked = 48 bulka bags or **~20 (flake)** tonnes
- Building 3 –
  - Plastic bale storage (holding) – irregular shape w/ 96m^2 area = approx. 328 bales or **~115 tonnes**

[1] EPA VIC Publication 1667:3 *Management and Storage of Combustible Recyclable and Waste Materials,* Figure 19, pg 60.

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- Plastic bale storage (for processing) – 8m x 5m x 4 bales high = 144 bales or **~50 tonnes**
- Finished product storage – 6m x 5m x 2 bulka bags stacked = 60 bulka bags or between **24 (flake)** tonnes

- Outdoor awning area
  - Finished product storage – 8m x 5m x 2 bulka bags stacked = 60 bulka bags or between **~28 (flake)** tonnes

It is noted that the proposed use intends to turnaround material processing quickly, therefore avoiding the need to store excessive amounts of material at the site. Once finished, bulka bags of flaked PET, HDPE and PP would only be accumulated to the extent that is required to fill an articulated vehicle (20-25 tonnes at any time per plastic type).

Overall, the maximum storage capacity at any-one-time is approximately **180** tonnes of input material (or approximately 395m^3 of bales according to assumptions defined in Section 2.4.4.1).

Figure 9 identifies the storage locations and approximate dimensions on proposed layout plans for the site incorporating separation distances and measures were applicable.

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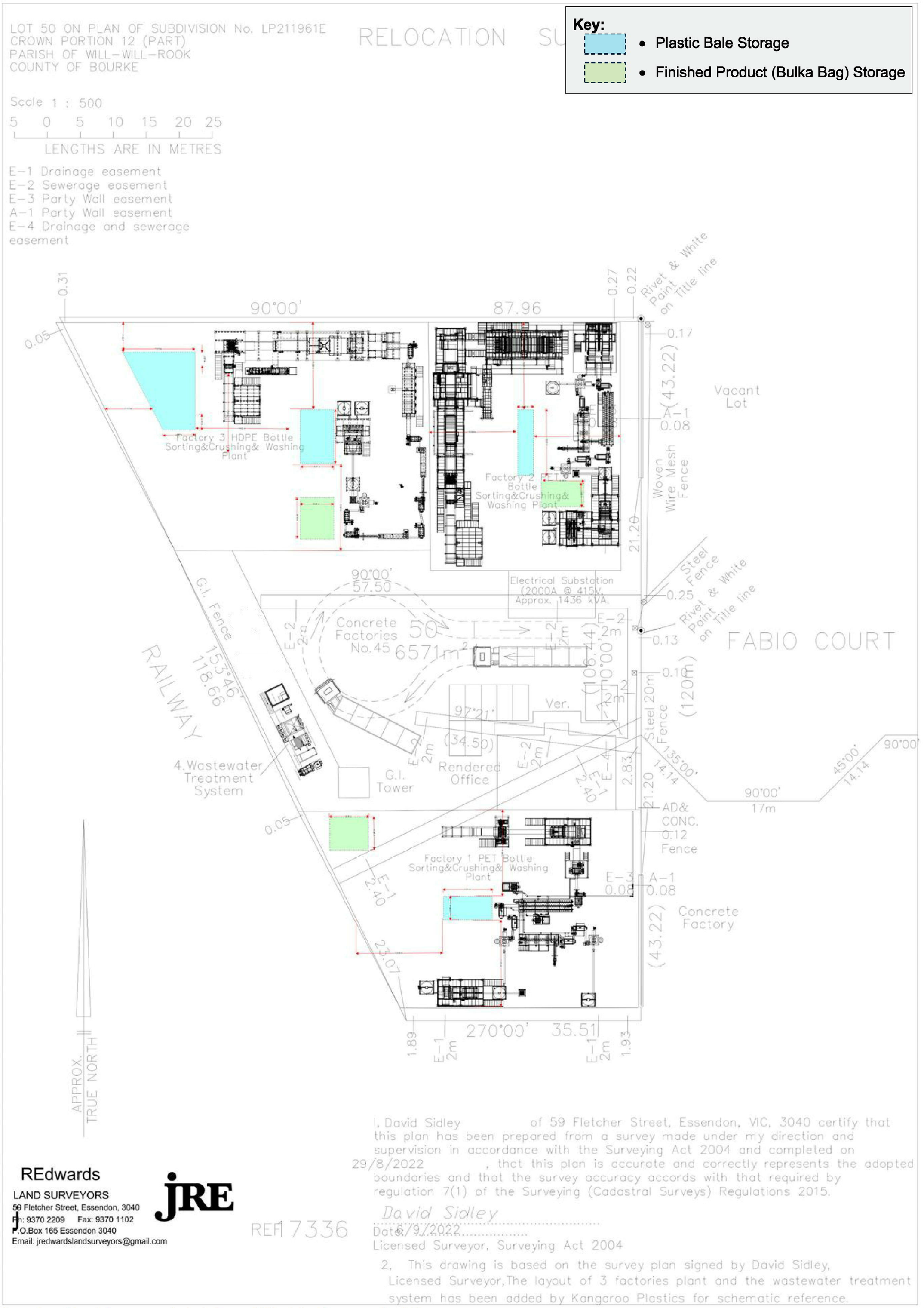

Figure 9: Proposed material stockpile arrangement for the site (Source: JREdwards Land Surveyors, markup MRA)

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2.4.5 Water treatment and recycling

The proposed plastics reprocess process requires incoming plastics to be washed for the removal of trace soluble contaminants. As such, the wash water would be processed through a wastewater treatment process to remove contaminants for discharge to sewer to an acceptable trade wastewater standard.

Figure 10 depicts the proposed wastewater treatment process

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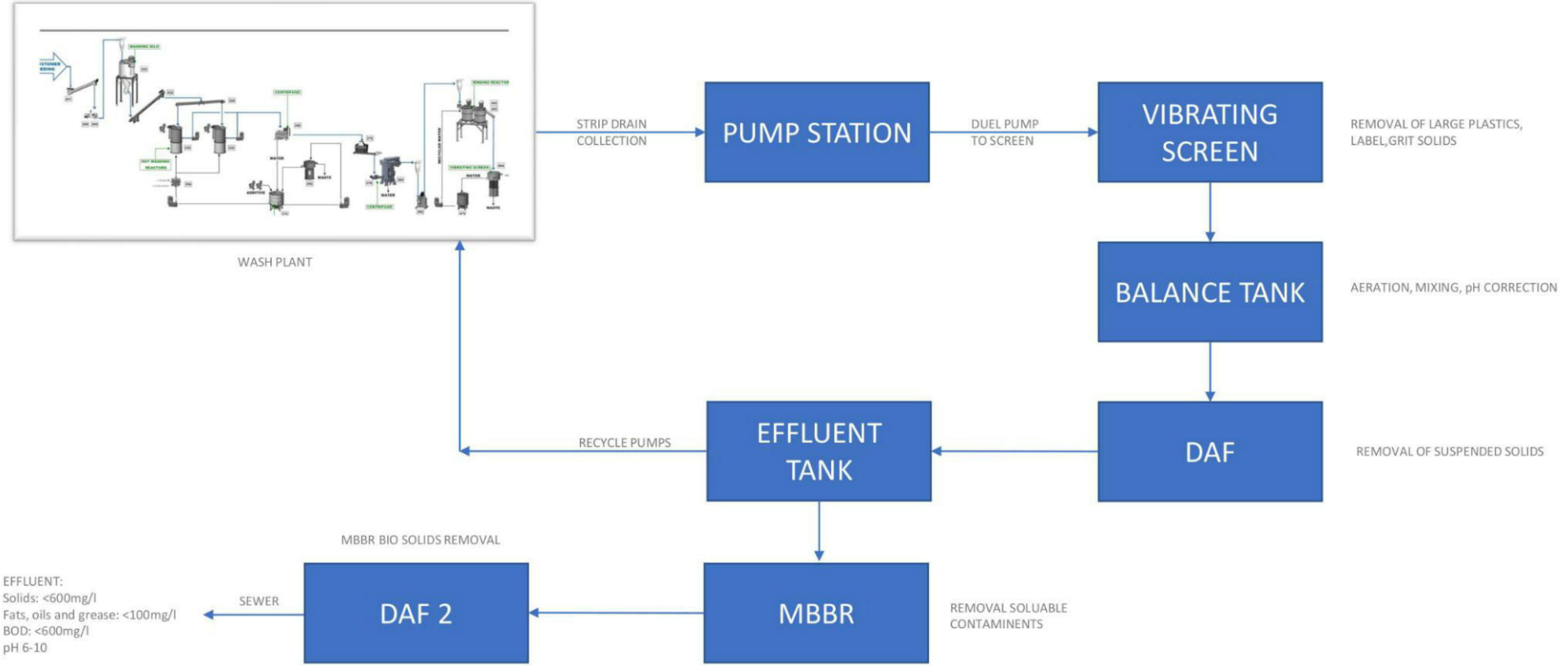

Figure 10: Proposed water treatment process flow diagram

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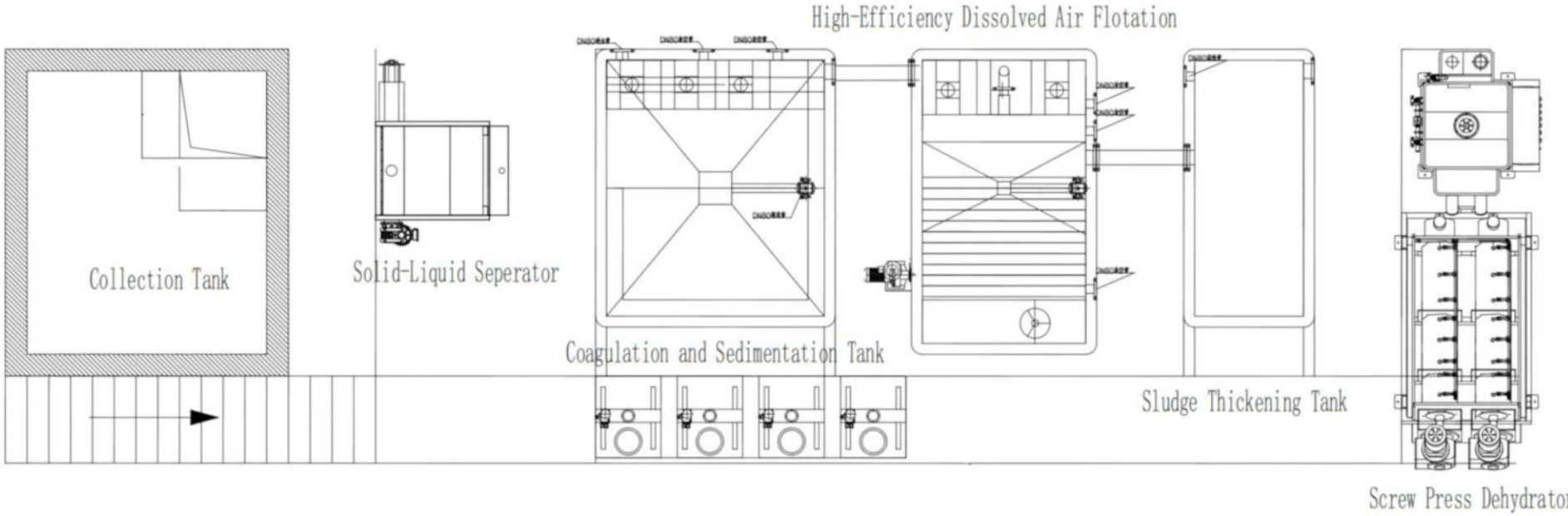

Figure 11: Proposed water treatment plant design (*Source: JREdwards Land Surveyors, 2025*)

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2.5 Amenities

The existing office has a number of amenity uses that would be utilised by proposed facility staff, including:

- Kitchen;
- Staff room; and
- Restrooms.

It is expected that existing amenities available at the site would be sufficient for the proposed development and would not require alteration.

2.6 Utility Services

A Before You Dig Australia (BYDA) search was conducted on the 19th of June 2025, the results of which are outlined in Table 1 below. The proposed development would not require major construction works that would disturb the ground and therefore, the likelihood of underground assets being disturbed by the proposed development is minimal.

The wastewater treatment plant discussed in Section 2.4.5 would require a water and sewer connection into existing networks which may result in some minor ground disturbance.

Table 1: Relevant Essential Services

Utility	Comment
EDL Energy	An underground EDL Energy landfill gas pipeline route runs along the western edge of the site. No excavation works are planned therefore no impacts expected.
Jemena Electricity	High voltage cable and conduit connect to a distribution substation located inside the site. No excavation works are planned and the substation would not be altered or impacted as part of the proposed use, therefore no impacts are expected.
AusNet Gas Services	There are no AusNet gas underground assets present within the vicinity of the site.
NBN Co VicTas	Underground NBN assets lead in from the street from a service pit located. No excavation works are planned therefore no impacts expected.
Telstra VicTas	Underground Telstra assets lead in from the street from a service pit located. No excavation works are planned therefore no impacts expected.
Yarra Valley Water	Existing water reticulation and sewer lines intersect with the site near the front entrance at the eastern boundary of the site. Minor works are planned to connect wastewater treatment system to sewer, therefore minimum localised impact is anticipated. No excavation is proposed.
Metro Trains / Vic Track	A Metro Trains / Vic Track Rail Reserve is situated directly behind the site, along the western boundary. No underground assets are indicated on plans and no excavation works are planned, therefore no impacts are expected

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Hume City Council	Several council drainage and stormwater easements run through the site. No excavation works are planned therefore no impacts expected.

2.7 Vehicle Access and Parking

Vehicle access is provided to the site via Fabio Court which connects to Sydney Road to the East. The site is located approximately 15km North of the Melbourne central business district (CBD). Public transport is available in the form of bus routes servicing the Campbellfield area, with stops within approximately 1km walking distance of the site. The Upfield train station is located approximately 1.2km North-West of the site.

The hardstand area supports 10 existing carparking spaces near the front entrance to the site, adjacent to the existing office building and main hardstand area (see Figure 3). The proposed facility will require limited functional staff for operation as outlined in Section 1.5. Therefore, the parking demand for the proposed use would be a maximum of approximately eight (8) spaces at any-one-time which are unlikely to be utilised in full except at peak site attendance (between plant personnel shifts, during the day when the site is also attended by administration staff). Further details regarding the proposed parking layout and access to the site are shown in Appendix D.

This planning permit application is also supported by a traffic and parking impact assessment prepared by EB Traffic Solutions, included as Appendix G and summarised in Section 6.3.

2.8 Site Security

The site has a lockable gate at the entrance, which would be locked when the site is not attended by operational personnel. Security cameras are installed throughout the site, in offices and warehouses, with cameras also facing the driveway to monitor incoming and outgoing traffic. Flood lights (angled downwards) are also installed at the front of each of the main buildings, including the office building.

2.9 Plant Operation and Maintenance

Kangaroo Plastics personnel will be trained in the use of facility systems and will be responsible for the operation and maintenance of all plant used at the facility. Staff training would be implemented for safe equipment operation, WHS procedures and pollution incident response management.

Kangaroo Plastics will implement an Operational Site Environmental Management Plan (OEMP) to document operational procedures and compliance prior to commencement of operations as proposed.

2.10 Records

Material throughput will be recorded by volume and type of truck by plastic type, which may be converted to weight using standard values. Pallet scales could be used to measure outputs if required.

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3 Planning and Legislative Framework

3.1 Planning and Environment Act

Planning policies are directed at land use and development, as circumscribed by the *Planning and Environment Act 1987*, a primary objective of which is to provide for the fair, orderly, economic and sustainable use and development of land.

The main functions of the Act are to:

- Set the broad objectives for planning in Victoria.
- Set the main rules and principles for how the Victorian planning system works.
- Set up the key planning procedures and legal instruments in the Victorian planning system.
- Define the roles and responsibilities of the Minister, councils, government departments, the community and other stakeholders in the planning system.

The Act is therefore an enabling act, and more detailed matters are dealt with in the Planning Schemes and Regulations.

3.2 Hume Planning Scheme

The *Hume Planning Scheme* (the Planning Scheme) outlines the provisions under which this planning permit is assessed. The consent authority is the Hume City Council. The Planning Scheme establishes how the land is zoned, the overlays affecting the land, and the ordinance, which sets out the written requirements of the scheme, including local policies and the types of use or development that require a permit.

The following zones, overlays and provisions derived from the Planning Scheme apply to this site in relation to the proposed use and development:

- Clause 19.03-5S Waste and Resource Recovery
- Clause 33.01 Industrial 1 Zone
- Clause 42.01 Environmental Significance Overlay
- Clause 52.05 Signs
- Clause 52.06 Car Parking
- Clause 53.10 Uses with Adverse Amenity Potential
- Clause 53.14 Resource Recovery

These provisions are addressed within this application, demonstrating compliance with the relevant requirements of the Planning Scheme.

3.3 Environmental Protection Act 2017

The *Environment Protection Act 2017* (the Act) was significantly amended by the *Environment Protection Amendment Act 2018* and other Acts, and came into effect on 1 July 2021.

It includes environmental obligations and protections for all Victorians and changes Victoria's focus for environment protection and human health to a prevention-based approach. It includes the general environmental duty (GED).

The Act gives the Environmental Protection Authority Victoria (EPA) powers and tools to prevent and minimise the risks of harm to human health and the environment from pollution and waste. It also provides EPA with the ability to pursue sanctions and penalties.

The main purposes of the Act include:

- providing for the EPA and its governance structure

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- specifying that EPA's objective is to protect human health and the environment by reducing the harmful effects of pollution and waste
- setting out 11 principles of environment protection
- setting out the legislative framework for the protection of human health and the environment from pollution and waste
- providing for a GED to minimise risks of harm to human health and the environment from pollution or waste
- establishing a permissions scheme that enables EPA to issue or grant development licences, operating licences, pilot project licences, permits (including in relation to tunnel boring machine spoil) and registrations
- providing a framework for the management of waste
- enabling EPA and authorised officers to ensure compliance with the Act and require action to manage risks of harm to human health and the environment from pollution or waste
- providing for a system of criminal and civil penalties
- providing for a system of civil remedies and compensation orders available to the Court.

Under the Act, EPA can create subordinate legislation, such as waste management polices (WMPs), State environment protection policies (SEPPs) and Regulations. Subordinate legislation is used to implement the provisions outlined in the primary legislation (or Act) and its powers cannot exceed those provided in the primary Act.

A primary guideline under the EP Act includes the EPA VIC Publication 1667:3 *Management and Storage of Combustible Recyclable and Waste Materials – Guideline*, which would be relevant to the proposed use. This guidance is assessed in Section 6.6 as it relates to fire risk and safety for the proposed use.

3.4 Environment Protection Regulation 2021

The *Environment Protection Regulation 2021* specifies licensing and registration requirements for waste resource recovery activities, including plastics reprocess. The proposed facility at 45 Fabio Courtt, Campbellfield, involves acceptance and reprocessing of up to 48,000 tonnes of separated plastics annually. As the processing volume falls below 4,000 tonnes per month, the facility would only require EPA Registration. Should the facility scale operations beyond this threshold in the future, a Development Licence would be sought to ensure compliance with regulatory requirements.

Maximum storage at anyone time at the site would be approximately 180 tonnes of input material.

3.5 Statewide Waste and Resource Recovery Infrastructure Plan 2018

The *Statewide Resource Recovery Infrastructure Plan* (SWRRIP) aims to increase resource recovery and reduce the amount of waste being sent to landfill each year by developing an integrated system that will continue to inform infrastructure needs and provide essential waste management services to the Victorian community.

Strategic Direction 1 – Prioritise viable recovery, identifies plastics as a priority material for recovery. The facility at Campbellfield would assist in providing secondary reprocessing capacity for the State's recycled plastics.

3.6 Recycling Victoria - A new economy 2020

Recycling Victoria is the Victorian Government's 10-year policy and action plan for waste and recycling. It outlines four goals to guide the transition to a circular economy throughout the life cycle of materials (make, use, recycle and manage). Each goal is designed to maximise value and minimise waste. The goals are:

- Goal 1 – Design to last, repair and recycle.

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- Goal 2 – Use products to create more value.
- Goal 3 – Recycle more resources
- Goal 4 – Reduce harm from waste and pollution.

Of particular relevance are goals 2, 3 and 4.

The targets established by the Victorian Government for Goal 3 include:

- Divert 80% of waste from landfill by 2030, with an interim target of 72% by 2025.

This plastics reprocess facility will assist in reaching this target by increasing the availability of secondary markets for recycled plastics, therefore incentivising further diversion of plastics from landfill.

The proposed development would directly translate into higher value plastic outputs for sale as raw material substitute which would then be manufactured into plastic products, therefore aligning with Goal 2.

To achieve Goal 4, the risks to human health and the environment will be effectively managed by the methods and commitments outlined in this report.

3.7 Regional Waste and Resource Recovery Implementation Plans

As of 1 July 2022, Recycling Victoria replaced the Regional Waste and Resource Recovery Groups, which have been responsible for the Regional Waste and Resource Recovery Implementation Plans.

The *Metropolitan Waste and Resource Recovery Implementation Plan*, 2016 is the most recent Plan for the region.

It indicates that future needs for plastics reprocessing in the metropolitan region by 2026 is projected to be approximately 178,000 tonnes per annum. As at the time of publishing, only 20,000 tonnes of plastics reprocessing capacity was available in the metro region, which is estimated to have increased to about half the projected need in 2025. As such, the demand for additional plastics reprocessing capacity is still required in the metropolitan region.

The proposed facility would assist in meeting the need for more processing capacity in the area. Furthermore, the increase in availability of secondary markets for recycled plastics could be reasonably expected to contribute to further strides in primary recovery in response.

3.8 Guide to Better Practice at Resource Recovery Centres

The Sustainability Victoria (2019) *Guide to Better Practice at Resource Recovery Centres* (the '*SV Guide*') applies to the proposed development, in accordance with Clause 53.14 *Resource Recovery* of the Hume Planning Scheme.
The proposed facility will support the circular economy by diverting plastics from landfill and creating a reliable feedstock for recycled-content manufacturing. The development would align with the SV Guide which sets out expectations for safe, efficient, and environmentally responsible resource recovery operations.

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4 Site Analysis

Site analysis for the proposed facility consists of the site plan (see Appendix D) supported by written information provided in Sections 4.1 - 4.3 below, which provide a general description of the site, its surrounds and the broader context of the region.

4.1 Site Location

The site of the proposed facility is located at 45 Fabio Court, Campbellfield, within the City of Hume Local Government Area (LGA), approximately 15km north of Melbourne CBD (see Figure 12). It is situated adjacent the Upfield commuter railway line and is accessible via the Hume Highway/Sydney Road. The property is legally defined as Lot 50 - LP 211961 and is located within an Industrial 1 Zone (IN1Z).

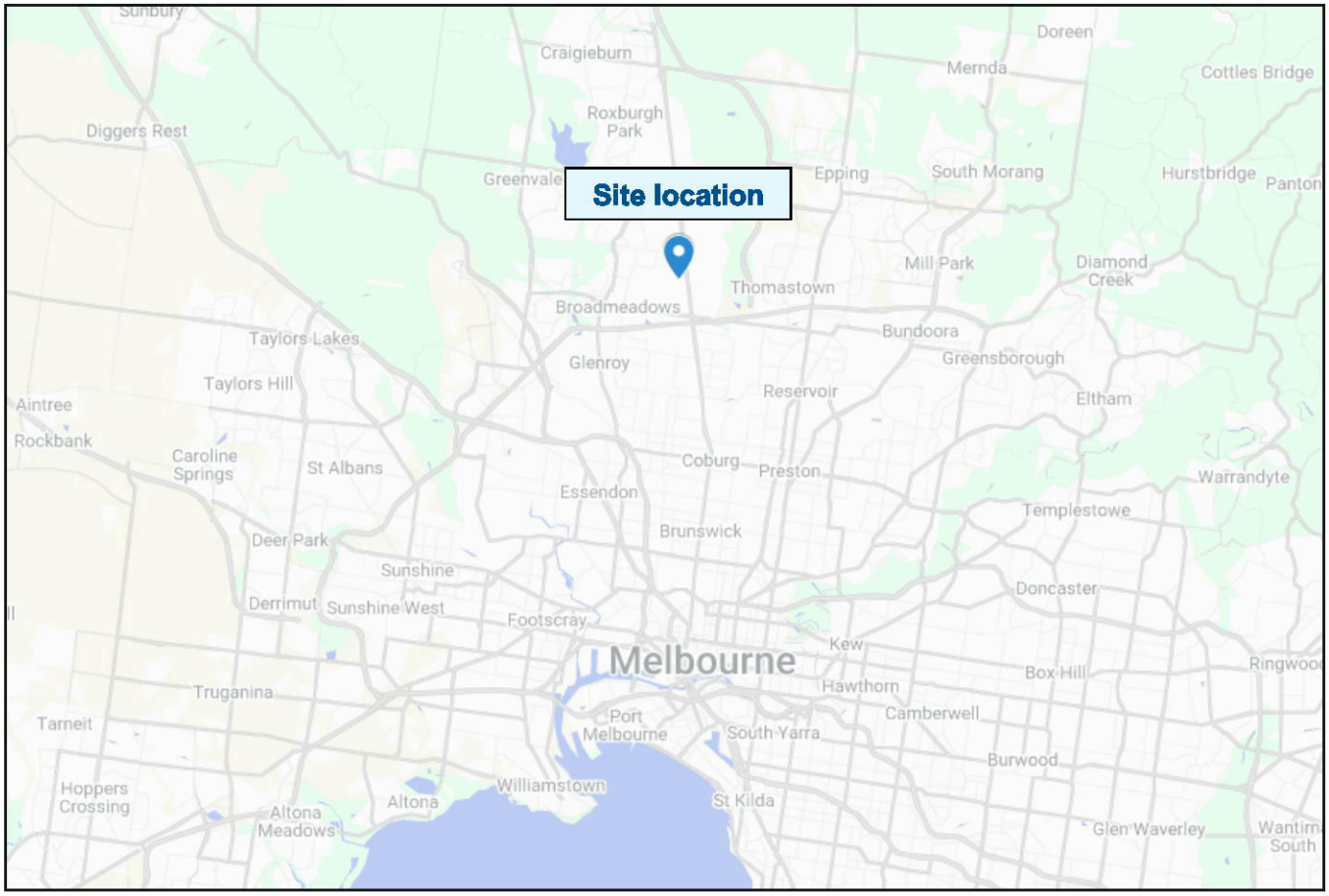

Figure 12: Location of the site with respect to the city of Melbourne (*Source: Google Maps, 2025*).

4.2 Site Description

The site covers an area of approximately 6,570m² and includes three (3) existing warehouses and an office building totalling to an area of approximately 4,350m² (see Figure 13). Site surveys and elevations are included in Appendix C.

The property is located in an industrial area, surrounded by similar industrial uses. Neighbouring businesses include Auscon (fencing and building materials supplier), JMR Trucks (used truck dealer) and various new warehouses constructed in 2023. The surrounding area is characterised by industrial operations, providing a like environment for commercial and industrial activities.

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Figure 13: Site area (*Source: Nearmap, 2025*).

The office building and warehouse buildings are depicted in photographs shown in Figure 14 and Figure 15.



Figure 14: Office building, with Factory 1 behind (facing South)

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Figure 15: Factory 2 - facing north-west (left) and Factory 3 - facing north-west (right)

4.2.1 Site access

The site is located at the western end of Fabio Court, a local road with a cul-de-sac, and is accessible via Sydney Road to the east. Sydney Road is an arterial road, linking up with the Hume Freeway to the north, and Western Ring Road to the south (see Figure 16). The site can only be accessed from Fabio Court through an approximately 6.5m wide gated entrance using the existing driveway (see Figure 17).

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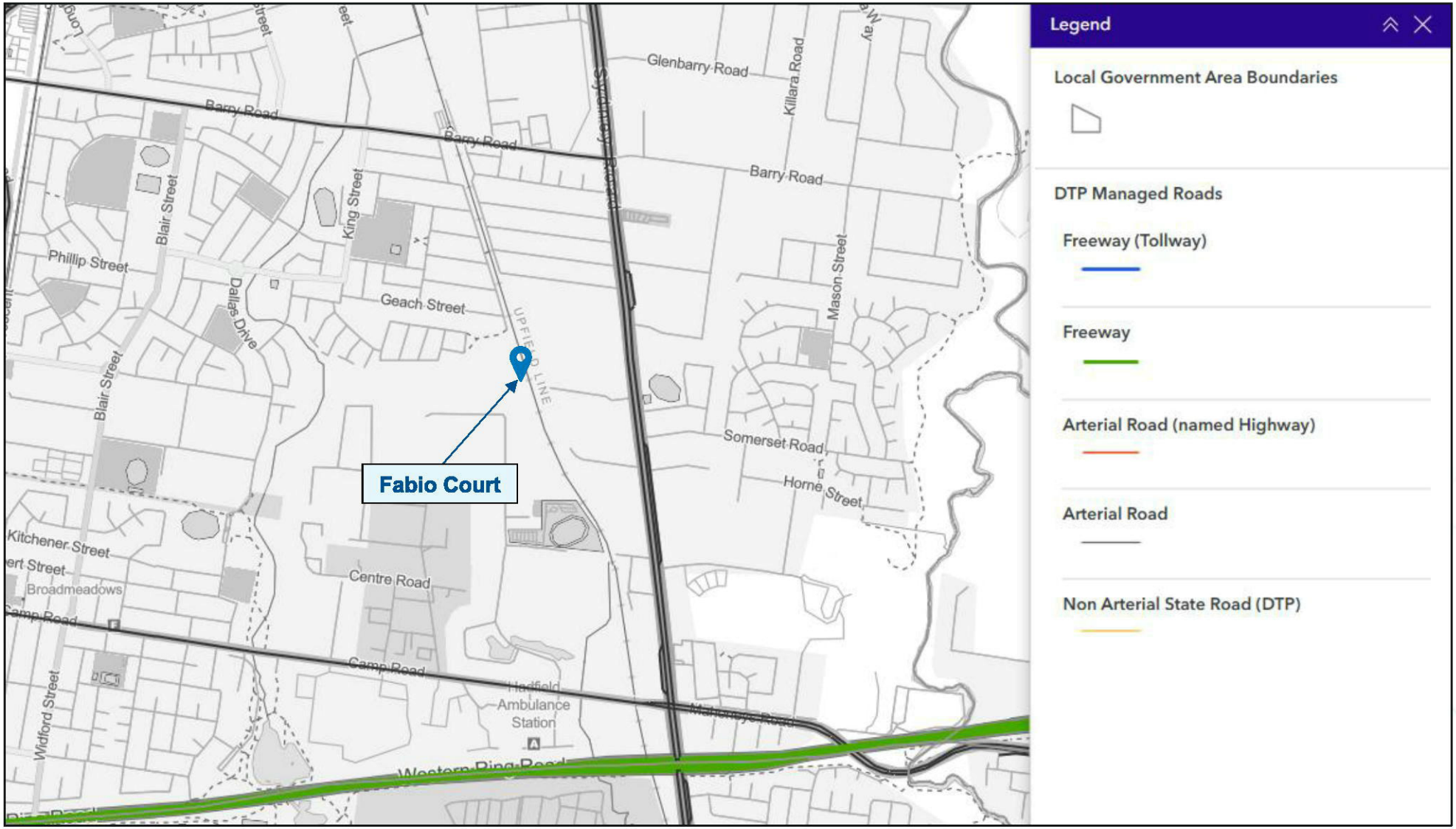

Figure 16: Surrounding roadway network (*Source: Map of DTP Managed Roads*)

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Figure 17: Site access (*Source: Streetview, Google maps*).

4.2.2 Topography of the site

The site is irregular in shape and is relatively flat. The site is generally developed with either buildings or hardstand. The front of the site maintains some grass at the verge (see Figure 17 above). There are no established trees onsite. An area of Grey Box Woodland is located across the railway track to the north-west of the site. A topographic map of the area is provided in Figure 18.

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Figure 18: Topographic map (1m contour intervals) (*Source: VicPlan*)

4.2.3 Landscaping

The site maintains an existing landscaped garden bed just inside the site boundary. Exotic grasses dominate the verge of the site. Existing landscaped area would be regularly monitored and maintained (see Figure 19).



Figure 19: Existing landscaping at the front setback from Fabio Court (left) and existing landscaping at the front of the office (right)

No changes are proposed to the existing landscaping areas.

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4.2.4 Utility services

A detailed assessment of the utility services at the site, located at the intersection of the site boundary and Fabio Court, identified key infrastructure. Electricity services are managed by Jemena Energy. The site is connected by an onsite distribution substation to a high-voltage (HV) cable and conduit. Utility poles with HV and Low-voltage (LV) lines run along the length of Fabio Court, acting as a vital part of the electricity connection for the site and surrounding properties. Further investigation identified additional utility services supporting the site. Gas services, managed by the AusNet Gas Services, confirmed that no gas assets are located in the immediate vicinity. Water and sewer services are provided by Yarra Valley Water. Telecommunications infrastructure is supported by NBN Co VicTas, with Telstra VICTAS. These utilities collectively ensure the site's connectivity and operational potential.

No utilities would be affected by the proposed development.

A BYDA search and subsequent results are summarised in Section 2.6.

4.3 Surrounding Area

The locality is characterised by similar industrial development of comparable scale – generally consisting of warehouse complexes and small industrial units. Other similar uses in the area include Auscon (fencing and building materials supplier), JMR Trucks (used truck dealer) and three new warehouse buildings constructed in 2023. The proposed development aligns with the neighbouring uses and operations, maintaining the industrial character of the area.

4.3.1 North

The site is bounded to the north by a large lot owned and operated by Nestlé Australia for the manufacturing of its confectionary products. (See Figure 20).



Figure 20: Confectionary manufacturer - neighbouring use to the north of subject site (view from Sydney Road) (*Source: Streetview, Google maps*)

4.3.2 East

Adjoining lots to the east of the site include three new warehouse and office premises on the northeastern boundary (See Figure 21), and a fencing and building supplies warehouse on the southeastern boundary (See Figure 22).

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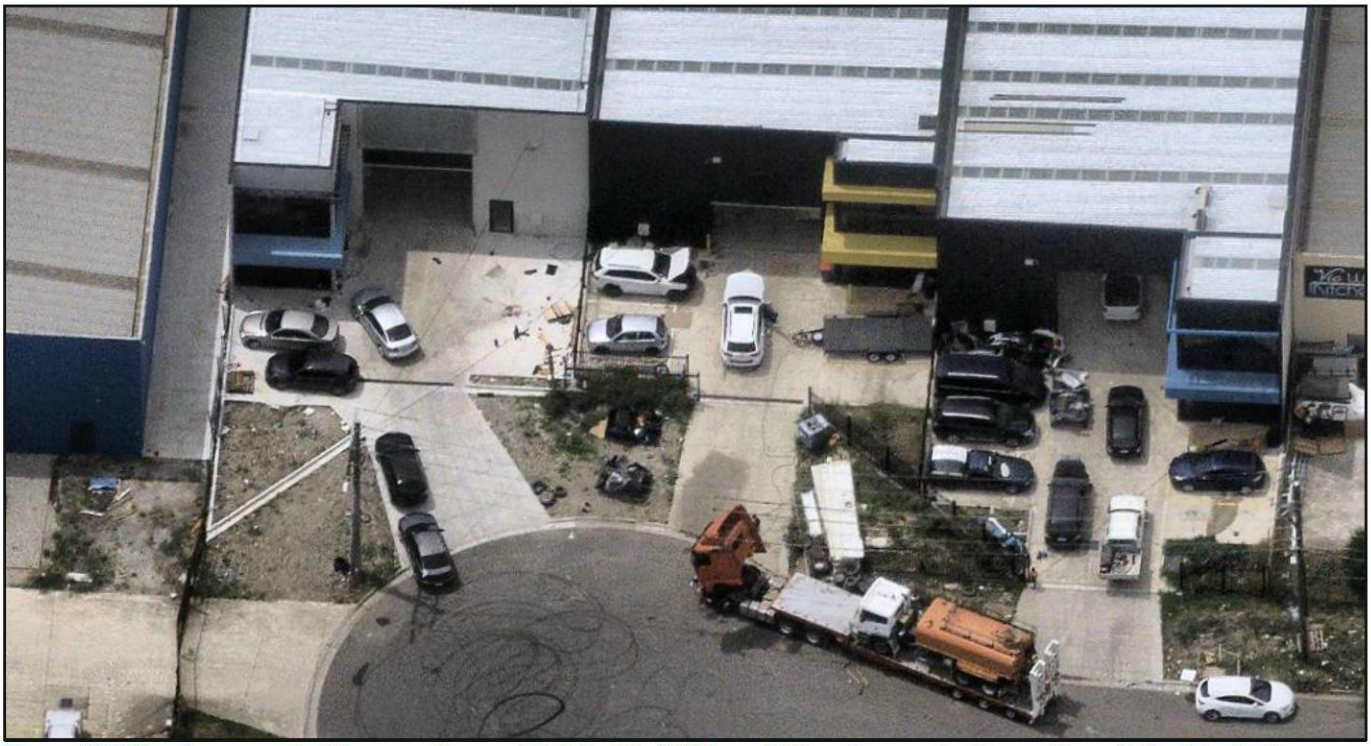

Figure 21: Warehouse and office premises established in 2023 - neighbouring use to the northeast of subject site (viewed from Fabio Court) (*Source: Nearmap, 2025*)



Figure 22: Fencing and building supplies - neighbouring use to the southeast of subject site (viewed from Fabio Court) (*Source: Streetview, Google maps*)

4.3.3 South

To the south of the site is a large warehouse facility leased by Scania Australia for use as a distribution centre for spare commercial vehicle parts (see Figure 23).

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Figure 23: Scania Distribution Centre (rear of image) - neighbouring use to the south of subject site (viewed from Decco Drive) (*Source: Source: Streetview, Google maps*)

4.3.4 West

On the western side of the subject site lies the Upfield commuter railway line, with commercial and residential uses further west. Additionally, the western side of the railway line lies the Maygar Greybox Woodland Reserve (see Figure 24).

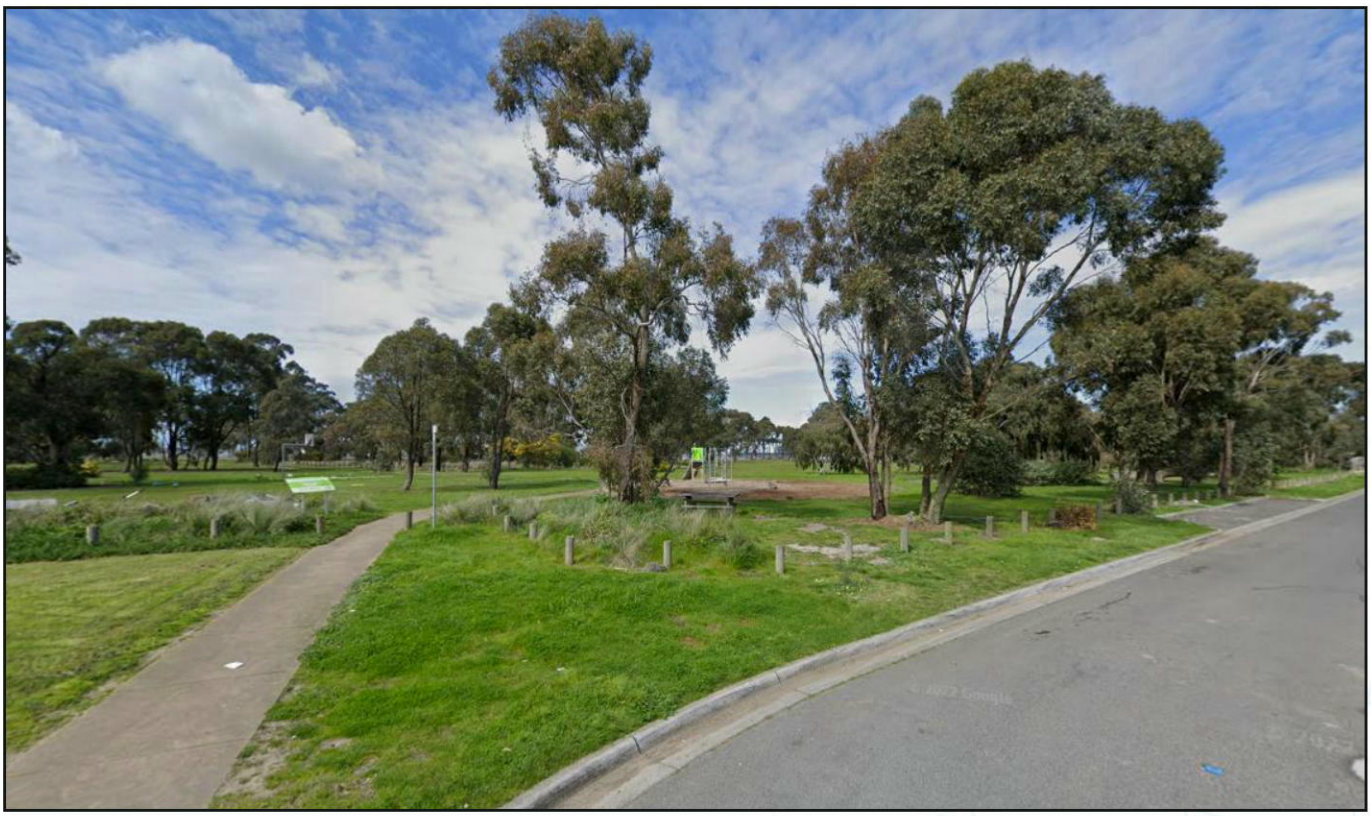

Figure 24: Maygar Greybox Woodland Reserve looking towards the subject site (viewed from Columbia Cct) (*Source: Streetview, Google maps*)

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4.3.5 Sensitive receivers

The nearest sensitive receivers include single dwellings located approximately 230m from the site, with the closest being a single-unit dwelling on Garner Parade (See Figure 25) to the north-west of the site. The view of these receivers is highlighted in pictures taken near the back fence of residential properties, looking toward the direction of the site (see Figure 26).

The area between the site and the residential zone primarily consists of industrial zone, and a Transport Zone 1 (TRZ1).

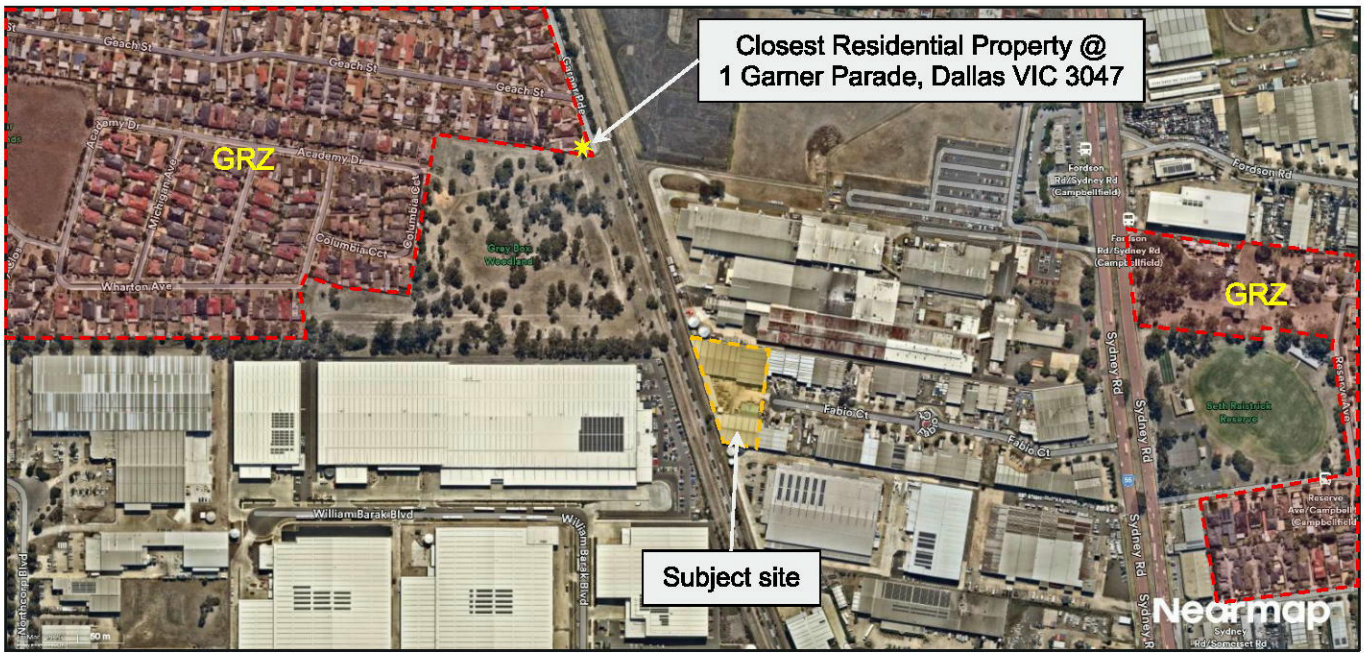

Figure 25: Sensitive Land Users (*Nearmap, 2025*)



Figure 26: View of the site from 1 Garner Parade, Dallas (***Source: Streetview, Google maps***)

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5 Hume Planning Scheme

5.1 Zoning

The site is zoned IN1Z, Industrial 1 Zone, which is regulated under Clause 33.01 of the *Hume Planning Scheme*.

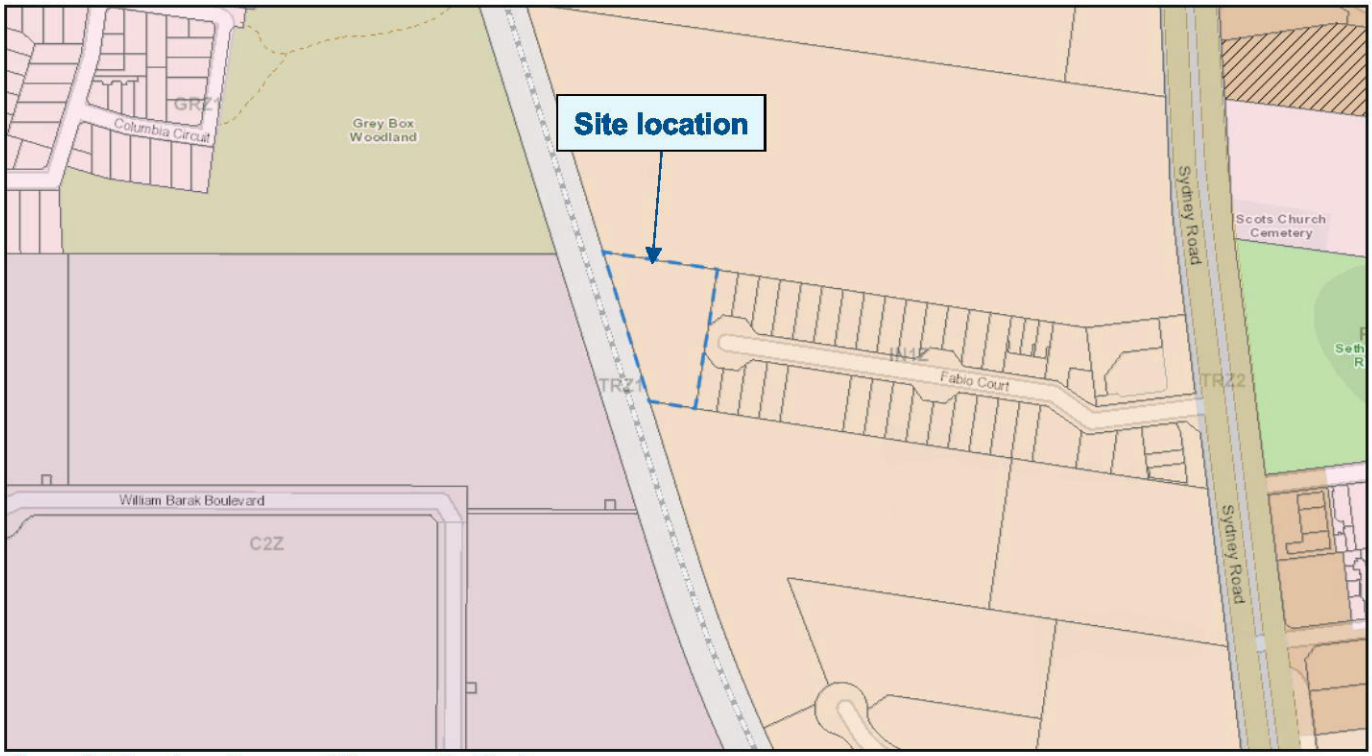

Figure 27: Land zoning map (*Source: VicPlan*)

5.1.1 Purpose

Under the Planning Scheme, the purpose of the IN1Z is:

> *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
>
> *To provide for manufacturing industry, the storage and distribution of goods and associated uses in a manner which does not affect the safety and amenity of local communities.*

The site at 45 Fabio Court, Campbellfield, is strategically positioned to align with the purpose of the IN1Z. To the north, east and south, a cluster of large and small lots are zoned IN1Z, utilised by various industrial purposes. To the west, a Transport Zone 1 (TRZ1) acts as a buffer between the industrial area and the General Residential Zone 1 (GRZ1) to the northwest, where a nature reserve and residential properties are located. Additionally, the TRZ1 corridor also provides a buffer with the Commercial 2 Zone (C2Z) to the southeast, which is comprised of various warehousing, storage and distribution facilities.

This zoning configuration minimises potential impacts of industrial operations on nearby homes and sensitive receivers. The proposed plastics processing facility aligns with the IN1Z purpose by facilitating industrial activities in a manner that does not affect the safety and amenity of local communities, through appropriate separations and buffers from residential and recreational areas, and is considered an appropriate use for the zone.

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5.1.2 Table of Uses

The proposed use is considered 'materials recycling'. Clause 73.03 of the Planning Scheme defines 'materials recycling' as:

> *Land used to dismantle, treat, process, store, recycle, or sell refuse, used or surplus materials.*

'Materials recycling' is listed in clause 33.01-1 – Table of uses, under *Section 2 - Permit required*, subject to achieving the following condition:

> *The land must be at least 30 metres from land (not a road) which is in an Activity Centre Zone, Capital City Zone, Commercial 1 Zone, Docklands Zone, residential zone or Rural Living Zone or land used for a hospital, an education centre or a corrective institution or land in a Public Acquisition Overlay to be acquired for a hospital, an education centre or a corrective institution.*

The location of the proposed facility maintains an adequate buffer of approximately 35m from the nearest residential zone (see Figure 28), satisfying the 30-metre separation requirement specified. Furthermore, the GRZ1 zone located to the north-west is generally undeveloped Grey Box Woodland, with the closest existing residential property being 230m from the site.

The use is therefore permissible within the IN1Z, subject to a planning permit being granted.

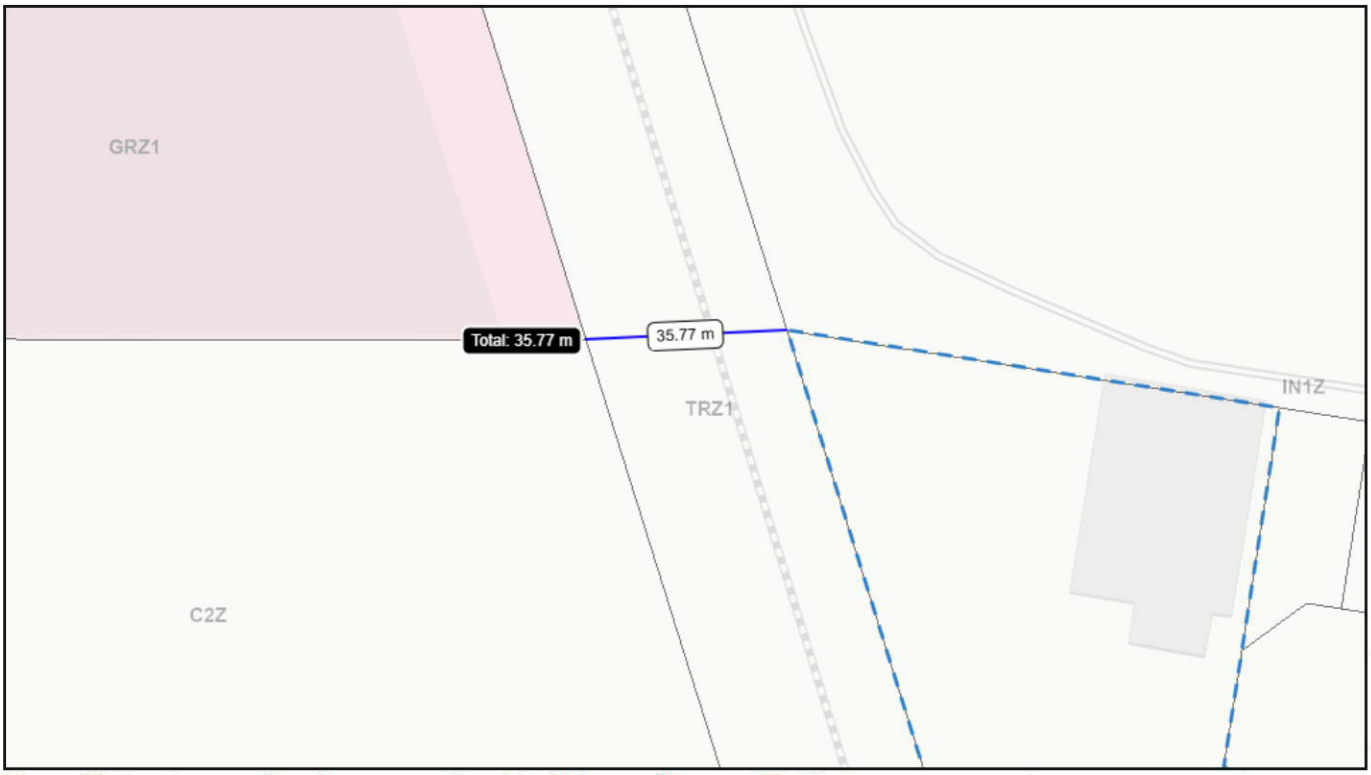

Figure 28: Land separation from nearest residential zone (*Source: VicPlan*)

5.1.3 Use of Land

Application Requirements

Clause 33.01-2 of the Planning Scheme specifies the requirements for applications to use land for an industry or warehouse. These requirements are addressed in

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Table 2 below.

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Table 2: Use of land application requirements – Hume Planning Scheme

Application Requirements	Reference
The purpose of the use and the types of processes to be utilised.	See Section 2
The type and quantity of goods to be stored, processed or produced.	See Section 2
How land not required for immediate use is to be maintained.	N/A
Whether a Development Licence, Operating Licence, Permit or Registration is required from the Environment Protection Authority.	See section 3.4
Whether a notification under the Occupational Health and Safety Regulations 2017 is required, a licence under the *Dangerous Goods Act 1985* is required, or a fire protection quantity under the Dangerous Goods (Storage and Handling) Regulations 2022 is exceeded.	The proposed development would not involve the storage of excessive amounts of dangerous materials and therefore: • notification under OHSR 2017 not required according to Schedule 14. • Licence under the DG Act 1985 not required. • Fire protection quantity is not exceeded under the Dangerous Goods (Storage and Handling) Regulations 2022.
The likely effects, if any, on the neighbourhood, including:	
• Noise levels.	Section 6.2
• Air-borne emissions.	Section 6.1
• Emissions to land or water.	Section 6.4
• Traffic, including the hours of delivery and despatch.	Section 2.3 and 6.3
• Light spill or glare.	Section 6.9

5.1.4 Building and Works

Application Requirements
Clause 33.01-4 of the planning scheme specifies the requirements for applications to construct a building or construct or carry out works. These requirements are addressed in

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Table 3 below.

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Table 3: Building and works application requirements - Hume Planning Scheme

Application Requirements	Reference
A plan drawn to scale which shows: • The boundaries and dimensions of the site. • Adjoining roads. • Relevant ground levels. • The layout of existing and proposed buildings and works. • Driveways and vehicle parking and loading areas. • Proposed landscape areas. • External storage and waste treatment areas.	See Appendix D
Elevation drawings to scale which show the colour and materials of all buildings and works.	Buildings are existing with no proposed changes to colour or materiality.
Construction details of all drainage works, driveways and vehicle parking and loading areas.	There are no proposed works to drainage, driveways, vehicle parking or loading areas. The wastewater treatment plant would require connection to water and sewer.
A landscape layout which includes the description of vegetation to be planted, the surfaces to be constructed, a site works specification and the method of preparing, draining, watering and maintaining the landscape area.	There are no proposed building works to be undertaken and therefore, the existing landscaped area would remain unchanged from the existing site condition.

Exempt from Notice and Review

Clause 33.01-4 of the Planning Scheme also specifies applications that are exempt from notice and review requirements:

> *An application is exempt from the notice requirements of section 52(1)(a), (b) and (d), the decision requirements of section 64(1), (2) and (3) and the review rights of section 82(1) of the Act. This exemption does not apply to an application for a building or works within 30 metres of land (not a road) which is in a residential zone or land used for a hospital or an education centre or land in a Public Acquisition Overlay to be acquired for a hospital or an education centre.*

As addressed in Section 5.1.2, the location of the proposed facility maintains an adequate buffer of approximately 35m from the nearest residential zone, satisfying the 30-metre separation requirement specified. The proposal is therefore exempt from notice and review under the Planning Scheme.

5.2 Overlays

The site of the proposed facility does not have any overlays applicable to the property under the Planning Scheme.

5.3 Nearby Overlays

The following overlays are present in the vicinity of the site but are not directly impacted by the proposed development:

- Clause 42.01 – Environmental Significance Overlay

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5.3.1 42.01 – Environmental Significance Overlay

The northwestern corner of the subject property is located in close proximity to an area subject to an Environmental Significance Overlay (ESO) (see Figure 29). This area, identified as Schedule 7 of the ESO under the Planning Scheme, aims to protect and enhance the diversity, durability, floristic and habitat values of this site of regional and state significance.

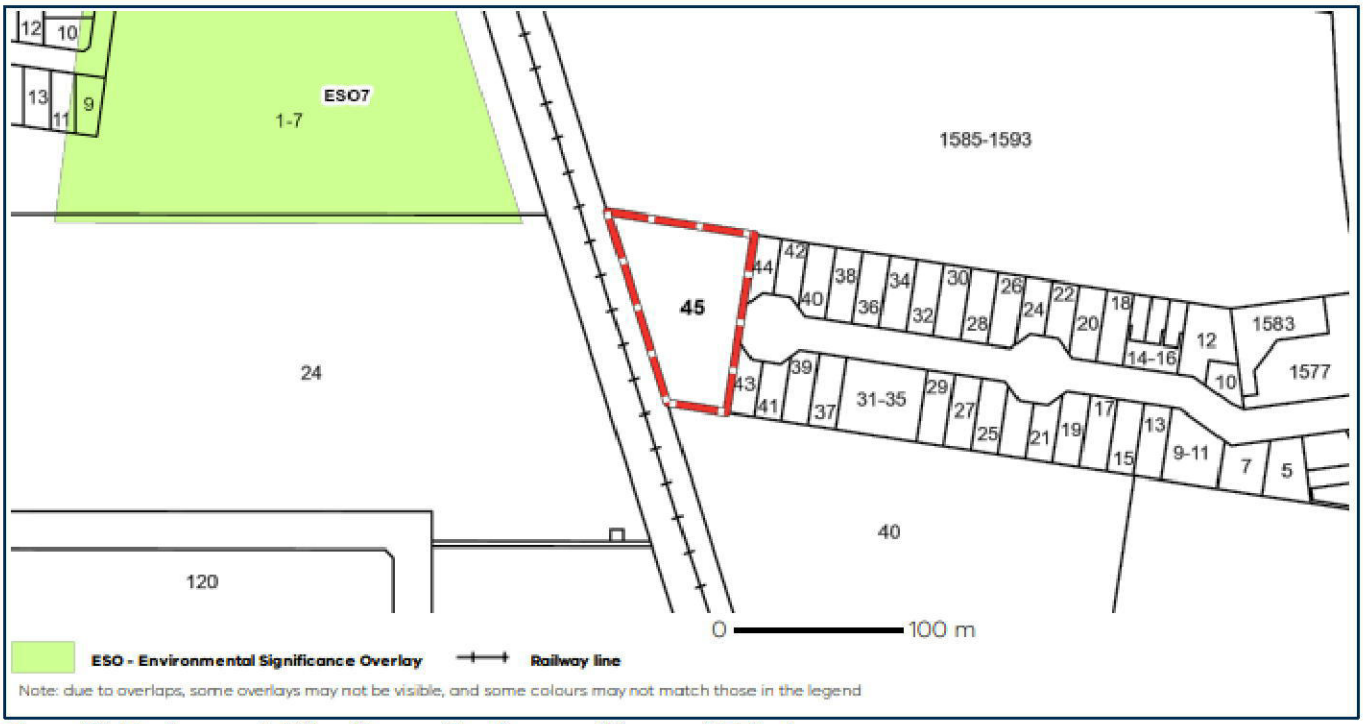

Figure 29: Environmental Significance Overlay map (*Source: VicPlan*)

Schedule 7 – Western Plains Grassland and Grey Box Grassy Woodland (ESO7) refers to:

> *This triangular-shaped grassland located at the northern end of the former Broadmeadows Military site, is a remnant of Western Plains Grassland, dominated by a variety of grasses, including Themeda triandra (Kangaroo Grass). It contains a number of species, now rare in the region, which are of state or regional botanical significance.*
>
> *The site also contains scattered patches of remnant Grey Box Grassy Woodland supported by an understorey of predominantly introduced grasses and graminoids. Smaller populations of indigenous species, such as Kangaroo Grass and Common Tussock Grass, also exist amongst this understorey. The woodland areas are of regional botanical significance.*
>
> *The site is surrounded by urban development, therefore the maintenance of its durability and biodiversity will depend upon land use management and practices which limit disturbance, and the maximum retention of existing vegetation.*

The Planning Scheme stipulates that a planning permit is required for any proposals involving vegetation removal within the ESO. The proposed plastics processing facility does not involve the removal of any vegetation, nor is it located within the ESO overlay area.

It is considered the proposed facility will not have any impact on the objectives of ESO7.

5.4 Other Clauses

The following clauses of the Planning Scheme are applicable to the proposal:

- Clause 15.01 Built Environment
- Clause 52.05 Signs

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- Clause 52.06 Car Parking
- Clause 53.10 Uses with Adverse Amenity Potential
- Clause 53.14 Resource Recovery

5.4.1 15.01 – Built Environment

Clause 15.01-1L-04 relates to development in industrial areas and business parks.

The proposed development would not result in any changes to the built form or material finishes of the site. Existing structures include three industrial warehouse buildings and a site office which are typical of the industrial nature of the surrounding area. Building materiality is consistent with light coloured masonry and Colourbond materials.

Fencing, car parking and access, storage, lighting and landscaping are also not proposed to be altered as part of the proposed use.

5.4.2 52.05 – Signs

A small business identification sign will be installed at the entrance of the facility at 45 Fabio Court, Campbellfield, in compliance with Clause 52.05 – Signs, of the Hume Planning Scheme.

The proposed sign will adhere to the following specifications to ensure it does not require a planning permit and aligns with the applicable signage requirements for industrial areas in Category 2 - Office and industrial, Section 1 - Permit not required.

Key Details

- Type of Sign: Business Identification Sign.
- Size: The display area will not exceed 0.8 square meters, well within the 8 square meters limit for industrial zones under Clause 52.05-12.
- Location: The sign will be affixed near the site entrance, ensuring visibility without impeding road safety or pedestrian movement.
- Design: Non-illuminated, with clear lettering and no reflective or animated elements, to avoid any potential distractions for drivers.
- **Compliance with Conditions**:
    - The sign will not be placed within 30 meters of residential zones or traffic control devices.
    - The design and placement will ensure it does not obstruct views or dominate the streetscape.
    - The sign will not protrude above existing structures or create visual clutter.

Environmental and Safety Considerations

- The sign will be constructed from durable, weather-resistant materials to minimise maintenance and prevent deterioration over time.
- Installation will ensure the sign does not affect nearby vegetation or contribute to environmental degradation.

By adhering to these specifications, the facility ensures compliance with the Victorian Planning Provisions Clause 52.05 while effectively communicating the site's purpose in a visually harmonious and safe manner.

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5.4.3 52.06 – Car Parking

Car parking provision is addressed in further detail in Section 6.3 and by the traffic and parking impact assessment completed by EB Traffic Solutions (see Appendix G).

5.4.4 53.10 – Uses and Activities with Potential Adverse Impacts

The purpose of Clause 53.10 of the Planning Scheme is to identify types of uses and activities, which if not appropriately designed and located, may cause offence or unacceptable risk to the neighbourhood. The clause ensures that sensitive land uses, including residential zones, educational facilities, healthcare institutions and commercial areas, are protected from adverse impacts resulting from industrial and other potentially disruptive activities. It sets threshold distances that must be maintained between certain types of uses and sensitive zones to safeguard community well-being and environmental health.

The proposed plastics processing facility falls under the category of 'used plastics treatment or processing' as specified in the table to Clause 53.10-1. According to the table, 'used plastics treatment or processing' activities must maintain a threshold distance of 500 metres from sensitive land uses, which include:

- *land (not a road) in an Activity Centre Zone, Capital City Zone, Commercial 1 Zone, Docklands Zone, residential zone or Rural Living Zone; or*
- *land used for a hospital, an education centre or a corrective institution; or*
- *land in a Public Acquisition Overlay to be acquired for a hospital, an education centre or a corrective institution.*

The site at 45 Fabio Court, Campbellfield is located within an Industrial 1 Zone (IN1Z), and is bounded by land also zoned as IN1Z, and a railway corridor zoned TRZ1. However, the site is in close proximity to a residential zone to the northwest, approximately 35m from the property boundary. As such, the proposed facility does not maintain the specified threshold distance of 500m from the nearest sensitive land use.

Clause 53.10-1 prescribes that applications that do not meet the threshold distance specified must be referred to the Environment Protection Authority (EPA) for review and comment under Section 55 of the *Planning and Environment Act 1987*.

The proposal would be referred to the Environment Protection Authority by Hume City Council, as detailed in Section 3.4.

5.4.5 53.14 – Resource Recovery

Clause 53.14 of the Planning Scheme aims to facilitate the establishment and expansion of a Transfer station and/or a resource recycling facility in appropriate locations with minimal impact on the environment and amenity of the area. The clause provides a framework to assess proposals for resource recovery operations and promotes compliance with environmental standards and state planning policies.

An application for Resource Recovery must be accompanied by the items in Table 4.

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Table 4: Resource recovery application requirements – Hume Planning Scheme

Application Requirements	Reference
A location plan showing the site and surrounding uses including distances to nearby sensitive uses such as residential, hospital or education uses.	Section 4.3.5 - Figure 25
A detailed site plan showing the layout and height of buildings and works, materials, reflectivity, colour, lighting, landscaping, access roads and parking areas.	Appendix D
Plans or other media showing anticipated views of the facility from sensitive use locations.	Section 4.3.5 - Figure 26
A written report(s) including:	
• Identification of the purpose of the use.	Section 2
• A description of the proposal including the materials to be processed, the types of processes to be used and any materials to be stored and handled.	Section 2
• Proposed hours of operation.	Section 2.3
• Likely traffic generation including heavy vehicles.	Section 6.3
• Whether a Development Licence, Operating Licence, Permit or Registration is required from the Environment Protection Authority.	Section 3.4
An assessment of:	
• Potential amenity impacts such as noise, odour, emissions to air, land or water, vibration, dust, light spill, visual impact.	Section 6.9
• The impact of traffic generation on local roads.	Section 6.3

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6 Environmental Impacts

The environmental impacts associated with the proposed plastics processing facility have been carefully assessed to ensure compliance with relevant regulations and minimise potential harm to the surrounding environment. Each aspect, including air quality, water, soil, noise, traffic, heritage, ecology, and amenity, has been addressed with specific mitigation strategies to prevent discharges, preserve environmental integrity, and ensure operational sustainability within the industrial zone. The following sections provide a detailed analysis of each environmental impact category and the measures in place to mitigate associated risks.

6.1 Air Quality

The proposed input materials to the proposed development are clean and sorted plastics, which would not be expected to be a high risk of generating dust or odour through operational activities. Input materials would also be washed as part of the process which would further reduce the particulate load during shredding into plastic flake. Air quality impacts from the plastics processing facility at 45 Fabio Court, Campbellfield have been assessed to address emissions generated by vehicles and machinery during the operational process, rather than waste from the operational inputs.

A wastewater treatment plant will be maintained onsite to process wash water resultant from the proposed plastics reprocessing lines. It is noted that the wastewater treatment plant would not deal with wash water that is high in organic content or is putrescible in nature. The wastewater treatment plant would also be a closed system and therefore, the risk of odour emissions from this component of plant is considered low.

Vipac Engineers & Scientists prepared a Air Quality Assessment (AQA) for the proposed development, carrying out the following scope of works:

- An emissions inventory of PM_{10}, $PM_{2.5}$, odours and other pollutants for the Facility was compiled and was estimated based on a review of literature on plastic reprocessing, as well as publicly available source emission measurements from comparable facilities.
- The emissions data was used as input for air dispersion modelling. The modelling techniques were based on a combination of measured meteorological data from the closest Vic EPA AQMS at Alphington, The Air Pollution Model (TAPM) prognostic meteorological model (developed by CSIRO), CALMET and the AERMOD dispersion model with reference to the requirements of the EPA Publication 1957 – 'Guide to Air Pollution Modelling', and EPA Publication 1961.2 – 'Guideline for assessing and minimising air pollution in Victoria'.
- The atmospheric dispersion modelling results were assessed by comparison between scenarios and relevant assessment criteria.

Two operational emission scenarios were considered for the assessment:

- Scenario 1: based on the MRA-reported machinery capacity of 6 t/h per building, equating to an estimated maximum annual throughput of 87,000 tpa.
- Scenario 2: based on the reported estimated maximum annual throughput of 48,000 tonnes per annum (tpa), equating to an average throughput of 4.96 t/h per building.

As a worst-case assumption, both extruders were modelled as operating simultaneously for the full 93-hour operational week throughout the entire modelling period, representing extremely conservative emission scenarios.

6.1.1 Existing Environment

The air quality environment is characterized by the largely industrial nature of the site and surrounds. The proposal would not require any construction works therefore air quality impacts associated with construction has not been assessed.

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Based on the information recorded in the Australian Bureau of Meteorology (BoM), predominant winds in the region of the subject site are characterised by:

- Winds from the west with average wind speed of 2.4 m/s;
- The strongest winds (>5.7m/s) occur mostly from the north; and
- Dominant winds from the north at 9am and from the north and south at 3pm, with low frequency of winds from the east.

6.1.2 Sensitive Receptors

The closest sensitive land uses to the Site are identified in Table 5. The closest medical and educational uses are significant distances from the Site and well more than recommended separation distances (see Table 5). The closest receptors to the Site include several industrial properties in the immediate vicinity, situated in the industrial precinct in which the Site exists and a residential suburb located to the north of the Site (see Figure 25).

Table 5: Closest sensitive land uses to Proposal site

Sensitive land use	Location	Approx. Distance from Proposal boundary
Nearest educational uses	Kids Haven Childcare	1km+
	Campbellfield Heights Primary School	1km+
Nearest medical use	New Leaf Medical Clinic	580m
Nearest residential use	1 Garner Parade, Dallas VIC 3047	230m

A full list of potential air sensitive receptors are provided in the appended AQA (see Appendix E), reflected in Figure 30.

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Figure 30: Air Sensitive Receptor Locations (*Source: Vipac, 2026 – Figure 3-2)*

6.1.3 Assessment of Impact

The Guideline for Assessing and Minimising Air Pollution in Victoria (GAMAPV) (EPA Vic, 2022) outlines the framework for evaluating and managing air pollution risks. The framework for the assessment of air pollution risks provides three levels of assessment in order of increasing complexity. These levels are outlined as follows:

- **Level 1:** Qualitative or semi-quantitative assessment, used to assess risks from activities that either have intrinsically low risks, or have common, well-understood risks that can be controlled without extensive assessment. In the case of a well-understood hazard with low risk, there is no requirement for a quantitative assessment and a qualitative assessment is sufficient to identify and control risks.
- **Level 2:** Involves the use of dispersion modelling or monitoring with predicted concentrations benchmarked against the air pollution assessment criteria (APAC). If a activity passes a level 2 Risk Assessment then appropriate controls must be implemented.
- **Level 3:** Detailed risk assessment used when a simple comparison of a pollutants concentration to an APAC cannot adequately assess risks. Risks must be considered in regard to human health and the environment. If an activity fails a level 3 Risk Assessment then it should be reconsidered.

The assessment undertaken by Vipac utilises dispersion modelling to compare different emission scenarios through the analysis of the relative variations in predicted ground level odour concentration and Air Quality Assessment Criteria (AQACs) to determine potential air quality impact of the proposed use. This approach is consistent with a Level 2 assessment with respect to the GAMAPV.

6.1.3.1 Air Dispersion Modelling Methodology

Synoptic scale meteorological data were first processed in The Air Pollution Model (TAPM) and CALMET and then further processed with reference to the EPA Victoria guidelines Publication 1957 to produce the wind field and weather data suitable for dispersion modelling with AERMOD.

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6.1.3.2 Results

The results of the incremental model predictions for the two operational scenarios considered for the assessment at the sensitive receptors are summarised in Table 6-1 of the AQA (see Appendix D). Overall, air quality impacts from the proposed operation of the facility in isolation, at sensitive receptors in the surrounding environment are predicted to be well within relevant legislation criteria for both modelled scenarios.

The results of the cumulative model predictions for both scenarios at the closest sensitive receptors are summarised in Table 6. The predicted cumulative 24-hour and annual predictions for PM10 and PM2.5 were below criteria for both scenarios.

Table 6: Summary of Maximum Cumulative Model Predictions at Sensitive Receptors

Pollutant	Averaging Time	Model prediction (µg/m³)*		Criteria (µg/m³)	Compliant
		Scenario 1	Scenario 2		
PM10	24 Hour	26.26 (25.2)	25.78 (25.2)	**50**	✓
	Annual	16.67 (16.6)	16.64 (16.6)	**20**	✓
PM2.5	24 Hour	12.09 (12.0)	12.05 (12.0)	**25**	✓
	Annual	7.11 (7.1)	7.10 (7.1)	**8**	✓

Source: Vipac, 2026 – Table 8.2.

6.1.3.3 Construction/Commissioning Phase

Construction and commissioning works will be limited to installation of plant and equipment associated with the proposed plastics processing lines and wastewater recycling plant. Overall, works associated with establishing the proposed use would be limited and therefore, have minimal potential for impact to air. Furthermore, installation works will generally be indoors existing warehouse buildings, therefore containing and dust or particulates.

6.1.3.4 Vehicle Movements

The daily rate of vehicle movements at the Proposal site is assumed to be approximately 8 deliveries of materials a day totalling approximately 180 tonnes per day during peak usage (approx. 22-24 tonnes per truck). There would be an estimated 5-6 outgoing loads of finished plastic flake and pellets, equalling a maximum of 14 large vehicle movements per day at peak capacity and approximately 10 small vehicles associated with operational and administrative staff.

The internal road at the Proposal site is paved surface and the traffic generated particulate emissions have been estimated accordingly. Given this is an industrial district, this volume of trucks is not unexpected or uncommon. Emissions from forklift movements were similarly estimated under the assumption of 1 forklift per building, therefore 3 forklifts in total.

6.1.4 Mitigation Measures

The outcomes of the AQA prepared by Vipac suggests the following recommended mitigation measures for the proposed development:

- odour and air quality management plan is developed for the facility including a complaints management procedure.

No immediate controls were identified as necessary to reduce the risk of odour or air emissions deriving from the proposed site activities, given the results of dispersion modelling. Further to the above, the following general measures would be put in place to mitigate and/or control the risk of air quality and odour impacts emanating from the site.

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Construction:

Construction Air Quality has not been assessed as the site has already been constructed.

Operations:

- The external site area, including hardstands and roadways, should be sealed to minimise dust emissions effectively.
- Silt content on road surfaces is managed through routine inspections and targeted cleaning, ensuring surfaces remain free of excessive dust build-up.
- All processing activities are conducted indoors to minimise emissions and ensure compliance with operational standards.
- Loose material at the Proposal site entrance and exit is removed regularly.
- Processing area floors are swept regularly to prevent dust tracking by vehicle movements.
- Any outdoor hardstand areas to be swept frequently to reduce dust accumulation.
- Vehicle speeds on-site are managed using speed reduction measures and clear signage, with a speed limit of 5 km·hr-1
- Storage areas for all materials are clearly delineated with road curbing or posts to separate them from vehicle access routes.
- An Operational Environmental Management Plan (OEMP) is implemented, including daily observations of visible dust emissions and a procedure for managing complaints (to include an air quality and odour management plan as a sub-plan per Vipac recommendations).
- Doors are kept closed during operations whenever practical and immediately closed if visible dust is observed.
- All processing operations are conducted with appropriate equipment use, management, supervision, and worker training.
- Preventive maintenance is performed on all equipment and plant relevant to emissions control.

6.1.5 Conclusions

The results of the modelling assessment have identified that the predicted incremental 24-hour and annual average concentrations of PM_{10} and $PM_{2.5}$ at the closest identified sensitive receptors, for both emission scenarios, were well below the applicable assessment criteria. Predicted concentrations were below 50 µg/m^3 (24-hour) and 20 µg/m^3 (annual) for PM_{10}, and below 25 µg/m^3 (24-hour) and 8 µg/m^3 (annual) for PM2.5.

The predicted cumulative 24-hour and annual PM_{10} and $PM_{2.5}$ concentrations, for both emission scenarios, were also below the respective criteria of 50 µg/m^3 for PM_{10} and 25 µg/m^3 for $PM_{2.5}$ at the closest sensitive receptors.

Overall, the modelling results indicates a low risk of adverse air quality impacts at nearby sensitive receptors.

6.2 Noise

Audiometric and Acoustic Services (A&AS) was commissioned to assess noise impacts of the proposed development in accordance with the *Environment Protection Act 2017* (the EP Act) and the *Environment Protection Regulations 2021* (the EP Regulations) by application of the EPA Publication 1826.5, (Noise Protocol) Part I 'urban area method' for potential noise emanating from proposed site at 45 Fabio Court, Campbellfield, VIC 3061.

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6.2.1 Background Noise Environment

The subject site is in an Industrial 1 Zone (IN1Z). The nearest sensitive areas (NSAs) are located to the north-west and west, approximately 230-300 meters from the site, on Garner Parade and Columbia Court, Dallas VIC 3047.

The Environment Protection Regulations (State of Victoria, 2021) prescribe the following definitions for operating time periods for Trade, Commerce, and Industry.

Table 7: Definitions of Operating Times for Trade, Commerce, and Industry

Period	Applicable Times
Day	Monday to Saturday (except public holidays), from 7 am to 6 pm
Evening	(i) Monday to Saturday, from 6 pm. to 10 pm; and (ii) Sunday and public holidays, from 7 am to 10 pm;
Night	10 pm to 7 am the following day.

Background noise levels were measured at an alternative assessment location on the footpath outside at 1 Garner Parade, Dallas VIC 3047 at approximately 12:11 pm on Tuesday the 9th of December 2025 as well as the evening of Tuesday the 16th of December for the evening & night periods. No adjustment for reflection was required.

The background noise levels determined in accordance with EPA publication 1826.5 Part I 'short method' for the 'day' period are presented in Table 8.

Table 8: Average Background Noise Levels using Short Method (Day, Evening and Night)

Background Noise Level, L_{A90} dB(A)			
	Day	**Evening**	**Night**
Average	47	44	44

Source: A&AS, 2026 – Summary of Tables 4, 5 and 6.

6.2.2 Noise Criteria

The noise limits for the nearby sensitive areas were calculated per RPA Noise Protocol Part 1. Average readings are presented in Table 9.

Table 9: Noise Protocol Part I Noise Limits

Period	Noise Limit (ENL, dB(A))	Cumulative Noise (ENL, dB(A))
Day	55	52
Evening	49	46
Night	47	44

Source: *A&AS, 2026 – Table 7.*

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6.2.3 Sensitive Receptors

The nearest sensitive property is a single dwellings located approximately 230m from the site at 1 Garner Parade (See Figure 25) to the north-west of the site. The view of these receivers is highlighted in pictures taken near the back fence of residential properties, looking toward the direction of the site (see also Figure 26).

Key receivers identified in Figure 25 are outlined in Table 10.

Table 10: Sensitive Receptor Locations

Location Reference	Address	Comment
NSA 1	1 Garner Parade, Dallas VIC 3047	Single storey dwelling with receiver at 1.5 m
NSA 2	9 Columbia Cct, Broadmeadows VIC 3047	Single storey dwelling with receiver at 1.5 m

Source: Audiometric & Acoustic Services, 2026 – Table 3.

6.2.4 Noise Sources

Primary noise source data was obtained by Audiometric and Acoustic Services from site visits attended to at Kangaroo Plastics' existing operation at 202-204 Northbourne Rd, Campbellfield VIC 3061.

The primary noise sources associated with the facility include:

- **Forklifts (75 L_{Aeq} at 1m (dB)):**

  Operates periodically, emitting a sound power level of 102 dB(A) with reverse beeping (generally contained to warehouse buildings).

- **Truck Movements (87 L_{Aeq} at 1m (dB)):**

  Includes 14 truck movements per day, operating at a speed of 5 km/h. Truck reverse beepers contribute an additional impulsive characteristic noise.

- **Shredder/Granulator (93 L_{Aeq} at 1m (dB)):**

  each of the operational buildings would utilise a plastic shredder/granulator. This will be contained indoors and only operate within permitted operating hours. During the evening period, no deliveries would be received to the site, therefore roller doors into each of the buildings would be kept closed, further mitigating the noise impact of equipment within buildings.

- **Washing line (90 L_{Aeq} at 1m (dB)):**

  plastic wash plant used for washing trace contaminants from incoming plastic material prior to drying.

6.2.5 Assessment of Impact

Noise levels from the proposed development are predicted to comply with all relevant standards during the specified operating hours. The cumulative impact of noise from adjacent commercial and industrial facilities is expected to be within reason, noting that the nature of the site and surrounds is industrial in nature, with similar frequency of heavy vehicle visits and machinery through operational hours. Furthermore, the background noise from the adjacent rail corridor is likely to be greater than the noise output expected to be generated from the proposed use.

Noise emitted during day, evening and night periods remained at or below the average background noise in accordance with EPA publication 1826.5 Part I. Operational time periods categorising evening

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mean the hours of 6pm to 10pm and night from the hours of 10pm to 7am the following day from Monday to Saturday.

Table 11: Effective Noise Level Results at NSAs

Name	Description	'Night' ENL $L_{Aeq(30min)}$ (dB)
NSA 1	1 Garner Parade, Dallas VIC 3047	12
NSA 2	9 Columbia Circuit, Broadmeadows VIC 3047	12
Prevailing 'Evening' Cumulative Noise Limit		43

Source: A&AS, 2026 – Table 9.

Noise levels for the proposed plastic recycling facility are not expected to significantly alter the existing noise environment. Furthermore, the siting of plant and equipment within the existing shed buildings would serve to further reduce the noise impact of the proposed operating, therefore providing further confidence that site noise levels would be complaint.

6.2.6 Mitigation Measures

General noise mitigation measures are proposed to be adhered to through operation of the facility.

- Noise complaints will be recorded.
- Warehouse building doors will generally be closed when not in use for deliveries and offtake of material.
- Regularly maintain equipment to prevent excess noise from wear, loose parts, or imbalance.
- Replace worn bearings and lubricate moving parts as required.

6.2.7 Conclusions

The situation is calculated to be compliant with the EP Regulations (State of Victoria, 2021) and incorporated Noise Protocol (State of Victoria, 2021).

The proposal was assessed and determined to present a low risk of being a source of 'unreasonable noise' per the description within Section 3(1) of the EP Act (State of Victoria, 2017) due to its likely inaudibility at the identified NSAs.

6.3 Traffic, Access, and Parking

A traffic impact assessment for the site and proposed development was undertaken by EB Traffic Solutions. The assessment is included as Appendix G in this application.

This section of the application provides a summary of the traffic impact assessment prepared in accordance with the relevant sections of the Hume Planning Scheme for the proposed site use. The traffic assessment concentrates on the proposed traffic, access and parking arrangements for the site, the potential impacts of proposed operations and associated mitigation measures.

6.3.1 Existing Environment (road network, traffic and parking)

The proposed plastics remanufacturing recycling facility at 45 Fabio Court, Campbellfield, is located within an industrial precinct with convenient access to major transport routes. The site connects to a network of

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wide roads designed to accommodate heavy vehicle traffic, ensuring efficient transport of materials and minimal disruption to local traffic flow. The site also possesses existing parking spaces for staff and contractors.

Fabio Court is connected to the M80 (Metropolitan Ring Road) via Sydney Road. Sydney Road maintains a divided cross section containing 3 traffic lanes in both directions. There is some on street parking along Fabio Court, limited by driveway crossovers of industrial properties along the road. Parking is available on site, with 10 parking spots (including 1 disability spot) and several marked truck bays on site.

6.3.1.1 Car Parking

The statutory requirement for car parking set out in Clause 52.06 of the Hume Planning Scheme which stipulates 10% site area accommodation for parking for proposed materials recycling facilities. With reference to site plans included in Figure 31, the area of the proposed site is 6,571m^2, therefore requiring approximately 657m^2 allocated to parking. An assessment of the area provided for car parking (including eh abutting accessway) corresponds to 771.4 sqm, which is in excess of the statutory car parking requirement of 657m^2. Furthermore, the proposed use would only require 8 people onsite at operational capacity, hence the provided car spaces are expected to be sufficient for the expected staff proposed to operate the site. Any shift changes could be staggered between use of buildings to avoid excessive staff crossover.

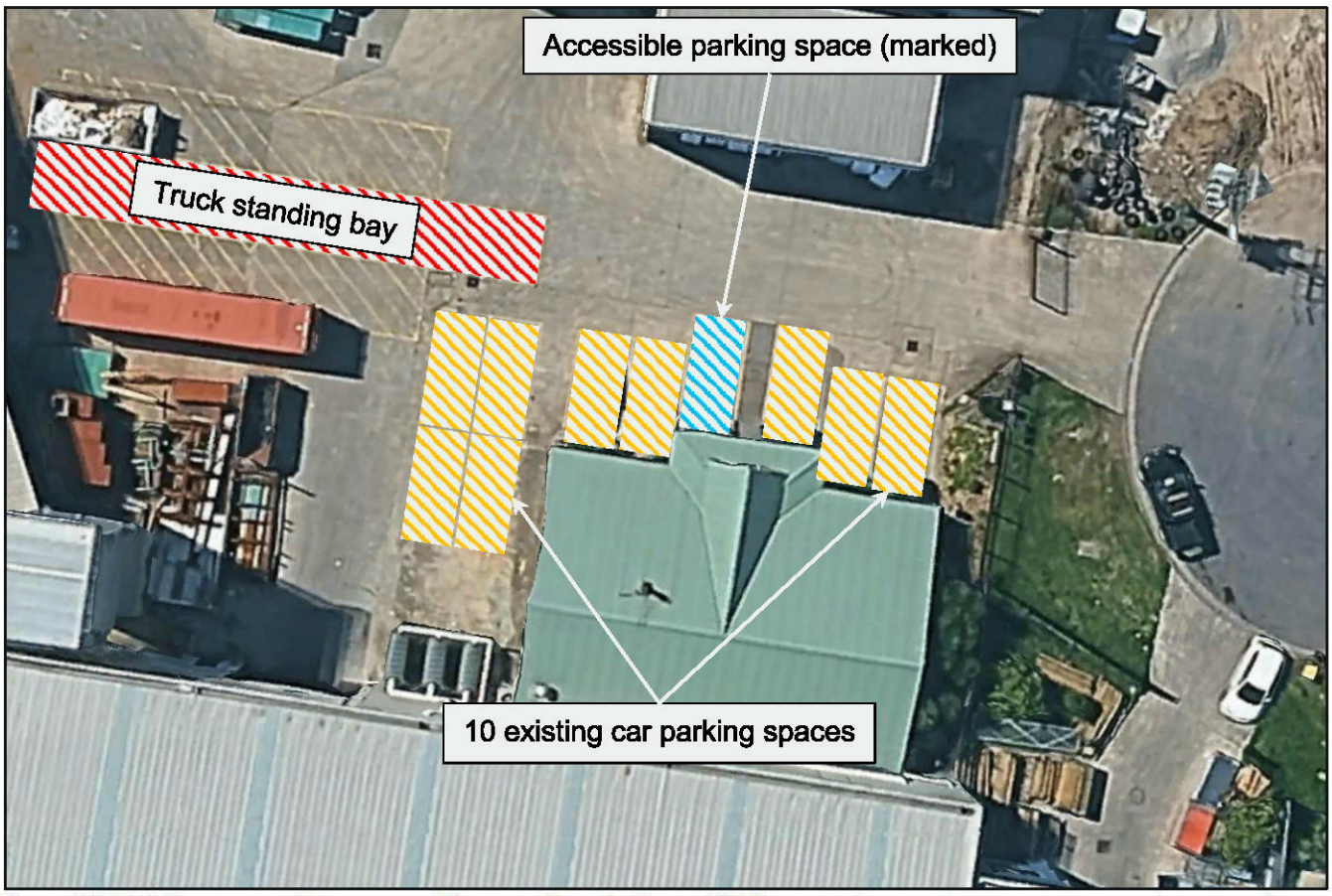

Figure 31: Existing car parking spaces (*Source: Google Maps, 2025*).

While the proposed use would have a deficiency in parking per the requirements of Clause 52.06 of the Hume Planning Scheme, the surrounding street parking is expected to have ample capacity to accommodate any overflow during peak weekday periods in the unlikely event that more than two visitor vehicles attend the site at any one time.

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6.3.1.2 Bicycle Parking

Clause 52.34-3 of the Hume Planning Scheme seeks to encourage cycling as a mode of transport with the provision of secure and accessible bike parking. The statutory requirement based on the site of the site is one Bicycle parking space per 1,000m^2 area, meaning a total of 7 bicycle parking spaces would be required for the site.

It is recognised that there is ample area on the development site for an employee to safely store their bicycle should they wish to cycle to the premises.

6.3.2 Traffic Generation and Road Network Capacity

Per the project description, the proposed facility will generate approximately 8 vehicles delivering plastics to the premises on a daily basis and up to 5-6 articulated trucks removing flaked plastic each day (up to 14 heavy vehicle movements per day). Noting the number of vehicles proposing to access the site each day at a maximum, peak heavy vehicle traffic volume through the site would be about 2 trucks on average, in an hour period. Therefore, the anticipated peak traffic flows generated by the proposed development will be able to be adequately accommodated on the surrounding road network and is not anticipated to adversely impact upon the operational characteristics of the adjacent road network during the daytime commuter peak periods. Furthermore, noting the separate use of the three industrial units that will be used at the site, it is expected that heavy vehicles would be scheduled to visit the site so as to not cross over with other vehicles attempting to access the same building. Therefore, the internal capacity of the site has ample capacity to comfortably hold four visiting heavy vehicles at any given time (one in each building and one in the waiting bay marked in the centre of the hardstand yard.

The traffic impacts of the proposed development are not anticipated to have an adverse impact on the operation of the local road network during daytime peak commuter periods. Furthermore, access through the site is expected to be able to be accommodate within the existing layout of the site access.

6.3.3 Mitigation Measures

The following recommendations would ensure parking and traffic associated with the proposed development are managed effectively, and would be adopted as such:

- Application of the car parking rate to the site area (6,571 sqm) corresponds to a required car parking area of 657 sqm;
- An assessment of the area provided for car parking (including the abutting accessway) corresponds to 771.4 sqm, which is in excess of the statutory car parking requirement of 657 sqm;
- The level of traffic movements anticipated to be generated by the proposed development is considered minimal and is not anticipated to represent an adverse impact upon the operation of the abutting road network; and
- This application is supported on traffic engineering grounds.

Furthermore, the following general traffic management measures and recommendations of the Traffic and parking impact assessment would be implemented through daily operation of the site to minimise potential traffic impacts:

- five bicycle spaces be provided within the premises, should employees choose to utilise sustainable modes of transportation;
- the four tandem parking bays be relocated a distance of 3.8 m to the west;
- any obstructions such as landscaping within the sight line triangles do not exceed a height of 900 mm (and will be maintained to this level);
- a spotter be designated to ensure that any staff and visitors are temporarily held when the truck departs from the site;
- Strict adherence to site speed limits to ensure safety and efficient operations;

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- No queuing of trucks on public roads; all vehicles will await access within the site;
- Clear signage and instructions for all vehicles to follow designated routes within the facility; and
- Truck movements will be distributed evenly throughout operating hours to avoid peak traffic periods and reduce congestion risks.

The traffic arrangements for the site have been designed to meet operational needs while ensuring minimal impact on the surrounding road network and maintaining compliance with relevant planning and traffic guidelines.

6.4 Soil and Water

The proposed development would not result in extensive redevelopment of the site and not increase the amount of hard surfaces across the site.

The proposed plastics reprocess process requires incoming plastics to be washed for the removal of trace soluble contaminants. As such, the wash water would be processed through a wastewater treatment process to remove contaminants for discharge to sewer to an acceptable trade wastewater standard. The wastewater treatment plant discussed in Section 2.4.5 would require a water and sewer connection into existing networks which may result in some minor ground disturbance.

The proposal does not require water or discharge of liquid to ground, stormwater or sewer.

6.4.1 Mitigation Measures

Given the limited works proposed, noting plant and equipment installation, and installation of waste water treatment plant represents the works that would be completed through the establishment of the proposed use, no specific mitigation measures are expected to be necessary to control water or erosion.

The development would be designed to minimise the impact of chemical pollutants and other toxicants which can flow into the stormwater system by:

- Avoiding the use of chemical pollutants or only using chemicals in highly managed/isolated work areas;
- Taking all reasonably practicable measures to avoid or treat harmful chemical pollutants;
- Appropriate storage and handing strategies implemented and followed at the site during construction and ongoing operations;
- Recycling processing to only be undertaken in the designated enclosed areas;
- Bunding and covering of accessways in the recycling areas to isolate them from potentially; and
- Harmful chemicals are stored appropriately, such as in bunding.

In addition to the above, general management practices would be employed to minimise the quantity of pollutants leaving the site as particulate matter, reduce the stormwater sediment load, and protect local amenity. Best practice measures to control particulates have been included in the proposal, such as:

- The layout and design include physical controls such as enclosing recycling operations within existing buildings;
- Indoor storage areas would be kept clean and tidy by mechanical devices such as broom sweeper;
- Regular cleaning of the processing equipment, wheeled loader and operational areas such as the warehouse, hardstand, pavements and drainage channels would be included as part of daily, weekly and monthly housekeeping tasks; and
- A daily clean-up of the site, both outside and inside would occur at the end of each workday.

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6.5 Heritage

No heritage overlay exists at or near the site under the Hume Planning Scheme. Furthermore, the site is previously entirely development, and no construction works are proposed that would disturb the ground. Therefore, heritage has not been assessed for the proposed use of the site.

6.5.1 Mitigation Measures

No specific measures are expected to be necessary as it relates to heritage for the proposed use.

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6.6 Fire Safety and Risk Management

DDEG was appointed to prepare a Fire Risk Assessment, which is included as Appendix H. Details of the Fire Risk Assessment are summarised in the following sections.

The Fire Risk Assessment and following summary has been prepared in accordance with the fire risk management framework outlined in *EPA Publication 1667.3 – Management and storage of combustible recyclable and waste materials* (EPA Victoria, 2021)

Plastics are classified as combustible materials that can create fire hazards if not managed properly.

Effective fire safety and risk management measures will be implemented to safeguard personnel, equipment, and the environment from potential fire hazards at the facility.

6.6.1 Site Selection

- The site is not within a water supply catchment.
- The site is on flat land.
- Soils are not mapped as within a salinity province
- It is devoid of dense vegetation and trees
- The site is not within a Bushfire Management Overlay (BMO).
- According to the Bureau of Meteorology (BOM) data, annual winds are generally consistent with strong southerly and northerly winds.
    - Both southerly and northerly winds would direct fire toward other industrial uses.
    - Main roads are toward the east, having less potential to be affected.
    - Rail corridor is located toward the west, having less potential to be affected.

6.6.2 Fire Risk Assessment and Prevention

6.6.2.1 Credible High Risk Fire Scenarios

Credible high-risk fire scenarios typical for a plastic reprocessing plant, characterised by both potential severe consequences and a realistic likelihood of occurrence, are listed in and form the basis of the Fire Risk Assessment. These fire scenarios are further categorised into fire initiation, fire spread/exposure scenarios.

Table 12: Credible High Risk Fire Scenarios

Fire Scenarios	Rationale
Fire initiation scenario Internal plastic stockpile fire within buildings	Storage and handling of baled and loose PET, PP, and HDPE plastics represent a high combustible fuel load, where a fire may develop rapidly and produce significant heat release and smoke within enclosed buildings.
Fire initiation scenario Processing equipment fire (e.g. shredders) **Fire initiation scenario** Diesel-powered forklift fire	Plastics processing equipment presents credible ignition sources due to electrical faults, overheating, or mechanical failure, with potential for fire spread to adjacent plastic stockpiles and building contents.

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	Diesel forklifts introduce credible ignition sources arising from liquid fuel, hydraulic oil, and hot engine or exhaust components, particularly when operating in proximity to combustible plastic materials.
Fire initiation scenario On-site HV substation fire	The on-site HV substation represents a credible but low likelihood electrical ignition source (e.g. insulation failure or arcing). A substation fire may generate High local heat flux, smoke, and external flame impingement. Given spatial separation and limited fuel continuity, escalation to plastic stockpiles is unlikely, but a credible exposure scenario exists if separation distances are compromised.
Fire escalation and exposure scenarios External finished-product storage fire	External storage of flaked plastic products presents a credible exposure fire scenario.
Fire escalation and exposure scenarios Fire spread between internal storage bays or buildings	A fire originating within one building or storage bay may spread to adjacent bays or buildings via radiant heat, openings, or fuel continuity, resulting in escalation beyond the initial point of origin.
Fire escalation and exposure scenarios **Fire spread from an adjoining industrial property**	The site is located within an established industrial precinct, where a fire on a neighbouring property represents a credible external exposure risk through radiant heat or direct flame contact.
Secondary consequence scenario Firewater runoff and environmental contamination during suppression of an internal plastics fire	Fire suppression of bulk plastics may generate large volumes of contaminated firewater requiring containment to prevent off-site environmental impact.

Source: DDEG, 2026 – Table 7.

6.6.2.2 Risk Assessment Register

The Fire Risk Assessment completed by DDEG outlines a detailed risk assessment for the site, based on fire risk associated with above noted credible fire scenarios. The following Risk Assessment Register outlines the un-mitigated risk, control measures and residual risk for the facility as proposed (see Table 13).

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Table 13: Risk Assessment Register

Hazard	Potential Causes	Initial Risk Level			Control Measures	Residual Risk		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
STORAGE								
Incoming material ignition (hot loads / contamination)	Smouldering or Contaminated incoming loads	Unlikely (2) Incoming material is pre-sorted; however contaminated deliveries may occur.	Major (4) Potential for a large plastics fire (refer Section C.2), which may result in significant smoke inhalation and fire exposure.	Medium (8)	• Load inspection and procedures • Supplier controls • Firefighting equipment	Unlikely (2) Likelihood of occurrence is externally controlled.	Insignificant (1) Immediate rejection of contaminated deliveries and procedures including a temporary hold area mitigates the consequence of this risk. On-site fire equipment enables early fire suppression.	Low (2)
Internal plastic stockpile fire	Electrical fault in proximity to stockpiles	Possible (3) Electrical fault initiation difficult to predict. Based on the occupancy type, the likelihood is assessed as "Possible" with 1 in 22.7 year occurrence.	Major (4) An electrical fire poses an immediate risk to occupants, materials and property. An electrical fault in close proximity to stockpiles may cause a plastics fire as well. A plastics fire can be highly severe (refer Appendix C.2), causing significant toxic smoke production and fire exposure between stockpiles and buildings.	High (12)	• Spatial separation and concrete bays • Electrical inspections & emergency shutdown • Electrical isolation • Housekeeping • Thermal detection cameras • Firefighting equipment	Unlikely (2) Spatial separation and concrete bays of stockpiles, with aisles/walkways kept clear through housekeeping reduces the likelihood.		Medium (6)
	Ignition of loose plastics or fines	Possible (3) Based on the occupancy type, the likelihood is assessed as "Possible" with 1 in 22.7 year occurrence.	Major (4) A large plastics fire may result from the ignition of loose fines spreading to stockpiles. A plastics fire can be highly severe.	High (12)	• Housekeeping • Operational procedure • Firefighting equipment • Thermal detection cameras	Unlikely (2) Primary control is proper housecleaning to minimise loose plastics/fines, and keeping aisles/walkways Concrete bays and operational procedure	Moderate (3) Minor reduction of consequence through controls. Thermal detection cameras provides early and automatic fire notification. Isolation and shutdown provide early containment of electrical fault. On-site fire equipment	Medium (6)

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						(e.g. safe moving and stacking of bales) physically limit loose plastics/fines.	enables early fire suppression.	
	Self-heating or temperature escalation within stockpiles	Rare (1) As discussed in Appendix A – not applicable to plastics.	Major (4) A plastics fire can be highly severe (refer Appendix C.2).	Medium (4)	• Limits on pile size and dwell time • Stock rotation • Thermal detection cameras • Fire suppression equipment	Rare (1) Managing pile size, dwell time and stock rotations reduce the likelihood of this event occurring. The likelihood remains "Rare" but is not impossible.	Moderate (3) Minor reduction of consequence through controls. Thermal detection cameras provides early and automatic fire notification. Isolation and shutdown provide early containment of electrical fault. On-site fire equipment enables early fire suppression.	Low (3)
Inventory exceedance	Abnormal storage duration due to throughput constraints	Possible (3) While abnormal storage conditions cannot be ruled out, they are not representative of typical operations and is not "likely".	Major (4) Excessive storage of plastics contributes to the severity of a plastics fire. Excessive storage may also detrimentally impact the aisle/walkways and egress paths.	High (12)	• Inventory limits • Operational planning/ procedure • Housekeeping	Unlikely (2) Proper housekeeping reduces the potential for obstruction of aisles and walkways. Forward operational planning reduces the likelihood of inventory exceedance.	Major (4) The consequence inherently remains the same – excess inventory even if unlikely presents a severe fire risk.	Medium (8)
Electrical								
Electrical fire	Overloaded circuits, damaged cables, faulty equipment, etc.	Possible (3) Electrical fault initiation difficult to predict. Based on the occupancy type, the likelihood is assessed as "Possible" with 1 in 22.7 year occurrence (refer Appendix C.1).	Major (4) An electrical fire poses an immediate risk to occupants, materials and property. It also may result in a plastics fire. Electrical fire of plant may cause significant business interruption.	High (12)	• Electrical inspection and maintenance • Electrical isolation & emergency shutdown • Separation from combustibles • Housekeeping • Thermal detection cameras • Fire suppression equipment	Unlikely (2) Electrical inspection and maintenance reduce the chance of electrical fires due to fault equipment.	Moderate (3) Monitoring provides early fire notification. Isolation and shutdown provide early containment of electrical fault. On-site fire equipment enables early fire suppression. In limiting the electrical fault of plant, the controls assist with limiting the impact to business continuity.	Medium (6)
Electrical short circuit	Overloaded circuits	Possible (3) Electrical overloading difficult to predict, though it is anticipated to occur infrequently. A "Possible" rating is maintained from Risk Register for the existing site.	Minor (2) An electrical short circuit may cause minor business interruption. Secondary impacts may also occur, for example temporary loss of thermal detection camera functionality.	Medium (6)	• Electrical inspection and maintenance (with upgrade/ modification where required) • Electrical isolation & emergency shutdown • Housekeeping	Unlikely (2) Electrical inspection and maintenance by a qualified professional would confirm system capacity, with deficiencies identified and rectified through upgrade or modification	Minor (2) While the likelihood of electrical short circuiting may be reduced, the impact to potentially critical equipment remains limited to local equipment disruption.	Low (4)

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						where required to accommodate equipment.		
HV substation fire	Electrical fault, insulation failure, arcing	Rare (1) HV substations are purpose-designed installations with low historical fire incidence when installed and maintained in accordance with applicable electrical standards.	Major (4) A substation fire may generate high local heat flux, smoke, and potential flame impingement to adjacent building elements, with potential disruption to power supply and localised fire spread if not adequately separated.	Medium (4)	• HV substation installation complies with applicable installation regulations/standards • External location with the external wall of Building 2 achieving the required Fire Resistance Level • Housekeeping	Rare (1) Compliant installation and ongoing maintenance limit the probability of a substation fire.	Moderate (3) Fire-resisting construction of Building 2 and spatial separation limit escalation beyond the substation and limit exposure to plastic storage.	Low (3)
Machinery & Plant								
Processing equipment fire	Electrical failure	Possible (3) Electrical failure of specific equipment fire is difficult to predict. Based on the occupancy type, the likelihood is assessed as "Possible" with 1 in 22.7 year occurrence (refer Appendix C.1).	Major (4) An electrical fire poses an immediate risk to occupants, materials and property. It also may result in a plastics fire.	High (12)	• Equipment inspection and maintenance • Electrical isolation & emergency shutdown • Separation from combustibles • Housekeeping • Staff monitoring • Fire suppression equipment	Unlikely (2) Electrical inspection and maintenance reduce the chance of electrical fires due to fault equipment.	Moderate (3) Monitoring provides early fire notification. Isolation and shutdown provides early containment of electrical fault. On-site fire equipment enables early fire suppression. In limiting the electrical fault of plant, the controls assist with limiting the impact to business continuity.	Medium (6)
	Mechanical overheating or friction	Possible (3) Mechanical overheating/friction is equipment-specific and difficult to predict. Based on the occupancy type, the likelihood is assessed as "Possible" with 1 in 22.7 year occurrence (refer Appendix C.1).	Moderate (3) Mechanical overheating may trigger automatic equipment shutdown, resulting in minor business interruption Friction-generated sparks may also occur and present a moderate consequence; however, isolated sparks are not expected to cause ignition of plastics (refer Appendix A).	Medium (9)	• Operating limits • Staff monitoring • Automatic shutdown • Equipment inspection and maintenance	Unlikely (2) Operation within manufacturer-defined load and temperature limits, enforced through monitoring and automatic shutdown, reduces the likelihood of mechanical overheating.	Moderate (3) Consequence remains the same.	Medium (6)
Diesel-powered mobile plant fire	Fuel or hydraulic oil leak	Unlikely (2) Mobile plant is generally maintained and fitted with OEM fuel/hydraulic systems; however, hose failure, damaged fittings, or seal degradation may occur during operation.	Major (4) A leak contacting hot engine/exhaust surfaces may ignite, resulting in rapid fire growth, smoke exposure, and potential involvement of nearby plastics.	Medium (8)	• Inspection and maintenance to OEM requirements • Pre-start checks for leaks/damage • Housekeeping • Refuelling controls • Firefighting equipment	Rare (1) With planned maintenance, routine inspections, and controlled refuelling, loss-ofcontainment events are likely to be identified and rectified prior to ignition.	Moderate (3) Consequences are reduced through early detection, housekeeping controls, and the availability of firefighting equipment. Fire is expected to be localised and escalation would be	Low (3)

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							controlled by fire suppression equipment.	
	Hot exhaust surfaces near combustibles	Unlikely (2) Exhaust operates at elevated temperatures, and fire start requires continuous exposure exceeding ignition temperature and critical heat flux as per Table A.1.	Major (4) Contact or radiant heat to plastics fines, or stockpiles may initiate smouldering/ignition with potential escalation to a larger fire.	Medium (8)	• Separation from stockpiles • Parking controls • Operational procedures (i.e. engine shutdown when stationary) • Housekeeping • Firefighting equipment	Rare (1) With enforced separation/parking and housekeeping, sustained exposure of combustibles to hot exhaust surfaces is expected to be uncommon.	Moderate (3) Consequences are reduced through early detection, housekeeping controls, and the availability of firefighting equipment. Fire is expected to be localised and escalation would be controlled by fire suppression equipment.	Low (3)
Hot Works								
Hot works– related ignition	Welding, cutting, or grinding conducted in proximity to combustible plastic materials	Possible (3) Hot works generate sparks, molten metal, and radiant heat.	Major (4) Ignition may result in rapid fire spread involving plastic materials, leading to significant smoke production, asset damage, and operational disruption.	High (12)	• Hot works permit system • Designated hot works areas • Removal or shielding of combustibles • Fire watch • Firefighting equipment	Unlikely (2) With a formal permit system, controlled work areas, combustible management, and active fire watch, the likelihood of ignition during hot works is reduced.	Moderate (3) Consequences are reduced through early detection, housekeeping controls, and the availability of firefighting equipment. Fire is expected to be localised and escalation would be controlled by fire suppression equipment.	Medium (6)
External & Other								
External storage fire	External ignition sources affecting finished product	Unlikely (2) External ignition is uncommon due to limited ignition sources near the storage area and lower combustibility of finished product compared with raw plastics.	Major (4) A fire involving external finished-product storage may result in rapid fire growth, radiant heat exposure to structures, disruption to operations, and potential loss of stock.	Medium (8)	• Finished product only stored externally • Separation distances • Supervision & monitoring • Controlled stockpile geometry • Housekeeping • Exclusion of hot-works and parking within separation zone	Rare (1) With enforced separation distances, improved supervision, controlled ignition sources, and housekeeping, the probability of an external ignition successfully involving finished product becomes very low.	Major (4) Even with controls, a successful external ignition could still lead to significant fire escalation due to the combustible nature of the finished product.	Medium (4)
External fire exposure	Fire spread from adjoining industrial property	Rare (1) Adjoining properties present potential ignition sources, but cross-boundary fire spread is uncommon due to distance, construction materials, and differing operations.	Major (4) A fire spreading onto the site could ignite external storage, threaten buildings, disrupt operations, and require emergency response mobilisation.	Medium (4)	• Boundary walls/fencing • Emergency planning • Maintaining combustible materials away from boundary lines.	Rare (1) Boundary separation, limited combustible loading at edges, and emergency preparedness reduce the likelihood of cross-boundary ignition to very low.	Major (4) Consequences remain major due to the potential for escalation if an external fire impacts the site.	Medium (4)

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Environmental impact	Firewater runoff and contamination	Possible (3) Firewater and runoff contamination can occur during fire suppression, depending on site gradients and drainage patterns.	Major (4) Runoff may affect stormwater systems or the local environment, particularly under the worst credible fire scenario involving bulk HDPE storage in Building 3.	High (12)	• Impervious hardstand • Bunding • Pollution response • Staff training in emergency spill	Unlikely (2) Impervious hardstand and bunding significantly reduce the probability of uncontrolled runoff.	Moderate (3) If contamination occurs, impacts are expected to be localised and manageable through impervious hardstand, bunding and pollution response, limiting off-site environmental harm.	Medium (6)
Extreme or seasonal weather	Heatwaves increasing ignition and spread potential	Unlikely (2) Heatwaves may increase ambient temperatures and reduce moisture content of materials, but ignition still typically requires an initiating source.	Major (4) If ignition occurs during extreme weather, fire spread would be faster, potentially overwhelming suppression controls.	Medium (8)	• Weather monitoring and declaration of high-risk days • Operational adjustments • Housekeeping	Rare (1) With operational adjustments and weather-based restrictions, ignition likelihood during extreme conditions becomes low.	Major (4) Potential fire growth under extreme weather remains significant.	Medium (4)
Malicious or unauthorised acts	Arson or afterhours access	Rare (1) Arson or unauthorised access is possible but infrequent, especially in industrial zones.	Major (4) Deliberate ignition or sabotage could result in significant asset loss and operational disruption.	Medium (4)	• Site security • Access control • Supervision including CCTV • Clear visibility lines and lighting	Rare (1) Security, surveillance, and controlled access minimize opportunities for unauthorised ignition.	Major (4) Consequences remain unpredictable and major due to the nature of deliberate acts.	Medium (4)

Source: DDEG, 2026 – Table 9.

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6.6.3 Storage Management and Fire Mitigation

Control measures have been identified using a hierarchy of controls (HoC) approach, prioritising inherently safer and engineering-based controls, supplemented by administrative and emergency response measures to manage residual risk. This approach is consistent with EPA Publication 1667.3, and reflects the nature of fire risk within plastics reprocessing facilities, where combustible fuel load and fire growth characteristics dominate overall fire severity.

The measures set out the recommended fire prevention, mitigation, and response measures for the proposed plastics processing facility. The measures are derived from the credible fire scenarios and worst credible fire storage conditions identified in this Fire Risk Assessment and are consistent with EPA Publication 1667.3 and fire engineering practice.

The obligation level of each control is defined as follows:

- Must – minimum requirement relied upon by this assessment
- Will – committed design or operational measure
- Should – management or procedural control required to manage residual risk

The Fire Risk Assessment included as Appendix G also outlines how controls are to be implemented, documented, and maintained through design, operational procedures, inspection and maintenance regimes, and integration with the site Emergency Management Plan to be prepared for use by the site.

6.6.3.1 Fire Protection Systems and Equipment

Fire Detection and Alarm

- Thermal detection cameras must be provided to all primary plastic storage areas, including bulk bale storage and finished product storage.
- A building occupant warning system must be provided in accordance with NCC 2022 Volume 1 Section S20C7.
- Automatic fire sprinkler system is not required by NCC but recommended if reasonably practicable. This would be investigated if required prior to commissioning, in line with relevant requirements.

Firefighting & Suppression

- Fire hydrant systems must be provided throughout all buildings in accordance with NCC 2022 and AS 2419.1.
- Fire hose reel systems must be provided in accordance with AS 2441.
- Portable fire extinguishers must be provided in accordance with AS 2444.

6.6.3.2 Management in Use

Ignition Source Control

- Incoming plastics must be inspected to identify and reject incompatible or contaminated material.
- Processing equipment will be fixed in position and spatially separated from bulk plastic storage where practicable.
- Electrical equipment, switchgear and cabling must be kept clear of combustible materials.
- Electrical systems must be inspected, tested and maintained in accordance with AS/NZS 3760 and manufacturer requirements.
- Mobile plant refuelling must only occur in designated refuelling areas separated from plastic storage and ignition sources.
- Smoking must be prohibited within buildings, plastic storage areas, and external yards, with designated smoking areas only if provided.

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Separation

- Plastic storage must maintain separation distances from site boundaries and adjoining properties consistent with EPA 1667.3.
- Concrete bay structures will be used in Building 3; should be utilised for remaining buildings.
- Combustible materials must not be stored between plastic storage areas and site boundaries.
- External wall zones adjacent to storage areas must be kept free of combustible items.

Housekeeping & Storage Management

- Housekeeping must be maintained to prevent accumulation of loose plastics, fines and debris.
- On-site plastic storage quantities and dwell time must be managed.
- Abnormal inventory conditions should trigger operational intervention.
- Plastic storage configurations must be routinely checked.
- Maintain the external stockpile in accordance with the EPA 1667.3 guideline. For a pile width up to 10 metres and access only from one side, this includes:
    - A maximum height of 4m or 4 bales, whichever is lower, and
    - Maintaining a minimum 13m separation distance to the nearest building, and
    - Maintaining a minimum 10m separation distance to another 'loose pile' (N/A in the proposed layout).

Hot Works

- All hot works must be managed under a formal hot works permit system.
- Hot works must only be undertaken in designated or temporarily controlled areas that are free of combustibles or suitably shielded.

Site Security

- Access to the site must be restricted to authorised personnel only, with perimeter fencing and controlled entry points maintained.
- Security lighting and/or monitored security systems must be provided to plastic storage and external yard areas.
- External plastic storage and yard areas must not be accessible to the public or adjoining properties.

Inspection & Maintenance

- Plastic storage areas, separation distances and access aisles should be inspected routinely.
- Fire safety equipment must be maintained in accordance with AS 1851.
- Deviations from assessed storage layouts or quantities must be rectified or reviewed.

Change Management

- Any material change to storage quantities, material types, processing methods, or building layout must trigger a review of fire risks and control measures.
- Temporary or abnormal storage conditions must not persist without review and approval.

6.6.3.3 Emergency Access & Response

- Fire appliance access routes and hardstand areas must be provided and maintained.
- Internal access aisles and circulation paths must remain unobstructed.
- An Emergency Management Plan must be implemented in accordance with AS 3745.
- Staff must receive training and evacuation drills should be conducted at least annually.

6.6.3.4 Environmental Protection

- Impervious hardstand surfaces must be provided across storage and operational areas.
- Bunding and controlled drainage must be provided to manage and contain firewater runoff.
- Drainage pathways must be maintained free of debris and blockages.

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- Environmental response procedures should be implemented to manage pollution incidents.
- Firewater containment systems must be maintained in an operational state.

6.6.4 Conclusions

The control measures listed above represent the complete set of fire prevention, mitigation and response measures relied upon by this Fire Risk Assessment. Ongoing compliance with these measures is necessary to maintain the residual risk levels identified in this report.

This section does not address fire risks that may arise from considerable changes to site conditions or operations. Any material change to the facility may trigger a review of fire risks and control measures in accordance with EPA requirements.

6.7 Waste Management

6.7.1 Construction/Commissioning Waste Management

The proposed development would not require the construction of buildings or structures, the clearing of land or the extensive disturbance of ground. The commissioning stage of the proposed development has the potential to result in the generation of a range of general solid wastes, through the following activities:

- Installation of safety signage and labels for site operations;
- Internal fit-out and installation of equipment in the existing industrial buildings;
- Installation of internal modifications to industrial warehouses such as bunding and storage areas.

Waste generated by the proposed development is limited given the scope of works proposed. Typically, installation works have the potential to result in the following impacts:

- Surplus materials being directed to landfill due to inadequate attempts for separation, reuse, and recycling;
- Impacts to human health associated with various types of waste being generated and stored on-site, with the potential for misclassification or mishandling resulting in potential cross contamination;
- Environmental impacts from the incorrect storage, classification, transport and disposal of waste materials generated through the construction and commissioning stage; and
- Traffic impact associated with the removal and transport of waste off-site.

Works related to installation would result in minor quantities of waste generation. Notwithstanding this, waste streams would need to be managed appropriately to ensure minimisation of waste and avoid, where possible, disposal to landfill.

6.7.2 Operational Waste Management

6.7.2.1 Waste Storage

Waste storage for the site is presented in

6.7.2.2 Non-process related wastes (office and staff)

Operational waste would be limited to the general operation of the site by personnel. Overall, waste generation from the proposed development would be associated with operational staff for each of the industrial units and other staff amenities. Waste generation from staff at the site is expected to be minimal. Bins for the disposal of waste generated by staff will be made available near the staff offices, and any waste generated by use of site amenities would be consolidated in these bins routinely.

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The following bins and collection frequency are expected to be sufficient for the generation of waste from general use of the site by staff:

- 2 x 240L General Waste bins / collected weekly
- 2 x 240L Recycling bins / collected weekly

The above bins will be retained near the front office for ease of access by staff and for the contracted waste service provider (see Figure 32).

Bins stored here would be accessible by an HRV for the purpose of waste collection onsite. The traffic assessment prepared by EB Traffic Solutions shows that a HRV (12.5m vehicle) is capable of entering and exiting the site in a forward direction, which would suitably accommodate a waste collection vehicle to service bins at the site.

Figure 32: Bin storage area



Source: Nearmap, 2025.

6.8 Ecology

The site at 45 Fabio Court, Campbellfield, is located within an industrial zone (IN1Z) and is surrounded by land that includes public conservation zones (PCRZ) and transport zones (TRZ2).

This land use pattern provides a natural buffer between the site and nearby residential and environmentally significant areas. While the broader area includes native vegetation that is important for biodiversity, the site itself has been developed for industrial use and lacks the ecological values typically associated with conservation zones or native habitats. Given the absence of significant native vegetation on the site and its industrial zoning, the proposed development will not impact ecologically sensitive areas or values.

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6.8.1 52.17 – Native Vegetation

The purpose of Clause 52.17 is to ensure there is no net loss of biodiversity due to the removal, destruction, or lopping of native vegetation. This is achieved through the following approach, as outlined in the Guidelines for the removal, destruction or lopping of native vegetation (DELWP, 2017):

1. Avoid the removal, destruction, or lopping of native vegetation where possible.
2. Minimise impacts on biodiversity when removal cannot be avoided.
3. Offset biodiversity impacts through appropriate compensation when vegetation removal is permitted.

No vegetation, would be removed, destroyed or lopped as part of the development and therefore the provisions of Clause 52.17 do not apply to the proposed development. No biodiversity offsets or further assessments are needed under the Native Vegetation Information Management (NVIM) framework. Gray Box Woodland located 100m Northwest of the Proposed site has an environmental significance overlay and any operations on the Proposed site should consider the biodiversity and ecosystem of the Gray Box Woodland.

6.8.2 Mitigation Measures

- No areas of native vegetation would be used for storage or parking.

6.9 Amenity

The proposed development has been designed to minimise impacts on amenity, with targeted measures to address light spill, visual integration, and pest control. These considerations ensure that the facility aligns with the character of the industrial zone and maintains the environmental and residential amenity of the broader area.

6.9.1 Light spill/glare

The proposed plastic recycling facility is situated within an industrial zone (IN1Z) where light industrial activities are the predominant land use. To minimise any potential light spill or glare from the facility, lighting will be directed downward, with shielded fixtures ensuring compliance with relevant standards. This design prevents light spill onto adjacent conservation and residential areas, maintaining the amenity of sensitive receivers.

6.9.2 Visual Amenity

The facility's design aligns with the surrounding industrial context, which features warehouse complexes and light industrial units, ensuring that the visual impact of the development is consistent with the existing environment. Measures to mitigate visual impact include maintaining a grassy buffer along the frontage, rear of the site bordering the train tracks and existing neutral, non-reflective materials constituting onsite buildings and work areas. These efforts ensure the facility integrates into its surroundings, avoiding disruption to the visual amenity of nearby areas.

6.9.3 Pests and Vermin

The facility's operations, including the storage and processing of plastic materials, have the potential to attract pests such as rodents and insects if not properly managed. To mitigate this risk, the following measures will be implemented:

- All materials will be stored in designated areas inside buildings, with controlled access and routine inspections. Minimal external storage for offtake material would be temporary only, and not include storage of materials overnight.

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- Regular cleaning schedules will ensure that processing areas remain free of debris or standing water, which could attract pests.
- Sealed and properly managed waste disposal systems will be employed to eliminate potential food sources (i.e. from staff).
- Regular pest control services will be contracted to monitor and address any infestations promptly.

By implementing these strategies, the facility will effectively prevent pest-related issues, safeguarding both the operations and the surrounding area.

6.9.4 Mitigation Measures

- Lighting will be directed downward, with shielded fixtures ensuring compliance with relevant standards;
- A grassy buffer to be maintained along the street frontage;
- Neutral colours and non-reflective materials form existing built features of the site;
- All material to be stored in designated areas with controlled access and routine inspections;
- Regular cleaning schedules will ensure that processing areas remain free of debris or standing water, which could attract pests;
- Sealed and properly managed waste disposal systems will be employed to eliminate potential food sources (i.e. from staff); and
- Regular pest control services will be contracted to monitor and address any infestations promptly.

6.10 Best Practice

The application has considered best practice in accordance with

- Sustainability Victoria (2019) Guide to Best practice at Resource Recovery Centres.
- EPA VIC Publication 1667:3 *Management and Storage of Combustible Recyclable and Waste Materials – Guideline* (EPA VIC, 2021).

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7 Conclusion

The proposed plastics remanufacturing facility for Kangaroo Plastics at 45 Fabio Court, Campbellfield is compatible with the surrounding area use for industrial development as a plastics reprocessing facility. The facility aligns with the objectives of the Industrial 1 Zone (IN1Z) and contributes to the reduction of environmental impacts associated with plastic disposal.

The proposed development supports state and local policies aimed at increasing resource recovery, reducing landfill reliance, and fostering environmentally sustainable industrial practices. The site is needed to contribute to additional plastic recycling capacity in the region.

The potential impacts of the development would be minimised by implementing the mitigation measures listed. Kangaroo Plastics will operate safely and efficiently, contributing positively to the community and broader sustainability objectives.

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8 References

Department of Environment, Land, Waste and Planning (DELWP) Planning and Environment Act 1987.

EPA Victoria (2021) Management and storage of combustible recyclable and waste materials – guideline.

Hume City Council Planning Scheme.

Infrastructure Victoria (2019) Victorian waste flows projections, prepared by Blue Environment.

Recycling Victoria (2024) Victorian Recycling Infrastructure Plan.

Sustainability Victoria (2024) Strategic Plan 2024-2027.

Sustainability Victoria (2019) Guide to Best practice at Resource Recovery Centres.

The Dangerous Goods (Storage and Handling) Regulations (2012).

9 Appendix List

Appendix A	Certificate of Title
Appendix B	Owners Consent
Appendix C	Existing Site Surveys and Elevations
Appendix D	Proposed Site/Layout Plans
Appendix E	Air Quality Impact Assessment
Appendix F	Noise Impact Assessment
Appendix G	Traffic and Parking Impact Assessment
Appendix H	Fire Risk Assessment

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MRA Consulting Group

Suite 408 Henry Lawson Building
19 Roseby Street
Drummoyne NSW 2047

+61 2 8541 6169
info@mraconsulting.com.au
mraconsulting.com.au



MRA Consulting Group

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45 Fabio Court, Campbellfield

Traffic Impact Assessment Report

Client: MRA Consulting

Prepared by

Evan Boloutis
Director
EB Traffic Solutions Pty Ltd
B.Eng (Civil), MEng Sc (Traffic), MBA

evan@ebtraffic.com.au
www.ebtraffic.com.au
[redacted]

30 June 2026
Rev B

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1. INTRODUCTION

1.1 Purpose of this report

This report sets out an assessment of the traffic and parking implications of the proposed development, with specific consideration of the following:

- the existing conditions and a description of the proposed development;
- an assessment of the development's car parking requirements;
- adequacy of the on-site car parking supply to accommodate the development's parking requirements;
- the ability for trucks to access the loading bay areas and then exit from the site in a forward manner; and
- an assessment of the traffic anticipated to be generated by the proposal.

1.2 Referenced documents

This report has been based upon a number of sources. These include:

- Information provided by the applicant and officers from Council;
- Melways maps, Nearmap and Google Maps, AnyTrip Interactive Public Transport Map, Uber RideShare Map;
- AutoTURN computer software for the swept path analysis;
- Australian Standards AS 2890.1 (2004), AS 2890.6 (2022) and AS 2890.2 (2018);
- Parking surveys undertaken on Tuesday 10 February 2026 between 9 am and 5 pm;
- Letter from EPA to Terence Dong (Hume Council), Ref: REQ008137, Planning Application: P26905, dated 20 October 2024;
- Letter from Hume Council to Kangaroo Plastics, Ref: P26905, dated 25 Sep 2025;
- Planning permit report prepared by MRA, 45 Fabio Ct Campbellfield, dated 1 September 2025; and
- Layout plans of the proposed development prepared by JRE Land Surveyors, Job. 17336, Sheet 01, dated 6th September 2022.

2. EXISTING CONDITIONS

2.1 Location and Land use

The subject site is located along the western boundary of Fabio Court, approximately 380m west of Sydney Road.

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The area surrounding the site predominantly commercial and light industrial in nature, and typically use similar premises as distribution points or, to break down larger quantities of goods into smaller, more manageable loads for faster distribution.

The location of the subject site is shown in **Figure 2.1**.

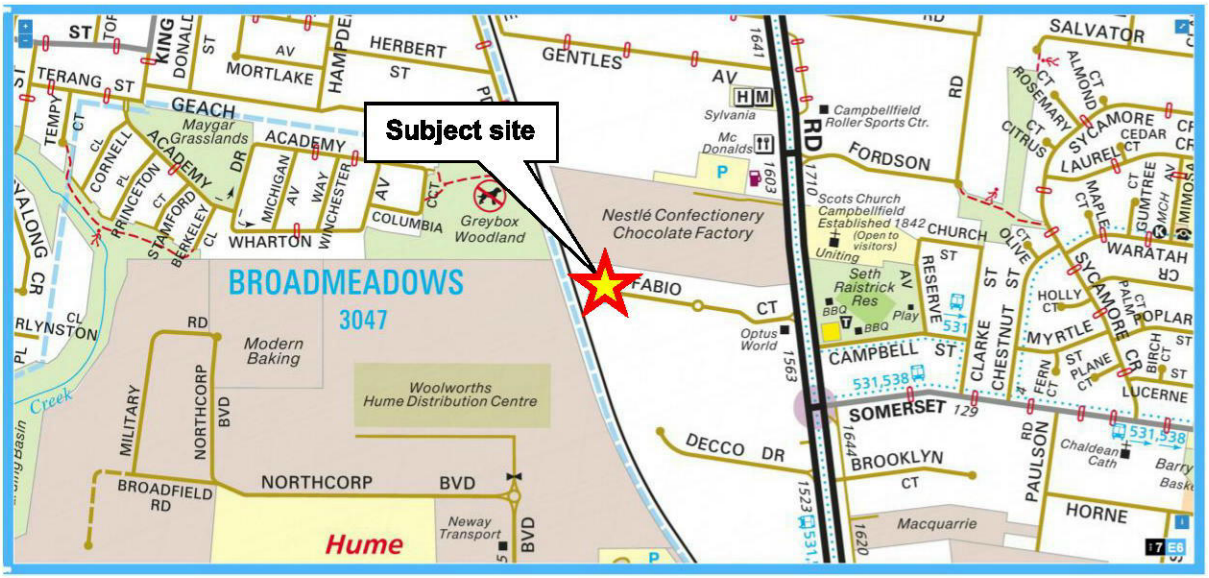

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Figure 2.1: Location of the subject site

There are currently three warehouses and an ancillary office on the site which have a combined floor area of 5,450 sqm. The subject site has an overall area of approximately 6,570 sqm. There are currently 10 on-site parking spaces inclusive of a disabled bay.

The subject site and surrounding neighbourhood are illustrated below in **Figure 2.2.**



Source: Nearmap (imagery taken on 15th October 2025)

Figure 2.2: Existing site layout

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2.2 Road Network

Fabio Court is a local industry road which contains an undivided cross section with a traffic and parking lane in each direction. On-street car parking is typically characterised as unrestricted, the speed limit is 50km/hr.

Fabio Court has a cross-section width of 9.5m within the roadway, and 26m within the court bowl, and as is able to accommodate light and medium rigid delivery vehicles, with full on-street parking availability.

Photos showing the cross section of Fabio Court looking to the east and west in close proximity to the site are shown in **Figures 2.3** and **2.4**, respectively.



Source: Google Maps StreetView

Figure 2.3: Fabio Court looking east



Source: Google Maps StreetView

Figure 2.4: Fabio Court looking west

2.3 Existing Car Parking Supply and Demand

To establish the existing parking demands in the nearby on-street car parking areas, parking surveys were undertaken in the immediately surrounding area on Tuesday 10 February 2026 between 9 am and 5 pm.

The area included for the parking surveys correspond to a distance of up to around 400 m from the subject site, as shown in **Figure 2.5**.

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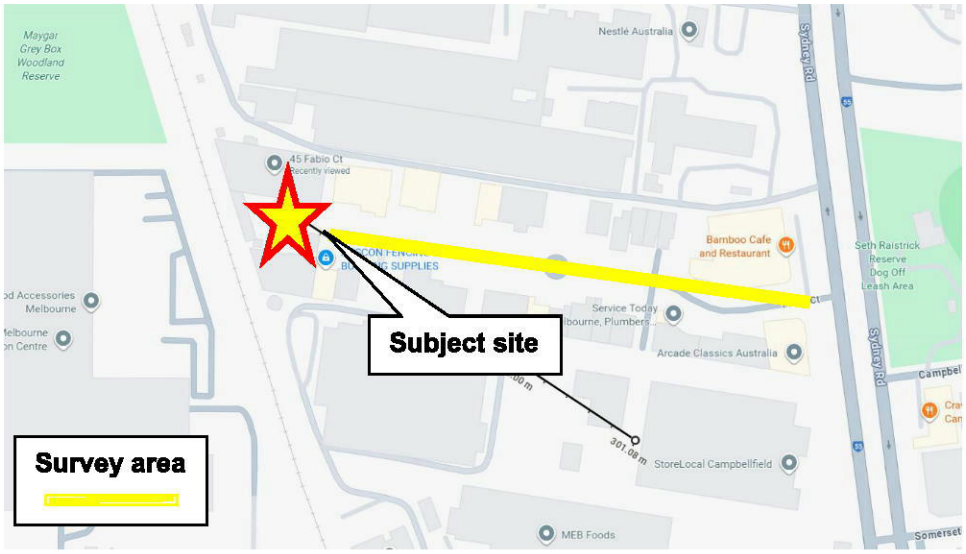


Source: Google Maps

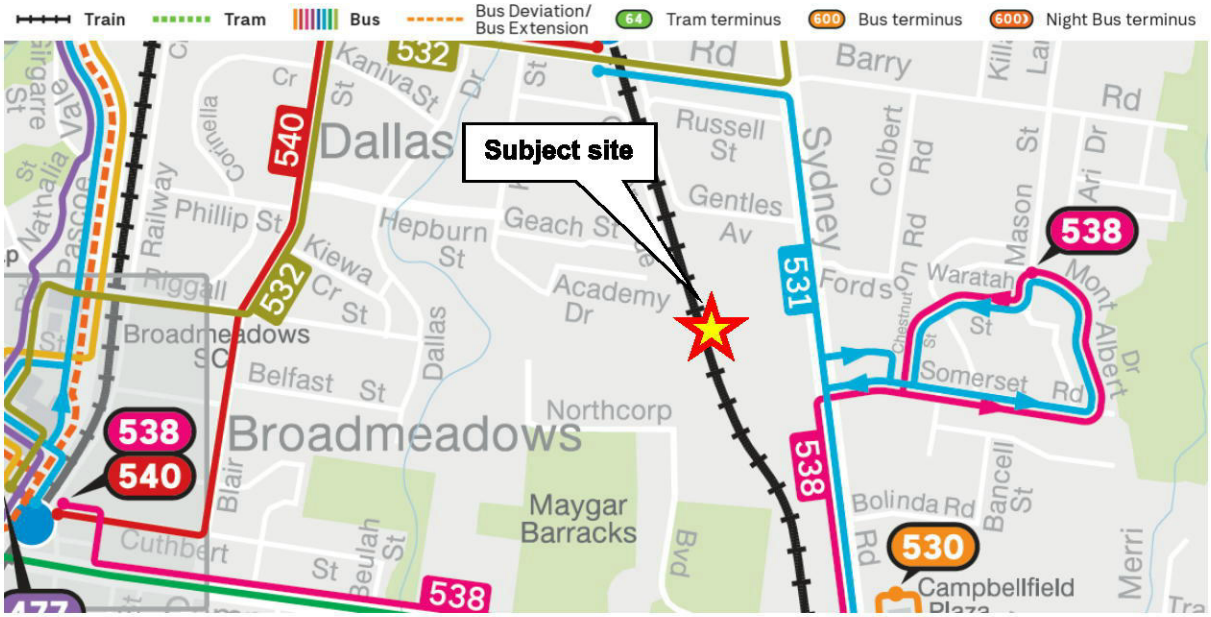
Figure 2.5: Survey area adopted for the parking survey

The results of the parking surveys are shown summarised in **Attachment A** and indicate that the peak parking demands in the on-site and on-street parking areas during the survey period corresponded to 20 vehicles or 38 % of the available parking supply (52 spaces).

2.4 Public Transport Facilities

The subject site is well serviced by a train station and two bus routes which operate adjacent to and in close proximity to the site. Bus route 531 operates between North Coburg Terminus and Upfield Station.

The public transport services in the vicinity of the subject site are shown in **Figure 2.6**.



Source: Hume City Council Public Transport Map (March 2024)

Figure 2.6: Public transport services in the vicinity of the subject site

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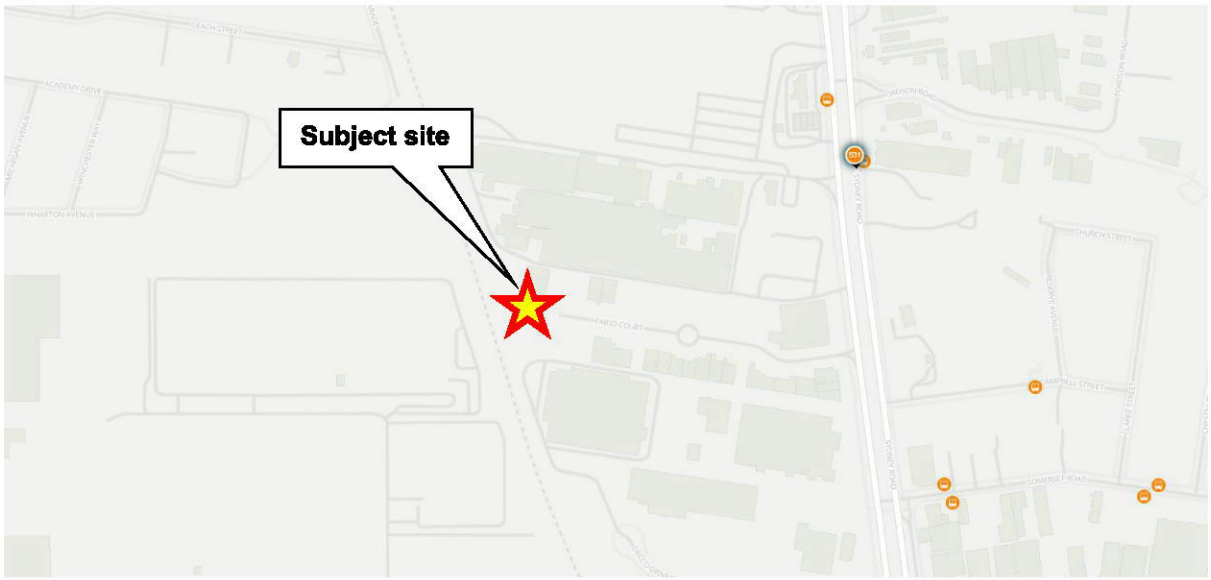
An assessment of the timetables of the various public transport services indicate that each service operates during the weekday and weekend time periods within frequent time intervals.

Bus stops are located along in close proximity to the site as shown in **Figure 2.7**.



Source: AnyTrip Interactive Trip Planning and Stop Finder Map

Bus Stop Locations

Figure 2.7: Public transport services in vicinity of subject site

2.5 Bicycle Infrastructure

The City of Hume is well serviced by an extensive network of on- and off-road bicycle network linking the municipality with the surrounding municipalities.

These include the following cycling facilities:

- *Off Road Shared paths* exist along the alignment of the Merri Creek Trail to the east, as well as along the Merlynston Creek Trail to the west, and the Western Ring Road Trail to the south;
- *On Road Cycling lanes* exist along Dallas Drive and Riggall Street to the west;
- *Informal Cycling routes* exist within the surrounding neighbourhood road network, as well as along Somerset Road to the east, to name a few.

There is a formal and informal bicycle network in the vicinity of the site as shown in an extract from the Hume TravelSmart map in **Figure 2.8**.

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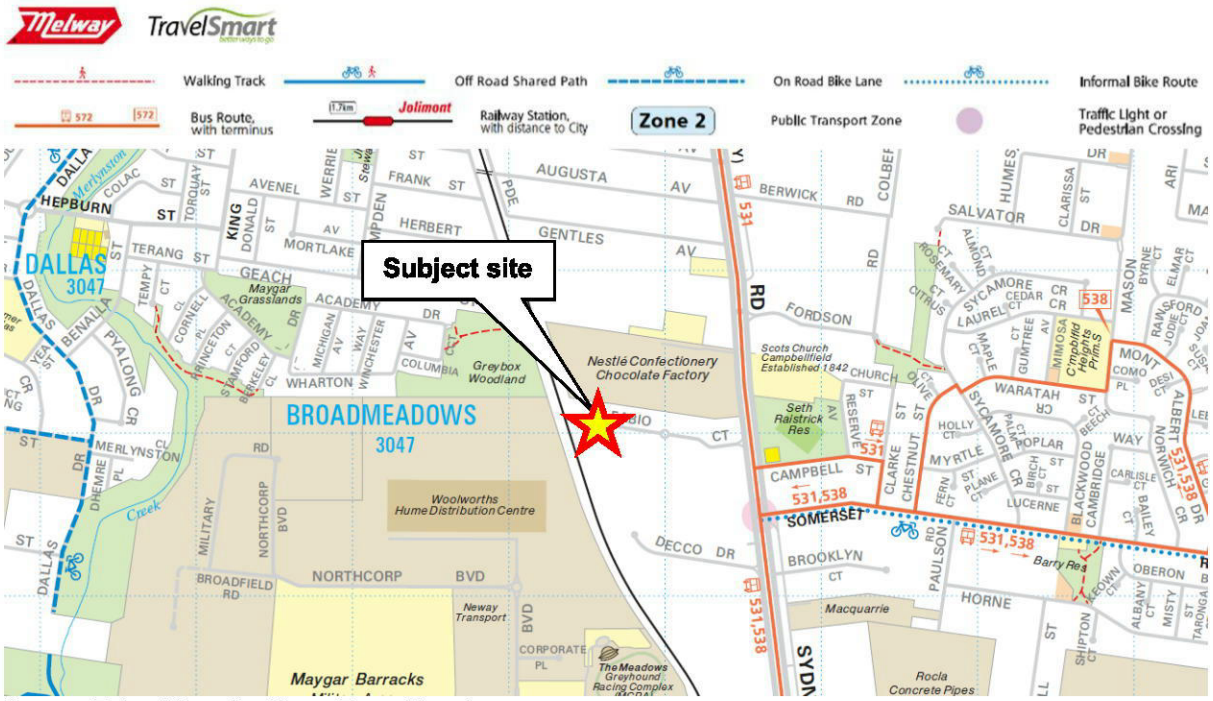

Source: Extract from the Hume TravelSmart map

Figure 2.8: On and off-road bicycle routes in the vicinity of the site

2.6 On-demand ride facilities

Car sharing schemes and on-demand ride services have been operating in Melbourne since 2003 with a number of inner metropolitan Councils (including City of Port Phillip, Yarra, Melbourne, Moreland and Darebin) actively supporting their use by allocating on-street spaces throughout their municipalities for the purposes of accommodating 'car share' cars and taxi services.

Commercially and privately operated car share cars and rides are available in close proximity to the subject site, as shown in **Figure 2.9.**



Source: Uber Trip Map

Figure 2.9: On-demand ride opportunity in the vicinity of the site

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3. THE PROPOSAL

It is proposed to refurbish the existing buildings to provide a plant for the re-processing of plastics from recycling operations to make plastic pellets.

Information provided by the applicant indicates that the proposed facility will be capable of processing up to 48,000 tonnes per annum (tpa).

The plant will operate Mondays to Saturdays between 7.30 am-11 pm and have two staff shifts operating between 7 am-3.30 pm and between 3 pm-11.30 pm. Further, there will be a maximum of six staff (two staff per factory) who would arrive and depart during the designated shift times and two office-based administration staff on-site at any one time who would arrive and depart during typical business hours.

Reference to the layout plan indicates that the on-site parking areas will contain a total of 10 spaces for staff and visitors, inclusive of an accessible bay.

Access to the on-site car parking areas will be via an existing access with all vehicles entering the site access via an entry and exit lane.

The layout of the proposed development is illustrated below in **Figure 3.1**, as per **Attachment B**.



Source: JRE Surveyors

Figure 3.1: Proposed site and car parking areas

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4. CAR PARKING CONSIDERATIONS

4.1 Car Parking Requirements

The statutory requirements for car parking are set out in Clause 52.06 of the Hume Planning Scheme, with parking rates stipulated in the table to Clause 52.06-5.

Consideration needs to be given to Amendment VC277 which was gazetted December 2025 and, amongst other changes, reduces car parking requirements for uses in residential and commercial areas, and for land within walking distance of high-quality public transport.

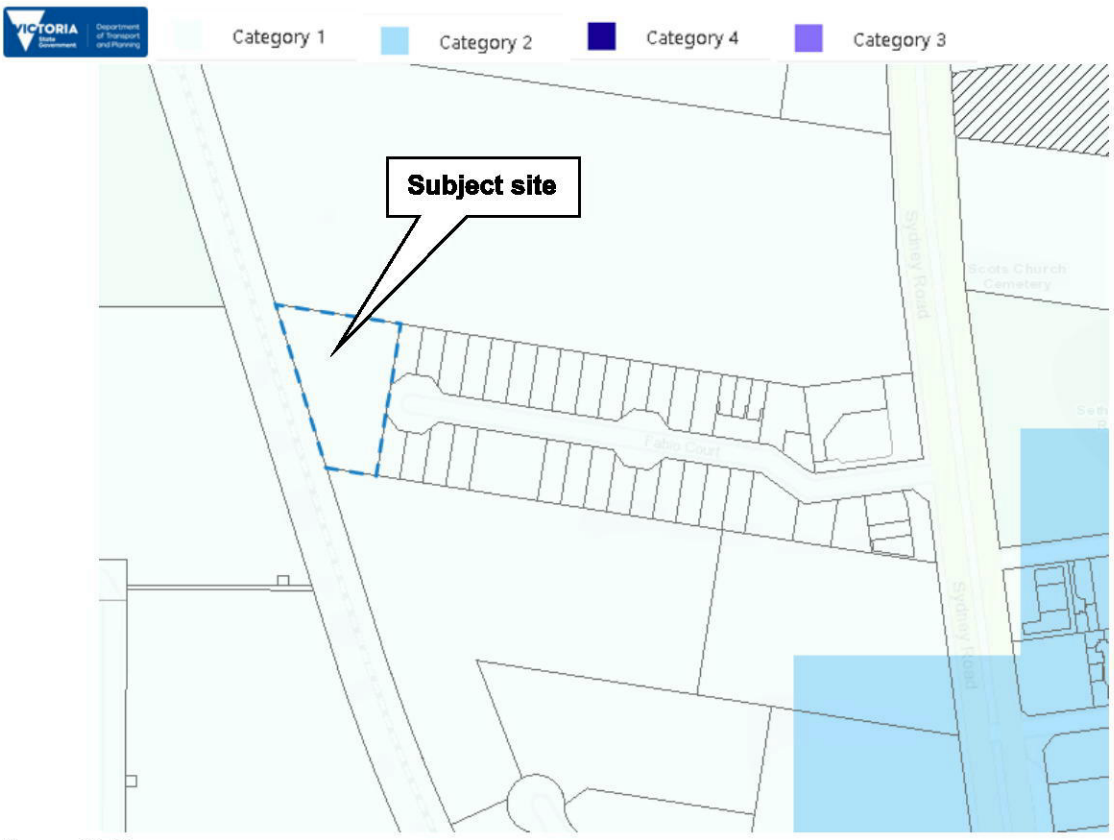
The Clause 52.06 **Table1** parking rates now apply automatically to a site, and Categories 1 – 4 are applicable to land as per the Car Parking Requirement Maps (Department of Transport and Planning, 2025 – CPR Maps).

Specifically, the Clause 52.06-5 **Table 1** car parking requirements is calculated as either:

- *A number of car parking spaces; or*
- *A percentage of the total site area that must be set aside for car parking.*

The Car Parking Requirement Maps (CPR) reflects the categories for car parking rate calculation, based upon the land category.

An extract of the CPR map for the Hume Municipality is shown in **Figure 4.1**.



Source: VicPlan

Figure 4.1: Location of site (Category 1)

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Reference to **Figure 4.1** indicates that the proposed development is located within the boundary of the Category 1 zone.

Having regard to the above, reference to Clause 52.06-5 (Table 1) indicates that the **Category 1** car parking rates for the proposed materials recycling use is 10 % of the site area.

Application of the car parking rate to the site area (6,570 sqm) corresponds to a required car parking area of 657 sqm.

An assessment of the area provided for car parking (including the abutting accessways) for all 10 spaces corresponds to 365.98 sqm, which is less than the development's statutory car parking requirement of 657 sqm.

Further, reference to the Building Code of Australia indicates that the proposed Materials Recycling yard is required to provide one disabled parking space, which is proposed to be provided (refer Section 4.3).

Notwithstanding the above, information provided by the applicant indicate that the proposed recycling centre will have a maximum of eight staff on site at any one time (and no visitors) which, assuming all staff drive, are able to be accommodated within the on-site provision of 10 spaces.

4.2 Statutory Bicycle Parking Requirements

Clause 52.34-3 of the Hume Planning Scheme seeks to encourage cycling as a mode of transport with the provision of secure, accessible and convenient bicycle parking spaces.

The statutory bicycle parking requirements (Clause 52.34-3 of the Hume Planning Scheme) of the proposal are set out in **Table 4.1**.

Table 4.1: Assessment of Statutory Bicycle Parking Requirements

Description	Size	Bicycle Parking Rate		Bicycle Parking Requirement	
		Staff	Visitors	Staff	Visitors
materials recycling (Industry) #	5,450 sqm	1 per each 1,000 sqm nfa	-	5 spaces	-

Note: nfa = net floor area
rate adopted for industry for purpose of the analysis

Application of the statutory parking rates to the proposed recycling facility results in a statutory requirement to provide five bicycle spaces for employees to the development.

Having regard to the above, it is recommended that a minimum of five bicycle spaces be provided within the premises, should employees choose to utilise sustainable modes of transportation.

The recommended type of bike parking spaces are shown in **Figure 4.2** and the configuration for the placement of the bike spaces is shown in **Figure 4.3**.

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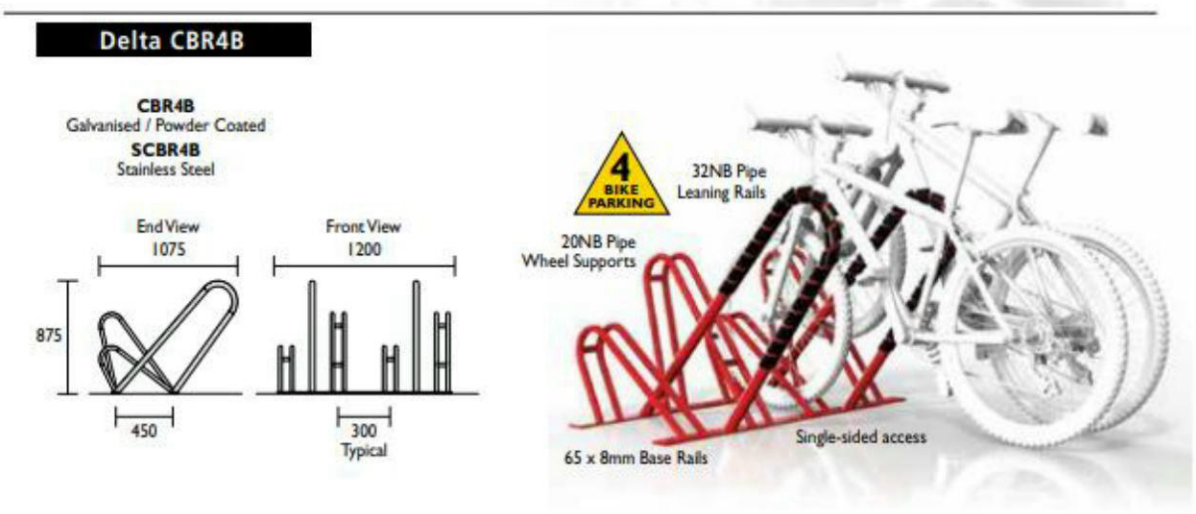
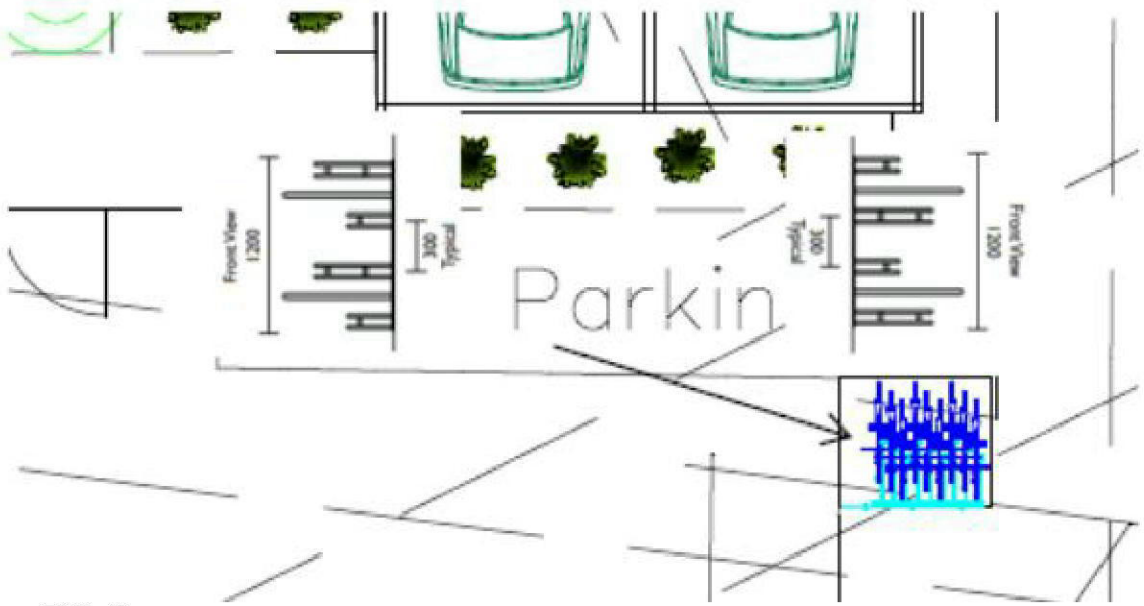


Source: Securabike

Figure 4.2: Proposed bicycle parking spaces



Source: EB Traffic

Figure 4.3: Location of proposed bicycle parking spaces

4.3 Car Park Layout

4.3.1 Dimensions of car spaces

Reference to the layout plans indicate that the on-site spaces have been provided at 2.9 m in width and 5 m in length and an aisle width of at least 6.4 m, which accords with Clause 52.06-9 of the Hume Planning Scheme.

The disabled bay has been provided at a width of 2.9 m wide and a length of 5 m long. An area has been provided adjacent to the disabled bay at a width of 4.4 m and a length of 5 m which is proposed to be utilised as a shared space. It is recommended that two bollards be located within the shared area at an offset of 800 mm from the edge of the accessway to prevent a vehicle from parking in this area.

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The dimensions of the car parking bays and accessways generally accord with that specified in Clause 52.06 of the Hume Planning Scheme and Australian Standards AS 2890.1:2004 and AS 2890.6:2022.

4.3.2 Access to/from car accommodation spaces

Clause 52.06-9 (design standard 1) of the Hume Planning Scheme requires a motorist to exit from the site in a forward manner if *"the accessway serves four or more car spaces or connects to a road in a Transport Zone 2 or Transport Zone 3."*

The parking layout has been designed to suitably accommodate the safe movements of B85 passenger cars, as well as the ability for vehicles to enter and exit the site in a forward manner.

4.3.3 Width of accessway

The minimum width of the access to the on-site car parking area is 7.4 m, which accords with Clause 52.06-9 of the Hume Planning Scheme (design standard 1) and AS 2890.2:2018.

4.3.4 Sight lines for existing motorists

Clause 52.06-9 (design standard 1) of the Hume Planning Scheme specifies that *the development is required to:*

"Have a corner splay or area at least 50 per cent clear of visual obstructions extending at least 2 metres along the frontage road from the edge of an exit lane and 2.5 metres along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road. The area clear of visual obstructions may include an adjacent entry or exit lane where more than one lane is provided, or adjacent landscaped areas, provided the landscaping in those areas is less than 900mm in height."

Reference to the layout plans indicate that the sight line triangles have been provided on either side of the access point, which complies with Clause 52.06-9 (design standard 1) of the Hume Planning Scheme.

It is however recommended that any obstructions such as landscaping placed within the sight line triangles not exceed a height of 900 mm.

5. COMMERCIAL VEHICLES

The adequacy of loading facilities for new developments can be assessed having regard to Clause 65.01 of the Hume Planning Scheme.

Specifically, the responsible authority must consider, amongst other things:

'The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.'

The applicant has advised that the material recycling premises will comprise of a mixture of 12.5 m heavy rigid vehicles (delivering plastics to the premises) and 20 m articulated vehicles removing flaked and pelletised plastics.

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The ability for the largest truck, a 20 m AV to safely enter and exit the premises was tested with the use of the AutoTURN computer software, the analysis of which is shown in **Figure 4.3.**

The swept path analysis indicates that a 20 m AV can safely enter/exit the site to then exit to Fabio Court in a forward manner.

It is further recommended when a truck arrives on site and props within the accessway at the western end of the site, a spotter be designated to ensure that any staff and visitors are temporarily held when the truck enters the site, manoeuvres on site and when the truck departs from the site.

6. TRAFFIC IMPACT

The impact of the proposed development can be assessed having regard to the anticipated number of vehicle movements likely to be generated at the development access during the commuter peak periods.

Based upon a maximum processing capacity of processing of up to 48,000 tonnes per annum (tpa), the applicant has advised that this corresponds to eight trucks delivering plastics to the premises each day and up to six articulated trucks removing flaked and pelletised plastics each day (up to 14 truck movements per day).

The number of truck movements corresponds to an average of one truck movement per hour during a 12 hour period, or up to two trucks per hour during a peak hour.

Then applicant has advised that the heavy vehicles would be scheduled to arrive at the site to minimise the number of trucks propped within the accessway at any one time.

In addition, there are a maximum of six warehouse staff on site at any one time who will arrive at the shift changeover times between 6.30 am - 7 am and between 2.30 pm - 3 pm and depart the site between 3.30-4 pm and between 11.30 pm - 12 midnight, which corresponds to the time periods outside of the commuter peak periods on the surrounding road network.

Further, there will be two office-based administration staff which will arrive between 8-9 am and depart between 5-6 pm.

The level of traffic movements anticipated to be generated by the proposed development is considered minimal and is not anticipated to represent an adverse impact upon the operation of the surrounding road network.

7. REFUSE

The applicant has advised that the refuse bins will be stored within the premises and would be serviced by a private contractor.

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8. CONCLUSION AND RECOMMENDATIONS

Having regard to the above, it is considered that:

- Application of the car parking rate to the site area (6,570 sqm) corresponds to a required car parking area of 657 sqm;
- An assessment of the area provided for car parking (including the abutting accessways) for all 10 spaces corresponds to 365.98 sqm, which is less than the development's statutory car parking requirement of 657 sqm.
- The proposed recycling centre will have a maximum of eight staff on site at any one time (and no visitors) which, assuming all staff drive, are able to be accommodated within the on-site provision of 10 spaces;
- The level of traffic movements anticipated to be generated by the proposed development is considered minimal and is not anticipated to represent an adverse impact upon the operation of the surrounding road network; and
- This application is supported on traffic engineering grounds.

Further, it is recommended that:

- two bollards be located within the shared area at an offset of 800 mm from the edge of the accessway to prevent a vehicle from parking in this area;
- five bicycle spaces be provided within the premises, should employees choose to utilise sustainable modes of transportation;
- any obstructions such as landscaping placed within the sight line triangles not exceed a height of 900 mm; and
- a spotter be designated to ensure that any staff and visitors are temporarily held when the truck enters the site, manoeuvres on site and when the truck departs from the site.

Evan Boloutis
Director
EB Traffic Solutions Pty Ltd

B.Eng (Civil), MEng Sc (Traffic), MBA

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ATTACHMENT A

RESULTS OF PARKING SURVEYS

ROAD LENGTH	Max. Spots	NUMBER OF PARKED CARS Tuesday 10 February 2026				
		9 am	11 am	1 pm	3 pm	5 pm
FABIO COURT						
north side						
unrestricted	26	9	11	12	11	7
south side						
unrestricted	26	7	8	8	7	5
TOTAL	52	16	19	20	18	12

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ATTACHMENT B

LAYOUT OF THE PROPOSED DEVELOPMENT

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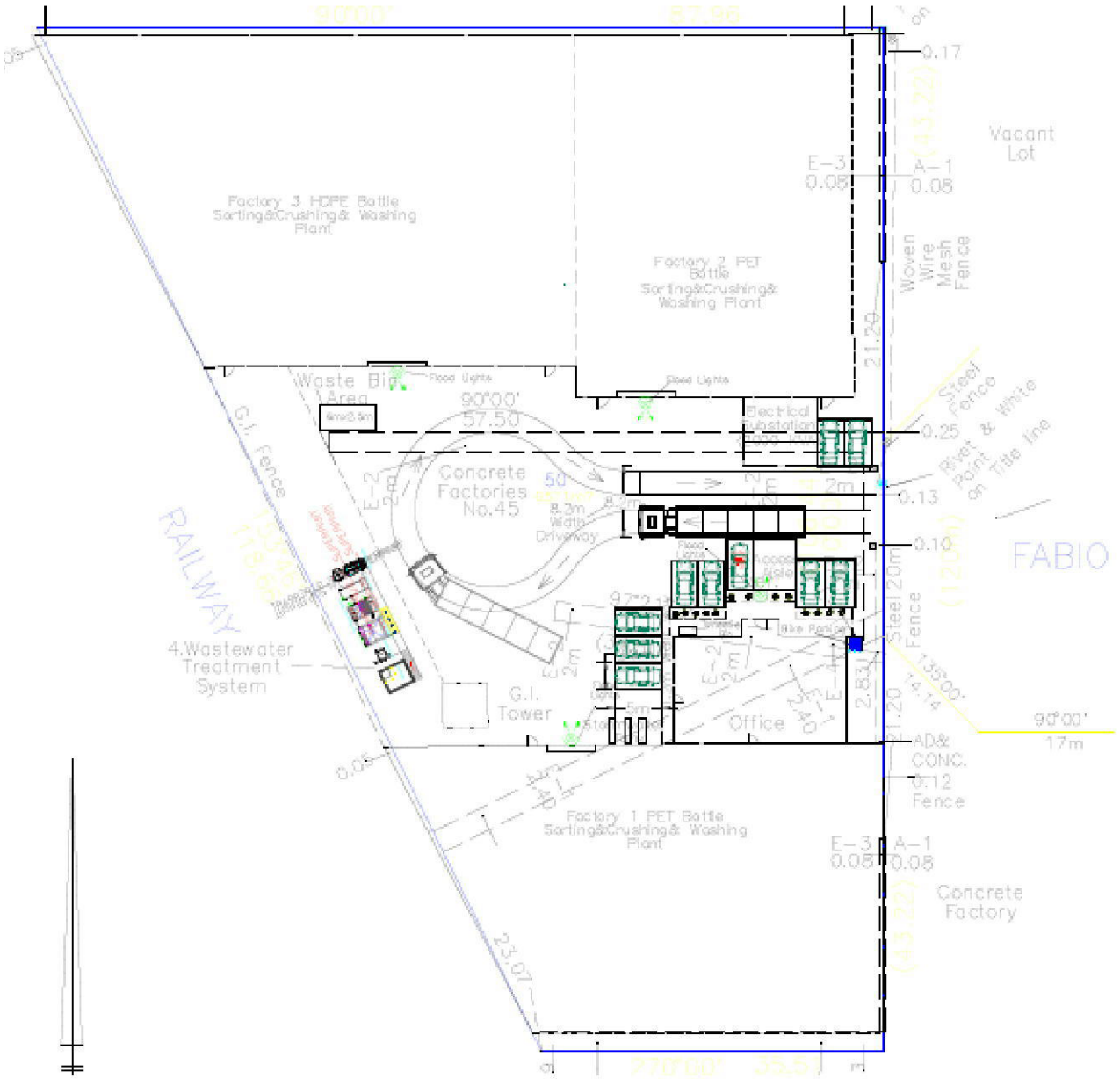

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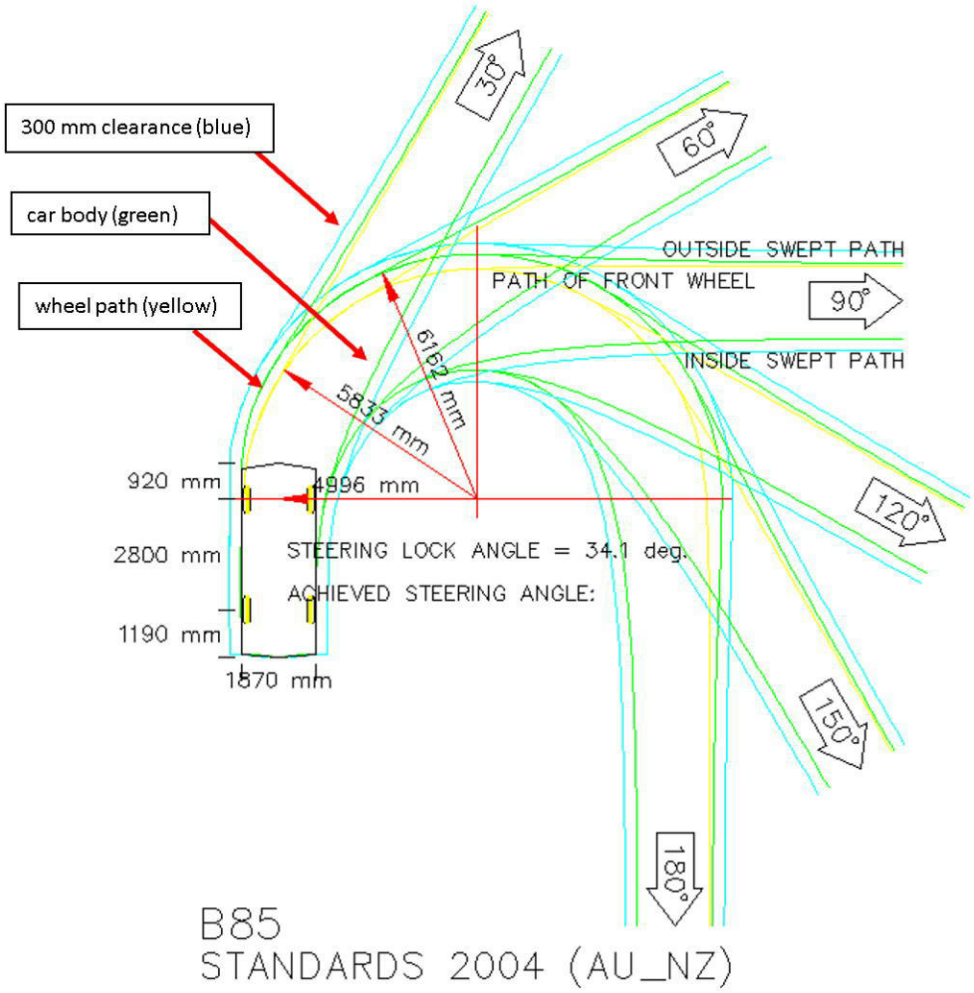
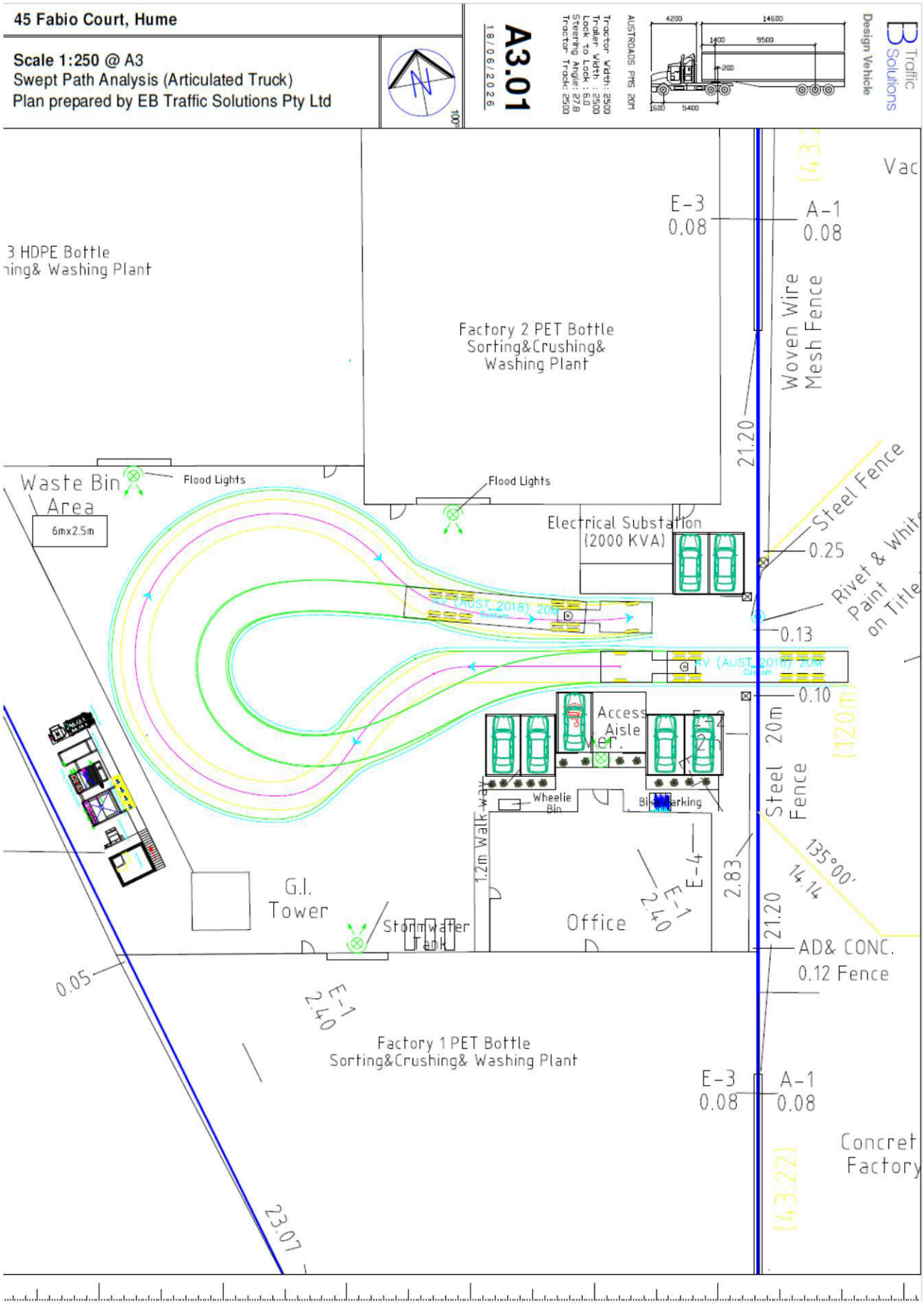
ATTACHMENT C

SWEPT PATH ANALYSIS





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FIRE SAFETY ENGINEERING

FIRE RISK ASSESSMENT

Address	45 Fabio Court, Campbellfield, VIC
Project no.	217909-F
Date	16/04/2026
Revision	2



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DOCUMENT TITLE	**Fire Engineering – Fire Risk Assessment**
PROJECT ADDRESS	**45 Fabio Court, Campbellfield, VIC**
PROJECT NO	**217909-F**
PREPARED FOR	**MRA Consulting Group**

PREPARED BY

DDEG (Fire)
ABN: 49 161 043 732

1300 470 578
Building 2, Ground Floor, 195 Wellington Road
Clayton, VIC 3168

AUTHORISED BY

Michael Dobbs
michael.d@ddeg.com.au

FIEAust CPEng EngExec NER APEC Engineer IntPE(Aus)
RPE (VIC) PE0003177 (Fire Safety & Mechanical)
PE (NSW) PRE0000871 (Fire Safety & Mechanical)
DP (NSW) DEP0001109 (Fire Safety, Mechanical & Facade)
Certifier (NSW) - Fire Safety, Engineer Mechanical BDC0782
PE (ACT) 00300004113 (Fire Safety & Mechanical)
ABP (TAS) CC4904J
RPEQ (QLD) 21858
MAICD



REVISION HISTORY

Doc	Rev	Date	Purpose	Prepared by	Reviewed by
FRA	0	10/02/2026	Draft	Albert Chang	Oliver Hare
FRA	1	11/03/2026	Draft	Albert Chang	Oliver Hare
FRA	2	16/04/2026	Final	Albert Chang	Oliver Hare

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1 Introduction

1.1 Purpose

MRA Consulting Group has appointed DDEG to undertake a Fire Risk Assessment for the proposed plastics processing facility at 45 Fabio Court, Campbellfield, VIC.

This Fire Risk Assessment has been prepared in accordance with the fire risk management framework outlined in *EPA Publication 1667.3 – Management and storage of combustible recyclable and waste materials* (EPA Victoria, 2021). The assessment follows the structured process of hazard identification, risk assessment, control selection, residual risk evaluation and identification of emergency management requirements, consistent with Chapters 3, 4 and 5 of the guideline.

1.2 Reference Documentation

The Fire Risk Assessment is based on information contained in the following documents and drawings:

TABLE 1 Reference Documentation

Document	Prepared by	Issue
Email To: Albert Chang Cc: Michael Dobbs Subject: RE: 45 FABIO CT CAMPBELLFIELD - RFQ Fire Assessment and Design - FRA R0 *Removal of Extrusion from Processes*	James Cosgrove, MRA Consulting Group	10/03/2026 3:27 PM
Planning Permit Report 45 Fabio Court, Campbellfield	MRA Consulting Group	01/09/2025 Version 1
Plant Layout Drawings 45 Fabio Court, Campbellfield *Floor Plans and Perspectives*	Provided by MRA Consulting Group	May 2025
EPA Letter Ref: REQ008137 Application No: P26905	Rund Gorgis, EPA Victoria	20/10/2024
Land Survey Drawing 45 Fabio Court, Campbellfield, VIC	J.R. Edwards Land Surveyors	06/09/2022
Documentation of Existing Kangaroo Plastics Site		
Existing Workplace Inspection and Housekeeping Procedure 202-204 Northbourne Road, Campbellfield	Kangaroo Plastics	15/11/2021 Revision 4
Existing Emergency Management Plan 202-204 Northbourne Road, Campbellfield	Kangaroo Plastics	28/09/2021 Revision 3

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1.3 Relevant Guidelines

This Fire Risk Assessment is based on *EPA Publication 1667.3 – Management and storage of combustible recyclable and waste materials*.

This assessment is a stand-alone assessment that sits independently of any documented Performance Solutions. This assessment does not assess against the NCC Performance Requirements.

In addition, this assessment also considered the following guidance documents:

- *Guideline – Fire Safety in Waste Management Facilities* (Australasian Fire and Emergency Service Authorities Council (AFAC), 2022).
- *Management and Storage of Combustible Recyclable and Waste Materials - Indoor Storage Guideline* (CFA / MFB, 2020).
- *Building Code of Australia 2022 (NCC) Volume One* (ABCB, 2022).
- *Australian Fire Engineering Guidelines (AFEG)* (ABCB, 2021).

1.4 Limitations

The following limitations are applicable with respect to the fire engineering evaluation undertaken in this report:

- This assessment does not consider compliance with the BCA DTS Provisions.
- This assessment does not consider compliance with the Dangerous Goods Act 1985.
- This risk assessment does not consider amenity or non-fire related matters in the building such as health, amenity, security, energy efficiency, occupational health & safety, compliance with Disability Discrimination Act (DDA) etc, which are to be addressed by others. Consequently, the outcomes of this evaluation have not been checked or verified for their fitness for purpose of any non-fire safety related matters including the ones outlined above.
- This assessment is not a full compliance or conformance audit for any fire safety system. Therefore, operational checks of fire safety equipment, verification of construction techniques, fire resistance levels or the witnessing of fire drills or exercises are specifically excluded from the scope of this assessment. The operational status of systems, items of equipment and staff training should be addressed as part of the inspection, commissioning, enforcement, maintenance, testing, training and management procedures for the building.
- This assessment excludes multiple ignition sources, acts of terrorism, protection of property (other than adjoining property), business interruption or losses, personal or moral obligations of the owner/occupier, reputation, environmental impacts, broader community issues etc.
- Arson has been shown statistically to contribute to fire. This report has addressed the incidence of minor forms of arson as a single ignition source. However major arson involving accelerants and/or multiple ignition sources are beyond the scope of this evaluation and have been excluded.
- Reports marked "DRAFT" may be subject to change and are not released as final reports. DDEG accepts no liability pending release of the final version of the report.
- The design concepts outlined in this report are for a complete and operational building and do not address protection of the building during construction, renovation or demolition.
- The assessment is relevant to the hazards identified at the time of assessment. Any change in building, process, occupant or material storage conditions from those considered in this report, or any deviation from the implementation of the fire safety strategy outlined in this

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report, may result in outcomes not anticipated by the proposed strategy and should be reviewed.

- Evaluation of the expected level of fire induced property damage with respect to the contents and building structure is specifically excluded.
- The recommendations in this evaluation are based on information provided by others. DDEG has not verified the accuracy and/or completeness of this information and accepts no responsibility or liability for any errors or omissions which may be incorporated into this evaluation as a result.
- The recommendations, data and methodology documented in this assessment are based on the listed documentation and specifically apply to the subject building and must not be utilised for any other purpose. Any modifications or changes to the building, fire safety management system, or building usage from that described may invalidate the findings of this assessment necessitating a re-evaluation.
- DDEG incorporates all practical efforts in producing a risk assessment in accordance with the client's brief. It must be recognised that fire is a complex and variable phenomenon and that a fire may occur during the life of the building which may result in injury, death or property loss.
- The recommendation presented in this risk assessment is not an exhaustive list, and it is the opener/operator's responsibility to ensure that unidentified and emerging fire risks are suitably eliminated, or otherwise mitigated, when such matters arise.

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2 Principal Building Characteristics

The building and occupant characteristics described below are informative only. The information is based on referenced documentation and is current at the time of writing this report. It is not intended to restrict or limit the design.

2.1 Building Characteristics

The project comprises the conversion of an existing timber storage and distribution facility into a proposed plastics processing facility.

TABLE 2 Building Parameters

BCA Parameter	Description
Occupancy	Office, Processing Buildings
BCA Classification	Class 5, Class 8
Rise in Storeys	1
No. of Storeys Contained	1
Effective Height	0m
Type of Construction	Type C

2.2 Building Location

The site is located at 45 Fabio Court, Campbellfield, VIC, as shown in the figure below.

FIGURE 1 Aerial Image of Site (Google Maps)



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2.3 Building Layout

The building layout is shown in the following figures.

FIGURE 2 Site Layout (Land Surveyor Drawing)

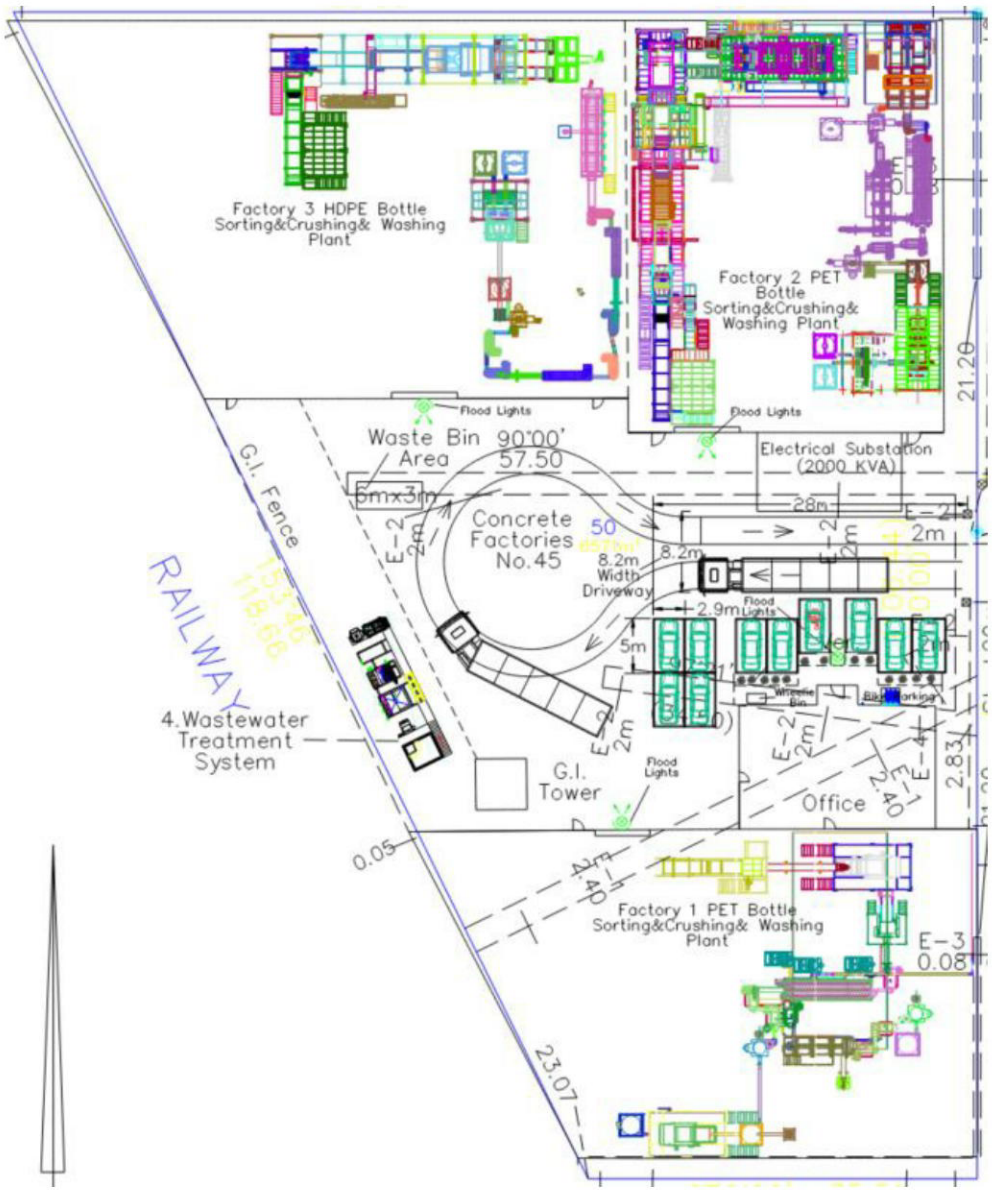

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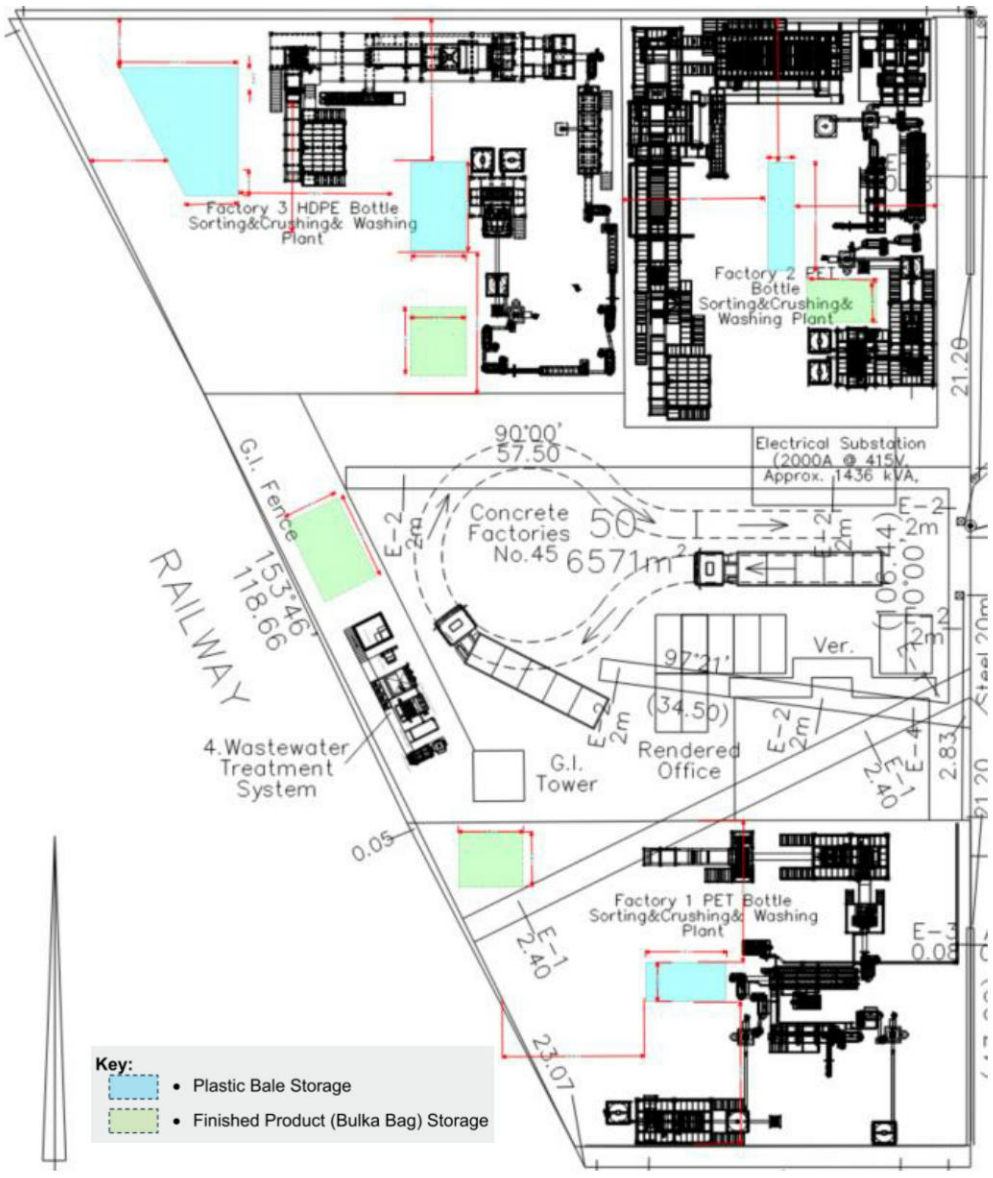
FIGURE 3 **Site Layout (Land Surveyor Drawing) – Storage Markup**



2.4 Summary of Facility Activities

The facility will operate as a plastics reprocessing plant, handling pre-sorted Polyethylene Terephthalate (PET), Polypropylene (PP) and High-Density Polyethylene (HDPE). Operations include receival, internal storage, optical sorting, washing, shredding and drying. No mixed-waste processing, non-compliant or contaminated material acceptance, or municipal waste handling occurs on-site.

2.4.1 Materials Accepted

The following materials are accepted and handled on site:

- Pre-sorted baled PET, HDPE, PP only.
- No hazardous wastes, gas cylinders, liquids, e-waste, or incompatible materials.

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- Feedstock delivered by commercial suppliers.

2.4.2 Receival and Handling

- Approximately 180 tonnes a day of materials delivered by semi-trailers and up to eight deliveries per day.
- Unloaded at external hardstand and transferred immediately into designated indoor storage bays.
- Forklifts used for bale movement and feeding processing lines.

2.4.3 Processing Activities

- Bales undergo optical sorting and manual inspection to remove residual contaminants.
- All mechanical processing (shredding, washing, drying) occurs within enclosed buildings.
  - **Building 1**: PET sorting, washing and flaking.
  - **Building 2**: PP sorting, washing and flaking.
  - **Building 3**: HDPE sorting, washing and flaking.

Mechanical processing is limited to the plastics reprocessing lines, which comprise:

- **Shredding/crushing**: Baled plastics are reduced to smaller pieces for washing and flaking.
- **Washing**: Pre-wash and main wash systems remove labels, sugars and residual contaminants from PET/PP/HDPE using cold and hot wash water, supplied by a boiler system.
- **Drying**: Dewatering and thermal drying prepare material for sorting.
- **Flake sorting**: Clean flakes are graded to remove fines or non-target materials.

No baling, compaction, or processing of general waste streams occurs on site; all incoming plastics arrive pre-baled and no other waste types are accepted.

2.4.4 Storage Arrangements

- Input bales (800 × 800 × 1200 mm, ~350 kg) stored indoors only within Buildings 1-3.
- Main bulk storage in Building 3, with thermal detection cameras and concrete bay separation around the stockpile.
- Buildings 1-2 used for short-term staging of bales prior to processing.
- Finished flake stored in bulka bags, max two high, indoors or under the western awning.
- No external storage of input materials.

See Appendix B for further details and fire load assessment of storage.

2.4.5 Dispatch

- Finished product loaded into bulka bags for dispatch by truck.
- Up to 5-6 outbound loads per day during peak operations.

2.4.6 End Use

Reprocessed flake is supplied to manufacturers as direct substitutes for virgin polymers, supporting circular-economy production and reducing reliance on landfill.

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3 Hazard Identification

3.1 Identifying Fire Hazard

3.1.1 Methodology

Hazards were identified with consideration of various sources, including:

- Consideration of ignition, fuel and oxygen sources (fire triangle) relevant to site activities.
- Review of the Risk Register for the existing Kangaroo Plastics facility located at 202-204 Northbourne Road, Campbellfield VIC.
- Activity-specific scenarios in the existing Emergency Management Plan for the existing Kangaroo Plastics facility located at 202-204 Northbourne Road, Campbellfield VIC, including processing equipment fires (granulators, conveyors lines), mobile plant fires, LPG cylinder incidents, electrical switchboard fires, and firewater runoff during suppression.
- Consideration of current industry guidance.
- Consideration of external fire exposure scenarios and potential abnormal or emergency conditions which are site-specific.

3.1.2 Fire Hazard Table

Relevant fire hazards are outlined in TABLE 3, categorised into the components of the fire triangle. These are based on the expected activities on-site, as well as site-specific hazards.

TABLE 3 Fire Hazard Table

Ignition Sources	Fuel Sources	Oxygen Sources
Electrical faults (overloads, damaged cables, overheating equipment) *It is noted a high voltage electrical substation is on-site, which may be prone to electrical faults.*	Combustible material (PP, PE, HDPE) as bales and flake.	Ambient air with natural airflow (open buildings, airflow around machinery, ventilation)
Mechanical heat (friction, static) *It is noted a Metro Trains railway is adjacent to the western boundary, which may exert mechanical heat.*	Flammable liquids, oil, fuels of machinery (including diesel for forklifts)	Oxidising chemicals (e.g. oxy-acetylene cylinders for welding works, bleach or hydrogen peroxide for cleaning)
Hot surfaces & exhausts (machinery, plant)	Contaminants (hazardous substances, residue, organic matter)	Physical introduction of oxygen (unbaling, fluffing or mechanically turning loose piles)
Hot work (welding, grinding, flame tools)	Stored waste (skip/waste bins, external piles)	
External ignition (cigarette, adjacent fires, arson, lightning, solar heating)	Vegetation & boundary materials (grass, external combustibles)	

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Incorrect handling (unsuitable items in feed like batteries, incorrect refuelling)	Pressurised gas (gas cylinders) *It is noted an EDL Energy landfill gas pipeline route runs along the western edge of the site.*	

4 Assessing Fire Risk

Fire hazards are typically assessed through establishing the likelihood and consequence of those identified hazards. This provides a framework for determining appropriate controls for each hazard.

4.1 Likelihood of Fire

Likelihood considers the probability that a fire-associated risk will occur, and assessing likelihood must consider factors like previous occurrence, frequency, operational changes, environmental changes and human behaviour. A scale of likelihood is presented in TABLE 4.

TABLE 4 Likelihood of Fire

Likelihood	Description
Almost Certain (5)	Anticipated to happen in the majority of cases, with a high frequency of documented occurrences or compelling anecdotal evidence, and a significant probability of recurrence. Additionally, there is a significant opportunity, rationale, or means for the event to take place, such as occurring at least once during every bushfire season or more frequently.
Likely (4)	Anticipated to happen in most situations, with frequent documented incidents and compelling anecdotal evidence. Additionally, there is a substantial opportunity, rationale, or means for the event to take place, such as occurring once every five years.
Possible (3)	Expected to take place at some point, with sparse, infrequent, and randomly recorded incidents or limited anecdotal evidence. There are very few occurrences in associated or comparable facilities. Additionally, there is some opportunity, rationale, or means for the event to happen, such as occurring once every twenty years.
Unlikely (2)	Might happen, with no recorded incidents or anecdotal evidence, and no recent occurrences in associated or comparable facilities. Furthermore, there is little opportunity, reason, or means for the event to take place, such as occurring once in every one hundred years.
Rare (1)	May occur only in exceptional circumstances; for example, may occur once in every five hundred or more years

4.2 Consequence of Fire

Consequence is the outcome or impact that a fire event has on life, property, business continuity, the environment, and the surrounding community. A ranking of consequence is outlined in TABLE 5.

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TABLE 5 **Consequence of Fire**

Consequence	Description
Critical (5)	A significant number of severe injuries, with an extended and substantial numbers requiring hospitalisation. Widespread displacement affecting a large number for an extended period. A considerable number of fatalities, necessitating extensive personal support. Widespread damage rendering the community unable to function without significant support.
Major (4)	Widespread injuries necessitating significant hospitalisation, a substantial number displaced for more than 24 hours. Possible fatalities. External resources are needed for personal support. Extensive damage requires external assistance. The community is only partially functioning, with some services unavailable. There is a significant financial loss, requiring some financial assistance.
Moderate (3)	Medical treatment is necessary, but no fatalities occur. There is some hospitalisation, and localised displacement of people who return within 24 hours. Personal support is addressed through local arrangements. The localised damage is rectified by routine measures. The community functions normally with some inconvenience. There is a notable financial loss.
Minor (2)	A limited number of injuries with no fatalities, requiring first aid treatment. There is some displacement of people for less than 24 hours, along with a need for some personal support. Minor damage occurs, causing some disruption for less than 24 hours, resulting in a modest financial loss.
Insignificant (1)	No fatalities or injuries reported. A small number / no people are displaced, and if any, it is only for a short duration. There is little or no requirement for personal support (excluding monetary or material support). Inconsequential or no damage is observed, causing little or no disruption to the community. There is little or no financial loss incurred.

4.3 Risk Matrix

Risk can be evaluated by combining the consequence of an event with its likelihood of occurrence, presented in a Risk Matrix, as shown in TABLE 6.

TABLE 6 **Risk Matrix**

		Likelihood				
		Rare (1)	Unlikely (2)	Possible (3)	Likely (4)	Almost Certain (5)
Consequence	Critical (5)	Medium (5)	High (10)	Very High (15)	Extreme (20)	Extreme (25)
	Major (4)	Medium (4)	Medium (8)	High (12)	Very High (16)	Extreme (25)
	Moderate (3)	Low (3)	Medium (6)	Medium (9)	High (12)	Very High (15)
	Minor (2)	Low (2)	Low (4)	Medium (6)	Medium (8)	High (10)
	Insignificant (1)	Low (1)	Low (2)	Low (3)	Medium (4)	Medium (5)

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4.4 Credible High-Risk Fire Scenarios

Credible high-risk fire scenarios typical for a plastic reprocessing plant, characterised by both potential severe consequences and a realistic likelihood of occurrence, are listed in TABLE 7 and form the basis of the Fire Risk Assessment. These fire scenarios are further categorised into fire initiation, fire spread/exposure scenarios.

TABLE 7 Credible High-Risk Fire Scenarios

Fire Scenarios	Rationale
Fire initiation scenario Internal plastic stockpile fire within buildings	Storage and handling of baled and loose PET, PP, and HDPE plastics represent a high combustible fuel load, where a fire may develop rapidly and produce significant heat release and smoke within enclosed buildings. Note: The Building 3 is identified as having the worst credible storage condition, see Appendix B.4.
Fire initiation scenario Processing equipment fire (e.g. shredders or extruders)	Plastics processing equipment presents credible ignition sources due to electrical faults, overheating, or mechanical failure, with potential for fire spread to adjacent plastic stockpiles and building contents.
Fire initiation scenario Diesel-powered forklift fire	Diesel forklifts introduce credible ignition sources arising from liquid fuel, hydraulic oil, and hot engine or exhaust components, particularly when operating in proximity to combustible plastic materials.
Fire initiation scenario On-site HV substation fire	The on-site HV substation represents a credible but low-likelihood electrical ignition source (e.g. insulation failure or arcing). A substation fire may generate high local heat flux, smoke, and external flame impingement. Given spatial separation and limited fuel continuity, escalation to plastic stockpiles is unlikely, but a credible exposure scenario exists if separation distances are compromised.
Fire escalation and exposure scenarios External finished-product storage fire	External storage of flaked plastic products presents a credible exposure fire scenario.
Fire escalation and exposure scenarios Fire spread between internal storage bays or buildings	A fire originating within one building or storage bay may spread to adjacent bays or buildings via radiant heat, openings, or fuel continuity, resulting in escalation beyond the initial point of origin.
Fire escalation and exposure scenarios Fire spread from an adjoining industrial property	The site is located within an established industrial precinct, where a fire on a neighbouring property represents a credible external exposure risk through radiant heat or direct flame contact.
Secondary consequence scenario Firewater runoff and environmental contamination during suppression of an internal plastics fire	Fire suppression of bulk plastics may generate large volumes of contaminated firewater requiring containment to prevent off-site environmental impact.

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4.5 Identification of Control Measures

Control measures have been identified using a hierarchy of controls (HoC) approach, prioritising inherently safer and engineering-based controls, supplemented by administrative and emergency response measures to manage residual risk. This approach is consistent with EPA Publication 1667.3, and reflects the nature of fire risk within plastics reprocessing facilities, where combustible fuel load and fire growth characteristics dominate overall fire severity.

The selection of control measures has been informed by hazard identification undertaken in accordance with EPA Publication 1667.3, based on document review and consultation for the proposed facility, including review of existing risk registers and emergency management documentation for a comparable plastics reprocessing operation.

As the storage and processing of combustible plastics are intrinsic to the proposed operations, elimination and substitution controls are not practicable. Accordingly, risk reduction is achieved primarily through engineering controls, supported by operational, management, and emergency response measures.

FIGURE 4 Hierarchy of Controls



Fire prevention and mitigation control measures have been developed consistent with the examples outlined in EPA Guideline 1667.3, including storage management, site layout and separation, fire protection measures, containment, and operational procedures.

Elimination and substitution controls are not generally practicable, as the storage and processing of combustible plastics are inherent to site operations. Accordingly, the focus is on higher-order engineering controls, supported by administrative measures and emergency response arrangements.

TABLE 8 Hierarchy-Based Fire Risk Controls

Control Category	Control Measure	Purpose / Risk Addressed
Elimination	Acceptance limited to pre-sorted PET, PP and HDPE only	Eliminates incompatible or higher-risk waste streams
	Rejection or quarantine of contaminated deliveries	Prevents ignition from hot loads, batteries, or contaminants
Substitution	Use of non-combustible construction for storage bay separation	Reduces fire spread between stockpiles and buildings

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Control Category	Control Measure	Purpose / Risk Addressed
Engineering – Storage Design	Stockpile geometry, pile height and separation in accordance with EPA 1667.3	Limits fire spread, radiant exposure, and escalation
	Physical separation of storage by building and concrete bays (notably Building 3)	Mitigates worst credible fire scenario (bulk HDPE storage)
	Finished products limited to two bulka bags high	Reduces local fire load density and flame spread
Engineering – Detection & Warning	Thermal detection cameras to all major plastic storage areas	Early detection of smouldering or incipient fires
	Occupant warning system compliant with NCC 2022	Enables rapid evacuation and response
Engineering – Suppression & Firefighting	Automatic fire sprinklers in accordance with AS 2118.1.	Provides automatic fire suppression to limit fire growth
	Fire hydrant system in accordance with AS 2419.1	Supports fire service intervention
	Fire hose reels in accordance with AS 2441	Enables early first-aid firefighting
	Portable fire extinguishers in accordance with AS 2444	Localised suppression of incipient fires
Engineering – Ignition Control	Fixed processing equipment separated from bulk storage	Reduces likelihood of fire spread from machinery
	Electrical equipment and switchgear kept clear of combustibles	Reduces electrical ignition risk
	Designated refuelling areas separated from storage	Controls mobile plant ignition scenarios
Engineering – Site & Environmental Controls	Impervious hardstand across operational areas	Limits firewater infiltration
	Bunding and drainage controls (including stormwater drain covers, roller door bunding and defined firewater retention capacity consistent with existing EMP)	Mitigates environmental contamination from firewater runoff during suppression activities
	Boundary areas maintained free of combustibles	Reduces external fire spread risk
Administrative – Storage Management	Limits on on-site inventory and material dwell time	Prevents excessive fire load accumulation
	Defined storage layouts maintained at all times	Preserves separation distances and access
Administrative – Housekeeping	Routine removal of loose plastics and fines	Reduces secondary ignition and fire spread
Administrative – Equipment Management	Preventive maintenance of processing equipment and mobile plant	Reduces ignition from mechanical or electrical failure
	Electrical inspection, testing and tagging (AS/NZS 3760)	Reduces electrical fault ignition risk
Administrative – Hot Works	Formal hot works permit system	Controls high-risk ignition activities
	Designated hot works areas free of combustibles	Reduces likelihood of ignition
Administrative – Training & Competency	Fire awareness and emergency response training	Improves early response and evacuation
	Licensed operation of forklifts and mobile plant	Reduces mechanical ignition risk

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Control Category	Control Measure	Purpose / Risk Addressed
Emergency Access & Response	Defined emergency roles (e.g. Chief Warden, Gate Warden) and fire service handover procedures implemented via the site EMP.	Ensures coordinated emergency response, controlled evacuation, and effective fire service handover.
	Clear fire appliance access routes and hardstand	Enables effective fire service response
	Unobstructed internal aisles and access paths	Supports evacuation and firefighting
	Emergency procedures developed to AS 3745	Ensures coordinated emergency response

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5 Risk Assessment Register

The Risk Assessment Register evaluates credible fire hazards by assessing likelihood and consequence before and after the application of control measures, thereby identifying the resulting residual risk. The register is informed by the existing risk register for the Kangaroo Plastics site and is refined to align with the credible fire scenarios and the structure of EPA Publication 1667.3. The register provides a structured basis for understanding the level of risk reduction required / achieved.

TABLE 9 Risk Assessment Register

Hazard	Potential Causes	Initial Risk Level			Control Measures	Residual Risk Level		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
STORAGE								
Incoming material ignition (hot loads / contamination)	Smouldering or contaminated incoming loads	**Unlikely (2)** Incoming material is pre-sorted; however contaminated deliveries may occur.	**Major (4)** Potential for a large plastics fire (refer Section C.2), which may result in significant smoke inhalation and fire exposure.	**Medium (8)**	• Load inspection and procedures • Supplier controls • Firefighting equipment	**Unlikely (2)** Likelihood of occurrence is externally controlled.	**Insignificant (1)** Immediate rejection of contaminated deliveries and procedures including a temporary hold area mitigates the consequence of this risk. On-site fire equipment enables early fire suppression.	**Low (2)**
Internal plastic stockpile fire	Electrical fault in proximity to stockpiles	**Possible (3)** Electrical fault initiation difficult to predict. Based on the occupancy type, the likelihood is assessed as "Possible" with 1 in 22.7 year occurrence (refer Appendix C.1).	**Major (4)** An electrical fire poses an immediate risk to occupants, materials and property. An electrical fault in close proximity to stockpiles may cause a plastics fire as well. A plastics fire can be highly severe (refer Appendix C.2), causing significant toxic smoke production and fire exposure between stockpiles and buildings.	**High (12)**	• Spatial separation and concrete bays • Electrical inspections & emergency shutdown • Electrical isolation • Housekeeping • Thermal detection cameras • Firefighting equipment	**Unlikely (2)** Spatial separation and concrete bays of stockpiles, with aisles/walkways kept clear through housekeeping reduces the likelihood.	**Moderate (3)** Minor reduction of consequence through controls. Thermal detection cameras provides early and automatic fire notification. Isolation and shutdown provide early containment of electrical fault. On-site fire equipment enables early fire suppression.	**Medium (6)**

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Hazard	Potential Causes	Initial Risk Level			Control Measures	Residual Risk Level		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
	Ignition of loose plastics or fines	**Possible (3)** Based on the occupancy type, the likelihood is assessed as "Possible" with 1 in 22.7 year occurrence (refer Appendix C.1).	**Major (4)** A large plastics fire may result from the ignition of loose fines spreading to stockpiles. A plastics fire can be highly severe (refer Appendix C.2).	High (12)	• Housekeeping • Operational procedure • Firefighting equipment • Thermal detection cameras	**Unlikely (2)** Primary control is proper housecleaning to minimise loose plastics/fines, and keeping aisles/walkways Concrete bays and operational procedure (e.g. safe moving and stacking of bales) physically limit loose plastics/fines.	**Moderate (3)** Minor reduction of consequence through controls. Thermal detection cameras provides early and automatic fire notification. Isolation and shutdown provide early containment of electrical fault. On-site fire equipment enables early fire suppression.	Medium (6)
	Self-heating or temperature escalation within stockpiles	**Rare (1)** As discussed in Appendix A – not applicable to plastics.	**Major (4)** A plastics fire can be highly severe (refer Appendix C.2).	Medium (4)	• Limits on pile size and dwell time • Stock rotation • Thermal detection cameras • Fire suppression equipment	**Rare (1)** Managing pile size, dwell time and stock rotations reduce the likelihood of this event occurring. The likelihood remains "Rare" but is not impossible.	**Moderate (3)** Minor reduction of consequence through controls. Thermal detection cameras provides early and automatic fire notification. Isolation and shutdown provide early containment of electrical fault. On-site fire equipment enables early fire suppression.	Low (3)
Inventory exceedance	Abnormal storage duration due to throughput constraints	**Possible (3)** While abnormal storage conditions cannot be ruled out, they are not representative of typical operations and is not "likely".	**Major (4)** Excessive storage of plastics contributes to the severity of a plastics fire. Excessive storage may also detrimentally impact the aisle/walkways and egress paths.	High (12)	• Inventory limits • Operational planning/ procedure • Housekeeping	**Unlikely (2)** Proper housekeeping reduces the potential for obstruction of aisles and walkways. Forward operational planning reduces the likelihood of inventory exceedance.	**Major (4)** The consequence inherently remains the same – excess inventory even if unlikely presents a severe fire risk.	Medium (8)
ELECTRICAL								
Electrical fire	Overloaded circuits, damaged cables, faulty equipment, etc.	**Possible (3)** Electrical fault initiation difficult to predict. Based on the occupancy type, the likelihood is assessed as "Possible" with 1 in 22.7 year occurrence (refer Appendix C.1).	**Major (4)** An electrical fire poses an immediate risk to occupants, materials and property. It also may result in a plastics fire. Electrical fire of plant may cause significant business interruption.	High (12)	• Electrical inspection and maintenance • Electrical isolation & emergency shutdown • Separation from combustibles • Housekeeping • Thermal detection cameras • Fire suppression equipment	**Unlikely (2)** Electrical inspection and maintenance reduce the chance of electrical fires due to fault equipment.	**Moderate (3)** Monitoring provides early fire notification. Isolation and shutdown provide early containment of electrical fault. On-site fire equipment enables early fire suppression. In limiting the electrical fault of plant, the controls assist with limiting the impact to business continuity.	Medium (6)

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Hazard	Potential Causes	Initial Risk Level			Control Measures	Residual Risk Level		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Electrical short circuit	Overloaded circuits	**Possible (3)** Electrical overloading difficult to predict, though it is anticipated to occur infrequently. A "Possible" rating is maintained from Risk Register for the existing site.	**Minor (2)** An electrical short circuit may cause minor business interruption. Secondary impacts may also occur, for example temporary loss of thermal detection camera functionality.	**Medium (6)**	• Electrical inspection and maintenance (with upgrade/ modification where required) • Electrical isolation & emergency shutdown • Housekeeping	**Unlikely (2)** Electrical inspection and maintenance by a qualified professional would confirm system capacity, with deficiencies identified and rectified through upgrade or modification where required to accommodate equipment.	**Minor (2)** While the likelihood of electrical short circuiting may be reduced, the impact to potentially critical equipment remains limited to local equipment disruption.	**Low (4)**
HV substation fire	Electrical fault, insulation failure, arcing	**Rare (1)** HV substations are purpose-designed installations with low historical fire incidence when installed and maintained in accordance with applicable electrical standards.	**Major (4)** A substation fire may generate high local heat flux, smoke, and potential flame impingement to adjacent building elements, with potential disruption to power supply and localised fire spread if not adequately separated.	**Medium (4)**	• HV substation installation complies with applicable installation regulations/standards • External location with the external wall of Building 2 achieving the required Fire Resistance Level • Housekeeping	**Rare (1)** Compliant installation and ongoing maintenance limit the probability of a substation fire.	**Moderate (3)** Fire-resisting construction of Building 2 and spatial separation limit escalation beyond the substation and limit exposure to plastic storage.	**Low (3)**
MACHINERY & PLANT								
Processing equipment fire	Electrical failure	**Possible (3)** Electrical failure of specific equipment fire is difficult to predict. Based on the occupancy type, the likelihood is assessed as "Possible" with 1 in 22.7 year occurrence (refer Appendix C.1).	**Major (4)** An electrical fire poses an immediate risk to occupants, materials and property. It also may result in a plastics fire.	**High (12)**	• Equipment inspection and maintenance • Electrical isolation & emergency shutdown • Separation from combustibles • Housekeeping • Staff monitoring • Fire suppression equipment	**Unlikely (2)** Electrical inspection and maintenance reduce the chance of electrical fires due to fault equipment.	**Moderate (3)** Monitoring provides early fire notification. Isolation and shutdown provides early containment of electrical fault. On-site fire equipment enables early fire suppression. In limiting the electrical fault of plant, the controls assist with limiting the impact to business continuity.	**Medium (6)**
	Mechanical overheating or friction	**Possible (3)** Mechanical overheating/friction is equipment-specific and difficult to predict. Based on the occupancy type, the likelihood is assessed as "Possible" with 1 in 22.7 year occurrence (refer Appendix C.1).	**Moderate (3)** Mechanical overheating may trigger automatic equipment shutdown, resulting in minor business interruption Friction-generated sparks may also occur and present a moderate consequence; however, isolated sparks are not expected to cause ignition of plastics (refer Appendix A).	**Medium (9)**	• Operating limits • Staff monitoring • Automatic shutdown • Equipment inspection and maintenance	**Unlikely (2)** Operation within manufacturer-defined load and temperature limits, enforced through monitoring and automatic shutdown, reduces the likelihood of mechanical overheating.	**Moderate (3)** Consequence remains the same.	**Medium (6)**

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Hazard	Potential Causes	Initial Risk Level			Control Measures	Residual Risk Level		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Diesel-powered mobile plant fire	Fuel or hydraulic oil leak	**Unlikely (2)** Mobile plant is generally maintained and fitted with OEM fuel/hydraulic systems; however, hose failure, damaged fittings, or seal degradation may occur during operation.	**Major (4)** A leak contacting hot engine/exhaust surfaces may ignite, resulting in rapid fire growth, smoke exposure, and potential involvement of nearby plastics.	**Medium (8)**	• Inspection and maintenance to OEM requirements • Pre-start checks for leaks/damage • Housekeeping • Refuelling controls • Firefighting equipment	**Rare (1)** With planned maintenance, routine inspections, and controlled refuelling, loss-of-containment events are likely to be identified and rectified prior to ignition.	**Moderate (3)** Consequences are reduced through early detection, housekeeping controls, and the availability of firefighting equipment. Fire is expected to be localised and escalation would be controlled by fire suppression equipment.	Low (3)
	Hot exhaust surfaces near combustibles	**Unlikely (2)** Exhaust operates at elevated temperatures, and fire start requires continuous exposure exceeding ignition temperature and critical heat flux as per Table A.1.	**Major (4)** Contact or radiant heat to plastics fines, or stockpiles may initiate smouldering/ignition with potential escalation to a larger fire.	**Medium (8)**	• Separation from stockpiles • Parking controls • Operational procedures (i.e. engine shutdown when stationary) • Housekeeping • Firefighting equipment	**Rare (1)** With enforced separation/parking and housekeeping, sustained exposure of combustibles to hot exhaust surfaces is expected to be uncommon.	**Moderate (3)** Consequences are reduced through early detection, housekeeping controls, and the availability of firefighting equipment. Fire is expected to be localised and escalation would be controlled by fire suppression equipment.	Low (3)
HOT WORKS								
Hot works–related ignition	Welding, cutting, or grinding conducted in proximity to combustible plastic materials	**Possible (3)** Hot works generate sparks, molten metal, and radiant heat.	**Major (4)** Ignition may result in rapid fire spread involving plastic materials, leading to significant smoke production, asset damage, and operational disruption.	**High (12)**	• Hot works permit system • Designated hot works areas • Removal or shielding of combustibles • Fire watch • Firefighting equipment	**Unlikely (2)** With a formal permit system, controlled work areas, combustible management, and active fire watch, the likelihood of ignition during hot works is reduced.	**Moderate (3)** Consequences are reduced through early detection, housekeeping controls, and the availability of firefighting equipment. Fire is expected to be localised and escalation would be controlled by fire suppression equipment.	Medium (6)
EXTERNAL & OTHER								
External storage fire	External ignition sources affecting finished product	**Unlikely (2)** External ignition is uncommon due to limited ignition sources near the storage area and lower combustibility of finished product compared with raw plastics.	**Major (4)** A fire involving external finished-product storage may result in rapid fire growth, radiant heat exposure to structures, disruption to operations, and potential loss of stock.	**Medium (8)**	• Finished product only stored externally • Separation distances • Supervision & monitoring • Controlled stockpile geometry • Housekeeping • Exclusion of hot-works and parking within separation zone	**Rare (1)** With enforced separation distances, improved supervision, controlled ignition sources, and housekeeping, the probability of an external ignition successfully involving finished product becomes very low.	**Major (4)** Even with controls, a successful external ignition could still lead to significant fire escalation due to the combustible nature of the finished product.	Medium (4)

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Hazard	Potential Causes	Initial Risk Level			Control Measures	Residual Risk Level		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
External fire exposure	Fire spread from adjoining industrial property	**Rare (1)** Adjoining properties present potential ignition sources, but cross-boundary fire spread is uncommon due to distance, construction materials, and differing operations.	**Major (4)** A fire spreading onto the site could ignite external storage, threaten buildings, disrupt operations, and require emergency response mobilisation.	**Medium (4)**	• Boundary walls/fencing • Emergency planning • Maintaining combustible materials away from boundary lines.	**Rare (1)** Boundary separation, limited combustible loading at edges, and emergency preparedness reduce the likelihood of cross-boundary ignition to very low.	**Major (4)** Consequences remain major due to the potential for escalation if an external fire impacts the site.	**Medium (4)**
Environmental impact	Firewater runoff and contamination	**Possible (3)** Firewater and runoff contamination can occur during fire suppression, depending on site gradients and drainage patterns.	**Major (4)** Runoff may affect stormwater systems or the local environment, particularly under the worst credible fire scenario involving bulk HDPE storage in Building 3.	**High (12)**	• Impervious hardstand • Bunding • Pollution response • Staff training in emergency spill	**Unlikely (2)** Impervious hardstand and bunding significantly reduce the probability of uncontrolled runoff.	**Moderate (3)** If contamination occurs, impacts are expected to be localised and manageable through impervious hardstand, bunding and pollution response, limiting off-site environmental harm.	**Medium (6)**
Extreme or seasonal weather	Heatwaves increasing ignition and spread potential	**Unlikely (2)** Heatwaves may increase ambient temperatures and reduce moisture content of materials, but ignition still typically requires an initiating source.	**Major (4)** If ignition occurs during extreme weather, fire spread would be faster, potentially overwhelming suppression controls.	**Medium (8)**	• Weather monitoring and declaration of high-risk days • Operational adjustments • Housekeeping	**Rare (1)** With operational adjustments and weather-based restrictions, ignition likelihood during extreme conditions becomes low.	**Major (4)** Potential fire growth under extreme weather remains significant.	**Medium (4)**
Malicious or unauthorised acts	Arson or after-hours access	**Rare (1)** Arson or unauthorised access is possible but infrequent, especially in industrial zones.	**Major (4)** Deliberate ignition or sabotage could result in significant asset loss and operational disruption.	**Medium (4)**	• Site security • Access control • Supervision including CCTV • Clear visibility lines and lighting	**Rare (1)** Security, surveillance, and controlled access minimize opportunities for unauthorised ignition.	**Major (4)** Consequences remain unpredictable and major due to the nature of deliberate acts.	**Medium (4)**

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6 Recommended Control Measures

6.1 Application

The following table sets out the recommended fire prevention, mitigation, and response measures for the proposed plastics processing facility. The measures are derived from the credible fire scenarios and worst credible fire storage conditions identified in this Fire Risk Assessment and are consistent with EPA Publication 1667.3 and fire engineering practice.

The obligation level of each control is defined as follows:

- *Must* – minimum requirement relied upon by this assessment
- *Will* – committed design or operational measure
- *Should* – management or procedural control required to manage residual risk

The table also clarifies how controls are to be implemented, documented, and maintained through design, operational procedures, inspection and maintenance regimes, and integration with the site Emergency Management Plan.

The residual risk ratings presented in this assessment are contingent on the implementation and ongoing maintenance of the controls identified below.

6.2 Recommended Control Measures

TABLE 10 Recommended Control Measures

Fire Safety System	Control Measure	Implementation & Further Actions (Informative Guidance only)
Fire Detection and Alarm	Thermal detection cameras must be provided to all primary plastic storage areas, including bulk bale storage and finished product storage.	Engage a suitably qualified fire detection consultant/supplier to design the thermal detection camera system, including coverage, alarm thresholds, interface with site monitoring, and alert mechanisms. Capture system design, alarm response procedures, maintenance and testing requirements in site procedures. Integrate alarm response actions into the Emergency Management Plan (EMP).
	A building occupant warning system must be provided in accordance with NCC 2022 Volume 1 Section S20C7.	Engage a fire services engineer/contractor to design and certify the occupant warning system to NCC and AS 1670 requirements. Include evacuation alarm response actions, testing regime and staff training in the EMP.
	Automatic fire sprinkler system is not required by NCC but recommended if reasonably practicable.	Client to consider feasibility/cost-benefit. If adopted, engage fire services engineer to design to AS 2118. Capture isolation and maintenance procedures in Essential Safety Measures (ESM) documentation and EMP.

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Fire Safety System	Control Measure	Implementation & Further Actions (Informative Guidance only)
Firefighting & Suppression	Fire hydrant systems must be provided throughout all buildings in accordance with NCC 2022 and AS 2419.1.	Engage a fire services engineer to design hydrant coverage, flow and pressure. Confirm adequacy of water supply. Capture system details in the ESM schedule and maintenance under AS 1851. Include hydrant locations on site evacuation diagrams.
	Fire hose reel systems must be provided in accordance with AS 2441.	Engage a fire services engineer/contractor to install and certify hose reel coverage. Ensure hose reel locations remain accessible through housekeeping procedures. Capture inspection and maintenance requirements in ESM records and EMP. Include hose reel locations on site evacuation diagrams. Provide user training in extinguisher use.
	Portable fire extinguishers must be provided in accordance with AS 2444.	Engage a fire services engineer/contractor to select extinguishers appropriate to plastics, electrical and fuel fire risks. Capture inspection and maintenance in ESM records and EMP. Include extinguisher locations on site evacuation diagrams. Provide user training in extinguisher use.
Management-In-Use: Ignition Source Control	Incoming plastics must be inspected to identify and reject incompatible or contaminated material.	Develop and implement a documented load inspection and rejection procedure. Record inspections and rejected loads. Reference this procedure in the relevant operation manual.
	Processing equipment will be fixed in position and spatially separated from bulk plastic storage where practicable.	Confirm separation distances in layout drawings. Engage a fire engineer or designer if layout changes occur. Capture separation requirements in site layout plans and procedures for reviewing operational changes.
	Electrical equipment, switchgear and cabling must be kept clear of combustible materials.	Implement housekeeping and clearance rules in site SOPs. Include electrical clearance checks in routine inspections and audits.
	Electrical systems must be inspected, tested and maintained in accordance with AS/NZS 3760 and manufacturer requirements.	Engage a licensed electrician for inspection and maintenance programs. Maintain inspection records. Reference electrical isolation and fault response procedures in the EMP.
	Mobile plant refuelling must only occur in designated refuelling areas separated from plastic storage and ignition sources.	Define and signpost refuelling areas. Document refuelling procedures and separation distances. Include spill response and fire response actions in the EMP.
	Smoking must be prohibited within buildings, plastic storage areas, and external yards, with designated smoking areas only if provided.	Implement a formal no-smoking policy. Capture policy in site rules and induction material. Install signage.
Management-In-Use: Separation	Plastic storage must maintain separation distances from site boundaries and adjoining properties consistent with EPA 1667.3.	Confirm separation distances during detailed site layout and storage planning. Document separation distances in a storage layout plan referenced by the EMP. Review during routine site walkarounds.

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Fire Safety System	Control Measure	Implementation & Further Actions (Informative Guidance only)
	Concrete bay structures will be used in Building 3; should be utilised for remaining buildings.	Engage a structural/civil engineer to design concrete bay/fire wall systems as required. Capture construction certification and housekeeping requirements as applicable to the concrete bay structures.
	Combustible materials must not be stored between plastic storage areas and site boundaries.	Implement through site storage rules, housekeeping procedures, and routine inspections.
	External wall zones adjacent to storage areas must be kept free of combustible items.	Include wall clearance zones as applicable on-site drawings and in housekeeping checklists. Inspect as part of routine site walkarounds.
Management-In-Use: Housekeeping & Storage Management	Housekeeping must be maintained to prevent accumulation of loose plastics, fines and debris.	Develop a documented housekeeping procedure with inspection frequency and responsibilities. Maintain inspection records.
	On-site plastic storage quantities and dwell time must be managed.	Implement inventory limits and dwell-time controls via operational planning. Maintain inventory records. Include triggers for review in change-management procedures.
	Abnormal inventory conditions should trigger operational intervention.	Define "abnormal storage" thresholds with the relevant operational document. Link escalation actions to management and implement EMP procedures where storage conditions may impact safety.
	Plastic storage configurations must be routinely checked.	Establish routine audits (site walkaround) against approved storage layouts. Maintain records and corrective actions. Maintain the external stockpile in accordance with the EPA 1667.3 guideline. For a pile width up to 10 metres and access only from one side, this includes: • A maximum height of 4m or 4 bales, whichever is lower, and • Maintaining a minimum 13m separation distance to the nearest building, and • Maintaining a minimum 10m separation distance to another 'loose pile' (N/A in the proposed layout). Maintain internal stockpiles in accordance with the AFAC Fire Safety in Waste Management Facilities guideline. This includes: • Minimum of 6m unobstructed access on each accessible side in a building fitted with an automatic fire sprinkler system, or • Minimum of 10m unobstructed access on each accessible side in a building not fitted with an automatic fire sprinkler system.
Management-In-Use: Hot Works	All hot works must be managed under a formal hot works permit system.	Develop and enforce a hot works permit procedure. Capture fire watch, exclusion zones and post-work checks. Maintain permit records. Integrate hot works fire response into the EMP.
	Hot works must only be undertaken in designated or temporarily controlled areas that are free of combustibles or suitably shielded.	Identify and signpost hot works areas. Include clearance requirements in permit procedure.
Management-In-Use: Site Security	Access to the site must be restricted to authorised personnel only, with perimeter fencing and controlled entry points maintained.	Implement site security plan, including fencing, gates and access controls. Describe security arrangements in EMP for after-hours incidents.

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Fire Safety System	Control Measure	Implementation & Further Actions (Informative Guidance only)
	Security lighting and/or monitored security systems must be provided to plastic storage and external yard areas.	Engage a security contractor to design lighting/CCTV if required. Capture monitoring and alarm response procedures.
	External plastic storage and yard areas must not be accessible to the public or adjoining properties.	Ensure fencing, gates and supervision arrangements are maintained. Document in-site security procedures.
Management-In-Use: Inspection & Maintenance	Plastic storage areas, separation distances and access aisles should be inspected routinely.	Implement a documented site walk and audit regime. Maintain inspection records and corrective actions.
	Fire safety equipment must be maintained in accordance with AS 1851.	Engage a competent fire protection servicing company for routine maintenance. Maintain ESM records and defect registers.
	Deviations from assessed storage layouts or quantities must be rectified or reviewed.	Implement a formal change-management process triggering FRA review if layouts or quantities change.
Management-In-Use: Change Management	Any material change to storage quantities, material types, processing methods, or building layout must trigger a review of fire risks and control measures.	Formalise a change-management procedure requiring review by a suitably qualified person. Link to FRA review and EMP update triggers.
	Temporary or abnormal storage conditions must not persist without review and approval.	Define approval thresholds and escalation paths. Record approvals and actions taken.
Emergency Access & Response	Fire appliance access routes and hardstand areas must be provided and maintained.	Confirm access routes meet FRV guidance. Capture access routes on site and EMP drawings. Maintain clearances via inspections.
	Internal access aisles and circulation paths must remain unobstructed.	Include aisle clearance requirements in storage rules and inspections.
	An Emergency Management Plan must be implemented in accordance with AS 3745.	Develop or update EMP in accordance with AS 3745. Include scenarios identified in the FRA. Assign roles, training and testing regime.
	Staff must receive training and evacuation drills should be conducted at least annually.	Implement documented fire training and drill schedule. Retain training and drill records.
Environmental Protection	Impervious hardstand surfaces must be provided across storage and operational areas.	Confirm civil design provides impervious surfaces. Capture hardstand extent, inspection and maintenance requirements in civil drawings and the Operational Environmental Management Plan (OEMP).
	Bunding and controlled drainage must be provided to manage and contain firewater runoff.	Engage a suitably qualified civil/environmental engineer to design firewater containment systems. Document system capacity, operation, inspection and maintenance requirements in the OEMP, with emergency deployment and response actions integrated into the EMP.

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Fire Safety System	Control Measure	Implementation & Further Actions (Informative Guidance only)
	Drainage pathways must be maintained free of debris and blockages.	Include drainage inspections and cleaning requirements in housekeeping and inspection procedures. Maintain inspection records and corrective actions.
	Environmental response procedures should be implemented to manage pollution incidents.	Develop pollution incident response procedures addressing firewater runoff and contaminated materials. Include environmental management and recovery actions in the OEMP, with emergency notification and response actions integrated into the EMP.
	Firewater containment systems must be maintained in an operational state.	Include firewater containment systems in routine inspection and maintenance regimes. Capture readiness checks and emergency use assumptions in the OEMP, with activation and response actions referenced in the EMP.

The control measures listed above represent the complete set of fire prevention, mitigation and response measures relied upon by this Fire Risk Assessment. Ongoing compliance with these measures is necessary to maintain the residual risk levels identified in this report.

This section does not address fire risks that may arise from considerable changes to site conditions or operations. Any material change to the facility may trigger a review of fire risks and control measures in accordance with EPA requirements.

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Appendix A Material Properties

Polypropylene (PP), Polyethylene Terephthalate (PET) and High-Density Polyethylene (HDPE) are combustible thermoplastic polymers with high energy content and low moisture affinity, resulting in high fire loads when stored in bulk.

PP and HDPE soften and melt at relatively low temperatures, producing flaming molten material that can accelerate fire spread. PET has a higher melting point and greater thermal stability but still exhibits high heat release once ignited, with significant smoke production.

For all three materials, bulk stockpiles are generally expected to be characterised by rapid fire growth, high heat release rates and prolonged burning duration. These materials therefore present a fire risk in a reprocessing facility.

Key material properties are provided in Table A.1. In considering fire hazards, the properties and what they represent are as follows:

- Ignition temperature represents the potential of a material to be ignited by external factors.
- Critical heat flux (CHF) is the minimum external heat flux (i.e. heat exposure per square metre) required to cause sustained ignition of a material. While ignition temperature reflects idealised heating conditions, CHF represents a practical fire exposure threshold.
- Melting temperature corresponds to the susceptibility of a material to softening, melt flow, dripping, and loss of structural integrity under fire exposure.
- Decomposition temperature indicates the onset of pyrolysis, at which the material thermally degrades and releases combustible volatile gases that contribute to combustion.

Note: critical self-heating temperature (CSHT) describes susceptibility of a material to spontaneously combust (which is discussed in the EPA Guideline 1667.3), however it is not relevant to plastics. Plastics typically melt and decompose before low-temperature oxidation becomes dominant (unlike other materials like biomass or oils), and so CSHT is not relevant to this assessment.

TABLE A.1 Material Properties of Plastics

Plastic Type	Ignition Temperature	Critical Heat Flux	Melting Temperature	Decomposition Temperature	Heat of Combustion (at ambient 25 °C)
PP	443 °C (SFPE, Fifth Edition 2016)	10-15 kW/m² (SFPE, Fifth Edition 2016)	159.85 °C (SFPE, Fifth Edition 2016)	350.85-386.85 °C (SFPE, Fifth Edition 2016)	43.31 MJ/kg (SFPE, Fifth Edition 2016)
PET	407 °C (SFPE, Fifth Edition 2016)	10 kW/m² (SFPE, Fifth Edition 2016)	249.85- 259.85 °C (SFPE, Fifth Edition 2016)	424.85-439.85 °C (SFPE, Fifth Edition 2016)	22.00 MJ/kg (SFPE, Fifth Edition 2016)
HDPE	380-443 °C (SFPE, Fifth Edition 2016)	15 kW/m² (SFPE, Fifth Edition 2016)	~120 °C *Note: obtained in test conditions* (Murata, 2020)	~380 °C *Note: obtained in test conditions* (Murata, 2020)	44.41 MJ/kg (Riaza, et al., 2024)

Note: ignition and decomposition temperatures may be derived from different test methods, and they represent different physical phenomena. For thermoplastics, thermal decomposition (pyrolysis) typically precedes flaming ignition, and the reported values should be interpreted as indicative thresholds only for the purposes of a Fire Risk Assessment, rather than directly comparable values.

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Appendix B Material Storage Assessment

B.1 Materials Stored

The facility will store:

- Incoming baled post-consumer plastics (PET, PP and HDPE), and
- Outgoing plastic flake packaged in bulka bags.

All materials are combustible. Storage is internal wherever practicable, with limited external finished-product storage only. Refer to FIGURE 3 for a markup of the storage areas.

B.2 Storage Approach

Incoming plastics are received pre-sorted as rectangular bales within designated internal storage areas, sorted by polymer type. Materials are processed continuously, with storage intended as short-term holding only.

Finished products are stored in bulka bags, stacked no more than two high, and positioned close to building entrances to minimise handling and internal traffic. Outdoor storage is limited to overflow finished product under the existing awning and is not used for long-term stockpiling.

B.3 Storage Dimensions and Capacities

This is based on a typical bale size of 800 × 800 × 1,200 mm, which is approximately 0.77 m^3 per bale.

Typical bale mass is ~350 kg. Maximum incoming material at any one time is ~180 tonnes.

TABLE B.1 Incoming Material (Baled Plastic Waste)

Location	Building 1	Building 2	Building 3 – Main holding	Building 3 – Processing buffer
Storage Area	7.5 m × 3.5 m	7.5 m × 3.5 m	~96 m^2 (irregular)	8 m × 5 m
Stack Height	4 bales	4 bales	Variable	4 bales
Approx. No. of Bales	~96 bales	~96 bales	~328 bales	~144 bales
Approx. Mass	~34 t	~34 t	~115 t	~50 t
Approx. Volume	~74 m^3	~74 m^3	~252 m^3	~111 m^3

A typical bulka bag size is 900 × 900 × 1,200 mm, which is ~0.97 m^3 per bag.

Assumed bulk density of flake is ~400 kg/m^3.

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TABLE B.2 Outgoing Material (Plastic Flake)

Location	Building 1	Building 2	Building 3	Outdoor awning (overflow only)
Storage Area	6 m × 5 m	6 m × 3.6 m	6 m × 5 m	8 m × 5 m
Stack Height	2 bags	2 bags	2 bags	2 bags
No. of Bags	~60	~48	~60	~60
Capacity of Flake	~24 t	~20 t	~24 t	~28 t
Approx. Volume	~58 m^3	~47 m^3	~58 m^3	~58 m^3

B.4 Fire Loads of Storage by Building

Taking heat of combustion data for each plastic in Table A.1, the potential fire load of each building can be calculated.

TABLE B.3 Incoming Material (Baled Plastic Waste)

Parameter	Building 1 (PET)	Building 2 (PP)	Building 3 – Main (HDPE)	Building 3 – Buffer (HDPE)
Stored mass (t)	34	34	115	50
Storage area (m^2)	26.3	26.3	96	40
Heat of Combustion (MJ/kg)	22.00	43.31	44.41	44.41
Fire load density (MJ/m^2)	~28,400	~56,000	~53,200	~55,500
Total fire load (GJ)	748	1,472	5,107	2,221

TABLE B.4 Outgoing Material (Plastic Flake)

Parameter	Building 1 (PET)	Building 2 (PP)	Building 3 (HDPE)	Outdoor Awning[NOTE]
Stored mass (t)	24	20	24	28
Storage area (m^2)	30	21.6	30	40
Heat of Combustion (MJ/kg)	22.00	43.31	44.41	44.41
Fire load density (MJ/m^2)	~17,600	~40,100	~35,500	~31,100
Total fire load (GJ)	~528	~866	~1,066	~1,244

NOTE: Outdoor awning assessed on a worst-case HDPE basis.

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The maximum credible storage condition on-site is the **Building 3 – Main Bale Storage**, where the incoming stockpile presents the largest combustible load onsite.

Note that the calculated fire load densities above represent localised stockpile conditions and are not directly comparable to average design fire load density values presented Appendix C.2.

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Appendix C Likelihood and Severity of Fire

While Appendix B.4 quantifies the potential fire load associated with the specific plastic materials stored and processed at the facility, it is also necessary to consider occupancy-based fire statistics to inform the broader assessment of fire likelihood and severity. This captures hazards inherent to the type of industrial activity, including factors not solely attributable to material properties, such as ignition sources, operational practices, and fire growth characteristics typical of plastics processing environments.

C.1 Likelihood of Fire Start

The probability of a fire starting a building is governed by its use. The proposed building use being plastics processing is considered to be an industrial occupancy. Statistical data within a British Published Document indicates that the expected likelihood of fire starts in an industrial occupancy is 4.40 x 10^{-2} starts per year (PD7974.7, 2003). This is equivalent to a statistical fire start every 22.7 years.

C.2 Fire Severity

The potential fire severity is a function of the fuel load, available ventilation and arrangement of the combustible content. Because of this, the potential fire severity is highly variable. Guidance from (CIBSE, 2003), Eurocode (BS EN1991-1-2, 2002) and IFEG (ICC, NRC, DBH, ABCB, 2005) suggests that the fire growth rate and fire load densities of the proposed use are as follows:

TABLE C.1 Fire Growth Rate and Fire Load Density

Use	Fire Growth Rate (t^2)	Fire Load Density (mean)
Plastics Processing	Ultra-fast (CIBSE, 2003)	600 MJ/m² (ICC, NRC, DBH, ABCB, 2005)
Forwarding, Plastics Products NOTE	Ultra-fast (CIBSE, 2003)	1,000 MJ/m² (ICC, NRC, DBH, ABCB, 2005)
Plastic Manufacturing	Ultra-fast (CIBSE, 2003)	2,000 MJ/m² (ICC, NRC, DBH, ABCB, 2005)
Office	Medium (CIBSE, 2003)	420 MJ/m² (BS EN1991-1-2, 2002)

NOTE: While not a forwarding nor manufacturing facility, these are still presented as references as there will be plastic storage likened to a forwarding facility, and plastic processing likened to a manufacturing plant.

Accordingly, the storage and handling of plastics is expected to present high-severity fire scenarios, with the potential for rapid fire growth and substantial heat release, relative to lower-hazard occupancies such as offices.

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Vipac Engineers and Scientists Limited
279 Normanby Rd, Port Melbourne, VIC 3207 Australia
Private Bag 16, Port Melbourne, VIC 3207, Australia
t. +61 3 9647 9700 | e. melbourne@vipac.com.au
w. www.vipac.com.au | A.B.N. 33 005 453 627 | A.C.N. 005 453 627

MRA Consulting Group

45 Fabio Court, Campbellfield Vic

Air Quality Assessment

30T-25-0333-TRP-128994-2

19 March 2026

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Prepared For:	**Prepared By:**
MRA Consulting Group Suite 408 19 Roseby Street Drummoyne, New South Wales, 2047, Australia **Contact:** James Cosgrove **Tel:** [redacted]	Vipac Engineers and Scientists Limited 279 Normanby Rd, Port Melbourne, VIC 3207 Australia **Tel:** +61 3 9647 9700

Author:	Samir Sidhu 19 Mar 2026	[redacted]	Consulting Scientist
Reviewer:	Stephen Thomas 19 Mar 2026	[redacted]	Air Quality Principal
Issued By:	Stephen Thomas 19 Mar 2026	[redacted]	Air Quality Principal

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Executive Summary

Vipac Engineers & Scientists were engaged by MRA Consulting Group on behalf of Kangaroo Plastics Technology Pty Ltd (Kangaroo Plastics) to undertake an Air Quality Assessment (AQA) for the proposed plastics reprocessing facility at 45 Fabio Court, Campbellfield (the Facility).

The assessment has been prepared to support a permit planning application for the use of land for materials recycling and resource recovery facility- plastics reprocessing facility and to address matters regarding air quality raised in the EPA Request for Further Information (RFI; REQ008137 dated 20 October 2025) as follows:

EPA considers that the nature of the proposed use has the potential to generate significant air emissions (odour) from the plastic recycling and melting which may impact the surrounding area including sensitive receptors if not managed appropriately.

It is noted that updated plans prepared by Kangaroo Plastics no longer incorporate the use of extruders in the Facility. No melting of the recycled plastics is therefore proposed and odour emissions from the Facility are expected to be minimal. As a consequence, an air quality impact assessment has been carried out that focusses on the potential for dust (or particulate) emissions as follows:

- An emissions inventory of PM_{10} and $PM_{2.5}$ was compiled for the proposed Project's truck unloading, sorting and shredding activities and was conservatively estimated based on the National Pollutant Inventory (NPI) and United States Environmental Protection Agency (USEPA) AP-42 emissions estimation methodology for Mining.
- The emissions data was used as input for air dispersion modelling. The modelling techniques were based on a combination of measured meteorological data from the closest Vic EPA AQMS at Alphington, The Air Pollution Model (TAPM) prognostic meteorological model (developed by CSIRO), CALMET and the AERMOD dispersion model with reference to the requirements of the EPA Publication 1957 – 'Guide to Air Pollution Modelling', and EPA Publication 1961.2 – 'Guideline for assessing and minimising air pollution in Victoria'.
- The atmospheric dispersion modelling results were assessed by comparison between scenarios and relevant assessment criteria.

Two operational emission scenarios were considered for the assessment:

- Scenario 1: based on the MRA-reported machinery capacity of 6 t/h per building, which conservatively equates to an estimated maximum annual throughput of 87,000 tpa.
- Scenario 2: based on the reported estimated maximum annual throughput of 48,000 tonnes per annum (tpa), equating to an average throughput of 3.31 t/h per building.

As a worst-case assumption, all buildings were modelled as operating simultaneously for the full 93-hour operational week throughout the entire modelling period, representing extremely conservative emission scenarios.

A cumulative assessment of particulates was undertaken and background particulate concentrations for PM_{10} and $PM_{2.5}$ were obtained from the closest Vic EPA Air Quality Monitoring station at Alphington. The results of the cumulative model predictions for both scenarios at the closest sensitive receptors are summarised in Table ES-1. The predicted cumulative 24-hour and annual average predictions for PM_{10} and $PM_{2.5}$ were below criteria for both scenarios. Additionally, the incremental contribution from the proposed facility is minor in comparison to the adopted background levels.

Overall, air quality impacts from the proposed operation of the Facility at sensitive receptors in the surrounding environment are predicted to be well within relevant Air Quality Assessment Criteria (AQAC) for both scenarios.

While the assessment has been undertaken on a conservative basis, given the proximity of the Facility to the sensitive receptors, it is recommended that an air quality management plan is developed for the Facility, including a complaints management procedure.

Table ES-1: Summary of Maximum Cumulative Model Predictions at the Sensitive Receptors

Pollutant	Averaging Time	Model prediction (µg/m³)*		Criteria (µg/m³)	Compliant
		Scenario 1	Scenario 2		
PM10	24 Hour	26.26 (25.2)	25.78 (25.2)	**50**	✓
	Annual	16.67 (16.6)	16.64 (16.6)	**20**	✓
PM2.5	24 Hour	12.09 (12.0)	12.05 (12.0)	**25**	✓
	Annual	7.11 (7.1)	7.10 (7.1)	**8**	✓

* adopted background shown in brackets

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1 Introduction

Vipac Engineers and Scientists Ltd (Vipac) has been engaged by MRA Consulting Group on behalf of Kangaroo Plastics Technology Pty Ltd (Kangaroo Plastics) to undertake an Air Quality Assessment (AQA) for the proposed plastics reprocessing facility at 45 Fabio Court, Campbellfield (the Facility).

MRA Consulting Group has submitted a planning permit application (P26905) for the use and development of the land for a materials recycling and resource recovery facility – plastics reprocessing. As the proposal does not meet the threshold distance specified under Clause 66.02-7 of the Hume Planning Scheme, the Environment Protection Authority Victoria (EPA) is a determining referral authority under Section 55 of the Planning and Environment Act 1987. In response to the application, EPA issued a Request for Further Information (RFI; REQ008137 dated 20 October 2025). In relation to air quality the following matter was raised in the RFI:

EPA considers that the nature of the proposed use has the potential to generate significant air emissions (odour) from the plastic recycling and melting which may impact the surrounding area including sensitive receptors if not managed appropriately.

This Air Quality Assessment has been prepared to address the air quality matters raised in the EPA RFI and to evaluate the potential for off-site impacts associated with the proposed Facility. It is noted that updated plans prepared by Kangaroo Plastics no longer incorporate the use of extruders in the Facility. No melting of the recycled plastics is therefore proposed and odour emissions from the Facility are expected to be minimal. As a consequence, an air quality impact assessment has been carried out that focusses on the potential for dust (or particulate) emissions.

2 Project Context

2.1 Site Location and Surrounding Environment

The proposed plastics reprocessing facility is to be located at 45 Fabio Court, Campbellfield VIC 3061, also identified as Lot 50 LP211961. The site is situated within the IN1Z – Industrial 1 Zone under the Hume Planning Scheme. Surrounding land uses include industrial properties within the IN1Z zone immediately to the north, west and south. A Metro Train/VicTrack rail reserve runs along the western boundary of the site, with a C2Z – Commercial 2 Zone located beyond the rail line to the west. GRZ – General Residential Zones are present further to the northwest, north, and west, with the closest residential receptors approximately 230 m northwest of the site. The site location and surrounding zoning are shown in Figure 2-1.

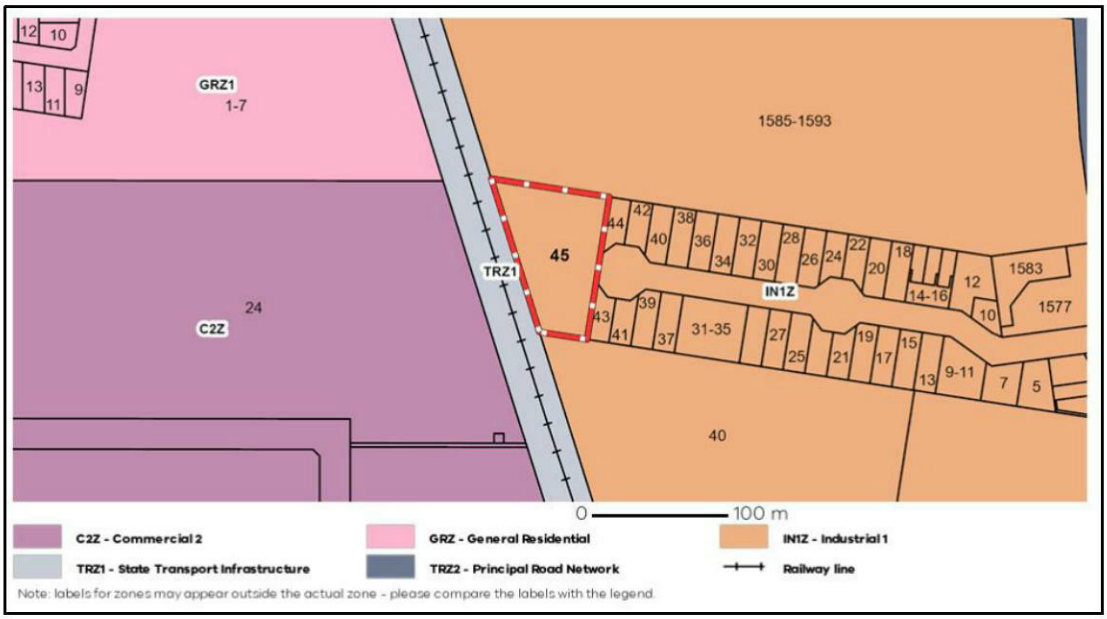

Figure 2-1: Site Location and Surrounding Zoning

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2.2 Process Description

The Facility is proposed to recycle high-density polyethylene (HDPE), polyethylene terephthalate (PET) and polypropylene (PP) plastics. The maximum capacity is approximately 48,000 tonnes per annum (tpa) of plastics to be processed with the majority of activities carried out within three enclosed buildings.

An overview of the process is outlined below:

Stage 1 receival - Vehicles would enter and exit the site in a forward-facing direction from the main entrance from Fabio Court. Receival of incoming material would occur on the external yard and moved immediately into the buildings. Input materials would be consolidated in a storage bay inside the building according to plastic type (separated PET, separated HDPE and separated PP).

Stage 2 – optical sorting - The proposed facility would incorporate an advanced optical sorting line as a means of further reducing any residual contaminants in incoming pre-sorted plastics. Optical sorting of separate plastic streams would remove minor elements of residual material such as paper, non-grade plastics and mixed plastics (contaminants). Contaminants removed by the optical sorting process would be removed to a separate bin for residual material and removed offsite for disposal. It is expected that the residual component of total input material would be less than 1%.

Stage 3 – Processing of Plastics - Incoming plastic material would be processed separately, according to plastic type. The plastics processing line will shred to flake product only (i.e. no extrusion or pelletising of plastics).

Each of the three industrial buildings at the site will house a processing line for each of the distinct plastic types proposed to be reprocessed at the site, outlined as follows:

- Building 1 – PET sort, wash and flake
- Building 2 – PP sort, wash and flake
- Building 3 – HDPE sort, wash and flake

The following activities would occur as part of the main processing function:

- Pre-sorted recovered plastics received at the site will be consisting of PET, PP and HDPE plastic types;
- Optical sorting will remove further any contaminants from pre-sorted plastics;
- The decontaminated plastics are then loaded into a shredder with prewash using clean water to produce plastic flakes;
- Plastic flakes are then conveyed to a plastic wash plant to remove any residual contamination (namely sugars and other residual materials from drinking containers);
- Cleaned plastic flakes are dried in a drying hopper and sold as flakes.

Stage 4 – storage and offtake - The final products will be stored in bulka bags at the site prior to offsite dispatch. Input materials and final products would be stored in the respective buildings by type.

Overall, the maximum storage capacity at any-one-time is approximately 180 tonnes of input material.

The operational hours of the proposed facility are presented in Table 2-1.

Table 2-1: Proposed Operational Hours

Activity	Monday to Friday	Saturdays	Sundays and Public Holidays	Total weekly hours
Material Receival	7:30 am – 3:00 pm	N/A	Closed	37.5
Material Processing	7:30 am – 11:00 pm	7:30 am – 11:00 pm	Closed	93

2.2.1 Plant and Equipment

The proposed plastics reprocess facility would maintain a range of equipment for the sorting, washing and shredding activities. The following serves as an equipment list for the proposed facility, in order of processing operation:

- Belt conveyors (multiple between main equipment pieces);
- Optical sorter;
- Plastic crusher/shredder;
- Pre-wash plant;
- Main wash plant, including:
    - Rinsing tank,
    - Screw conveyor, and

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- Dewatering machine.

- Flake sorting machine; and
- Water treatment plant (under existing awning).

2.3 Pollutants of Concern

The main potential for unmitigated air emissions associated with this type of recycling facility are:

- Dust or particulate matter primarily as TSP, PM10 and PM2.5 from material unloading, transfers, sorting and shredding.

However, with the exception of the material unloading, the majority of these activities occur within an enclosed building. As a result, there is minimal risk of dust (or particulate matter) being dispersed into the surrounding environment.

All access roads and onsite roads would be paved, therefore dust generated by vehicle movements is expected to be negligible. In addition, air pollutants from fuel combustion emissions released by trucks and vehicles may generate other air pollutants such as particulate matter, (PM_{10} and $PM_{2.5}$), sulphur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO) and trace quantities of volatile organic compounds.

In addition, the handling of contaminated materials may generate very low levels of odour emissions. However, the residual contaminated component of total input material would be less than 1% and these activities occur within an enclosed building. On this basis, odour emissions are not considered to be generated in sufficient quantities to affect air quality at sensitive receptors beyond the Project boundary; and have not been included in the air quality assessment.

2.4 Sensitive Receptors

As discussed in Section 2.1, air sensitive receptors are located approximately 230 m or more from the proposed development site. Representative sensitive receptors (including residential dwellings, places of worship, and other accommodations) have been identified in each direction from the project site for the modelling assessment. The selected receptors are listed in Table 2-2 including their UTM coordinates, and receptor locations (shown as yellow markers) are illustrated in Figure 2-2.

Table 2-2: List of Air Sensitive Receptors

Receptor ID	UTM co-ordinates (m)		Description
	X	Y	
1	318986	5828219	residence
2	318979	5828296	residence
3	319002	5828353	residence
4	319066	5828373	residence
5	319111	5828372	residence
6	319164	5828370	residence
7	319144	5828438	residence
8	319223	5828549	residence
9	319313	5828540	residence
10	319388	5828534	residence
11	319463	5828519	residence
12	319515	5828518	residence
13	319558	5828514	residence
14	319602	5828495	hotel
15	319824	5828277	residence
16	319855	5828268	residence
17	319930	5828223	residence
18	319876	5828203	place of worship
19	319861	5827981	residence

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20	319859	5827957	residence
21	319866	5827940	residence
22	319869	5827918	residence
23	319871	5827906	residence

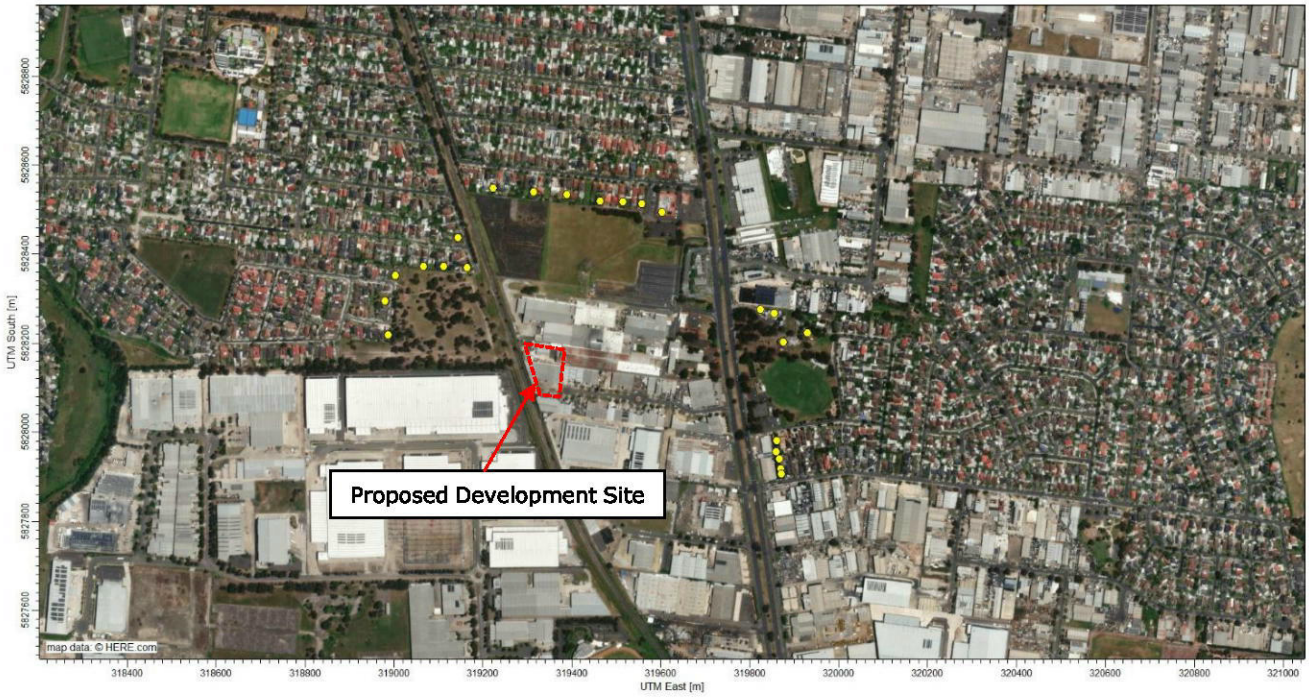

Figure 2-2: Air Sensitive Receptor Locations

3 Relevant Criteria

3.1 Environment Protection Act 2017

From 1 July 2021, the Environment Protection Act 2017 as amended (EP Act) replaced the Environment Protection Act 1970. It establishes the new framework for environmental protection. It is underpinned by the general environmental duty (GED) and duties for waste, contaminated land and incident notification and management.

The state environment protection policies (SEPPs) under the Environment Protection Act 1970 had been important tools in helping protect the environment by setting clear standards and expectations. The SEPPs do not continue as subordinate instruments under the EP Act, and their formal statutory role ends under the EP Act 2017, except in some limited circumstances.

Some of the content in SEPPs has been translated into more fit-for-purpose subordinate instruments such as the Environment Reference Standard 2021 (ERS) which includes environmental values, indicators and objectives that are similar to the beneficial uses, indicators and objectives in SEPPs.

It is noted, however, that the SEPP clauses may help inform EPA regulatory actions, for example, if a SEPP previously set out criteria or other information relevant to granting a licence or other permit under the old Act, then EPA may continue to consider the relevance of the content of those clauses for the purposes of making a decision under the EP Act.

3.2 Environmental Reference Standard

This environment reference standard (ERS) is made under section 93 of the Environment Protection Act 2017 (the Act). It sets out the environmental values of the ambient air, ambient sound, land and water environments that are sought to be achieved or maintained in Victoria and standards to support those values. Standards for the environmental values are

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comprised of objectives for supporting different uses of the environment and indicators that can be measured to determine whether those objectives are being met.

The ERS objective for odour is specified as an air environment that is free from offensive odours from commercial, industrial, trade and domestic activities.

3.3 Guideline for Assessing and Minimising Air Pollution in Victoria

The Guideline for Assessing and Minimising Air Pollution in Victoria (EPA Publication 1961.2) provides a framework to assess and control risks associated with air pollution. It is a technical guideline for air quality practitioners and specialists with a role managing pollution discharges to air.

In Victoria, The Environment Protection Act, 2017 (the EP Act) provides the main legislative instrument for the protection of the environment within the State of Victoria. Under the EP Act all risks to human health and environment from pollution and waste must be minimised so far as reasonably practicable.

The contents of this guideline constitute guidance under this Act. This guideline provides duty holders with an approach to minimising risks in a proportionate way. The guideline aims to achieve this objective by providing:

- A clear framework for air pollution assessment and management that protects the environmental values of air (as defined in the Environment reference standards (ERS)) to ensure risks of harm to human health and the environment are minimised so far as reasonably practicable.
- Guidance on methods for assessing risk of harm from air pollution to human health and the environment. This includes a broad risk-based assessment framework, site-specific risk assessment methods, and risk-based air quality assessment criteria (AQACs).
- A conceptual framework for identifying and selecting risk management techniques and technologies to ensure that risks are minimised so far as reasonably practicable.
- Clarity on EPA's expectations for the minimum reporting standards related to the assessment and management of air pollution in Victoria.

3.4 Air Quality Assessment Criteria

AQACs are concentrations of pollutants in air that provide a benchmark to understand potential risks to human health or the environment. They are risk-based concentrations that can help identify when or if an activity is likely to pose an unacceptable risk to the receiving environment.

AQACs are not intended to be concentrations one can 'pollute up to'. They are also not concentrations below which no action is required. This is because under the General Environmental Duty (GED), anyone engaging in an activity that may give rise to risks of harm to human health or the environment due to discharges to air is required to minimise those risks so far as reasonably practicable. The criteria adopted for this assessment are outlined in Table 3-1.

It is noted that not all potential pollutants identified have an applicable criterion specified in Victorian EPA legislation and guidelines, and therefore, have not been included.

Table 3-1 - Air Quality Assessment Criteria

Pollutant	Basis	Criteria	Averaging Time
PM_{10}	ERS	50 µg/m^3	24-hour
		20 µg/m^3	1-year
$PM_{2.5}$	ERS	25 µg/m^3	24-hour
		8 µg/m^3	Annual

EPA Vic – EPA Publication 1961.2 *Guideline for assessing and minimising air pollution in Victoria 2025*
ERS - proposed final Environment Reference Standards 14 December 2021
[1] Odour impacts have been assessed using a benchmark of 1 odour unit (OU/m^3) at sensitive receptors, 1-hour averaging period, 99.9th percentile. EPA Victoria's Guidance for Assessing Odour provides a framework for identifying, quantifying, and evaluating offensive odour risk, but does not specify a quantitative odour criteria. This benchmark is a conservative, widely adopted approach and aligns with the methodology and intent of Vic EPA odour assessment guidance.

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4 Existing Environment

4.1 Dispersion Meteorology

4.1.1 Regional Meteorology

Data recorded by the nearest Bureau of Meteorology (BoM) long term weather stations for which data was available at Essendon Airport (located approximately 7km south west of the site) were reviewed to describe the meteorological and climatic influences in the region. Long term weather data obtained from the BOM weather station at Essendon Airport is presented in Table 4-1.

The mean temperature range is between 5.5°C and 26.7°C with the coldest month being July and the hottest, January and February. The rainfall in the region is variable, with most rainfall in the warmer months. On average, most of the annual rainfall is received between October and December. The mean annual rainfall is approximately 580.9 mm.

The long term wind roses recorded daily at the Essendon Airport station at 9am and 3pm are provided in Figure 4-1. Winds are shown to be primarily from the north at 9am and from the south and north at 3pm. Stronger winds (>40km/hr or >11.1m/s) occur infrequently mostly from the north at 9am and 3pm.

Table 4-1: Mean Long-term Weather Data for Essendon Airport

Month	Mean Temperature		Mean Rainfall (mm)	9 am Conditions			3 pm Conditions		
	Max (°C)	Min (°C)		Temp (°C)	RH (%)	Wind Speed (km/h)	Temp (°C)	Mean RH (%)	Wind Speed (km/h)
Jan	26.7	13.9	44.1	4.4	19.1	60	17.9	24.2	46
Feb	25.9	14.1	42.9	4.1	18.7	66	16.6	23.8	49
Mar	24.2	12.8	39	5.2	17.1	68	15.8	22.4	48
Apr	20.3	10.1	55.2	6.8	14.1	72	15	18.7	53
May	16.4	7.9	48.5	7.4	10.8	81	15	15.1	62
Jun	13.8	6.1	40.4	7.3	8.5	84	15.6	12.7	67
Jul	13.2	5.5	42.6	7.7	7.8	83	17.5	11.9	66
Aug	14.5	5.9	47.6	8.7	8.9	79	18.5	13.1	62
Sep	17	7	49.8	8	11.4	72	20.9	15.3	57
Oct	19.5	8.5	60	7.8	13.8	66	20.9	17.5	54
Nov	22	10.3	59.4	7.1	15.7	63	20	19.9	50
Dec	24.7	12.1	51.5	6.2	17.8	61	18.5	22.3	47
Annual	**19.8**	**9.5**	**580.9**	**80.7**	**13.6**	**71**	**17.7**	**18.1**	**55**

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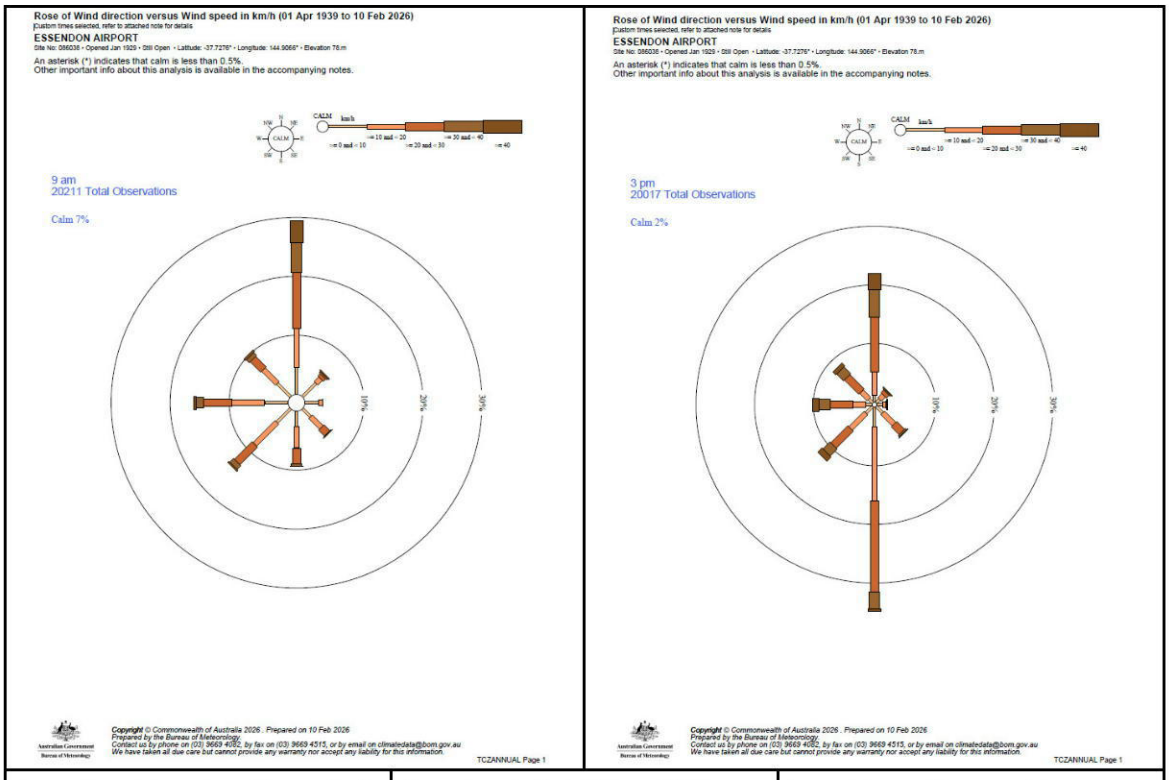

Location: Essendon Airport BoM Station	**Data Period:** 1939 to 2026	**Data Type:** Measured Data

Figure 4-1: Annual Wind Rose for Essendon Airport Weather Station (1939 to 2026)

4.1.2 Local Meteorology

4.1.2.1 Introduction

A three-dimensional meteorological field was required for the air dispersion modelling that includes a wind field generator accounting for slope flows, terrain effects and terrain blocking effects. The Air Pollution Model, or TAPM, is a three-dimensional meteorological and air pollution model developed by the CSIRO Division of Atmospheric Research and can be used as a precursor to CALMET which produces fields of wind components, air temperature, relative humidity, mixing height and other micro-meteorological variables for each hour of the modelling period. The TAPM-CALMET derived dataset for 5 continuous years of hourly data from the year 2021 to 2025 and approximately centred at the project site has been used to provide further information on the local meteorological influences.

4.1.2.2 Wind Speed and Direction

Figure 4-2 presents the annual and seasonal wind roses from the meteorological dataset for the years 2020 to 2024 at the development location. In addition, the 9am and 3pm wind roses from the meteorological dataset are provided for comparison with the long term data collected at the closest BoM Station. Key features of the winds are:

- Winds are predominantly from the west with average wind speed of 2.4 m/s;
- The strongest winds (>5.7m/s) occur mostly from the north; and
- The 9am and 3pm wind roses for the dataset are generally consistent with long-term measurements from the Essendon Airport BoM Weather Station, showing dominant winds from the north at 9am and from the north and south at 3pm, with low frequency of winds from the east.

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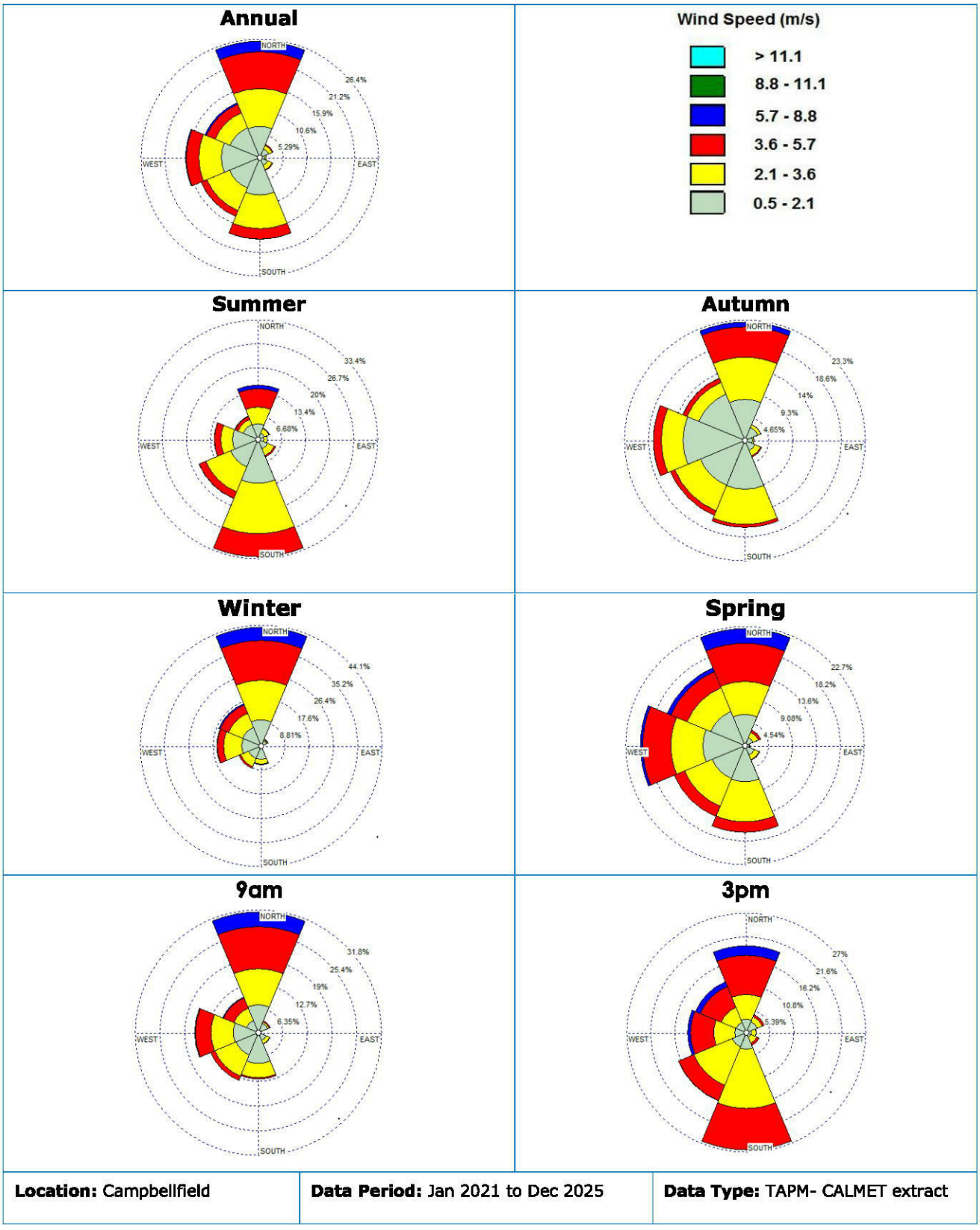

Figure 4-2: Annual, Seasonal and 9am and 3pm Wind Roses for the Meteorological Dataset, 2021 to 2025

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4.1.3 Atmospheric Stability

The Pasquill-Gifford stability classification scheme denotes stability classes from A to F. Class A is described as highly unstable and occurs in association with strong surface heating and light winds, leading to intense convective turbulence and much enhanced plume dilution. At the other extreme, class F denotes very stable conditions associated with strong temperature inversions and light winds, which commonly occur under clear skies at night and in the early morning. Intermediate stability classes grade from moderately unstable (B), through neutral (D) to slightly stable (E). Whilst classes A and F are strongly associated with clear skies, class D is linked to windy and/or cloudy weather, and short periods around sunset and sunrise when surface heating or cooling is small. Figure 4-3 shows the stability class percentages from the TAPM-CALMET derived meteorological data for the project site.

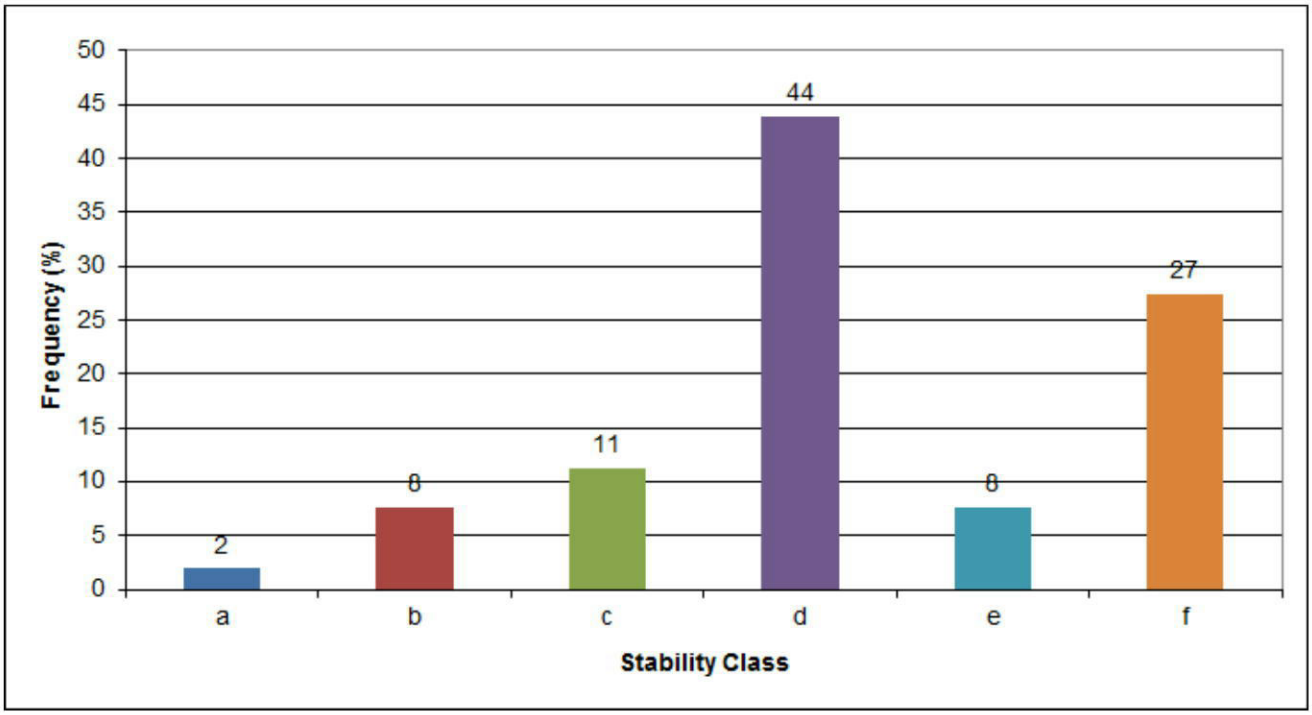

Figure 4-3 Stability Class Percentages for the TAPM-CALMET Derived Data, 2021-2025

4.1.3.1 Mixing Height

Mixing height is defined as the height of the layer adjacent to the ground over which an emitted or entrained inert non-buoyant tracer will be mixed (by turbulence) within a time scale of about one hour or less. Diurnal variations in mixing depths are illustrated in Figure 4-4. As would be expected, an increase in the mixing depth during the morning is apparent, arising due to the onset of vertical mixing following sunrise. Maximum mixing heights occur in the mid to late afternoon, due to the dissipation of ground-based temperature inversions and the growth of the convective mixing layer.

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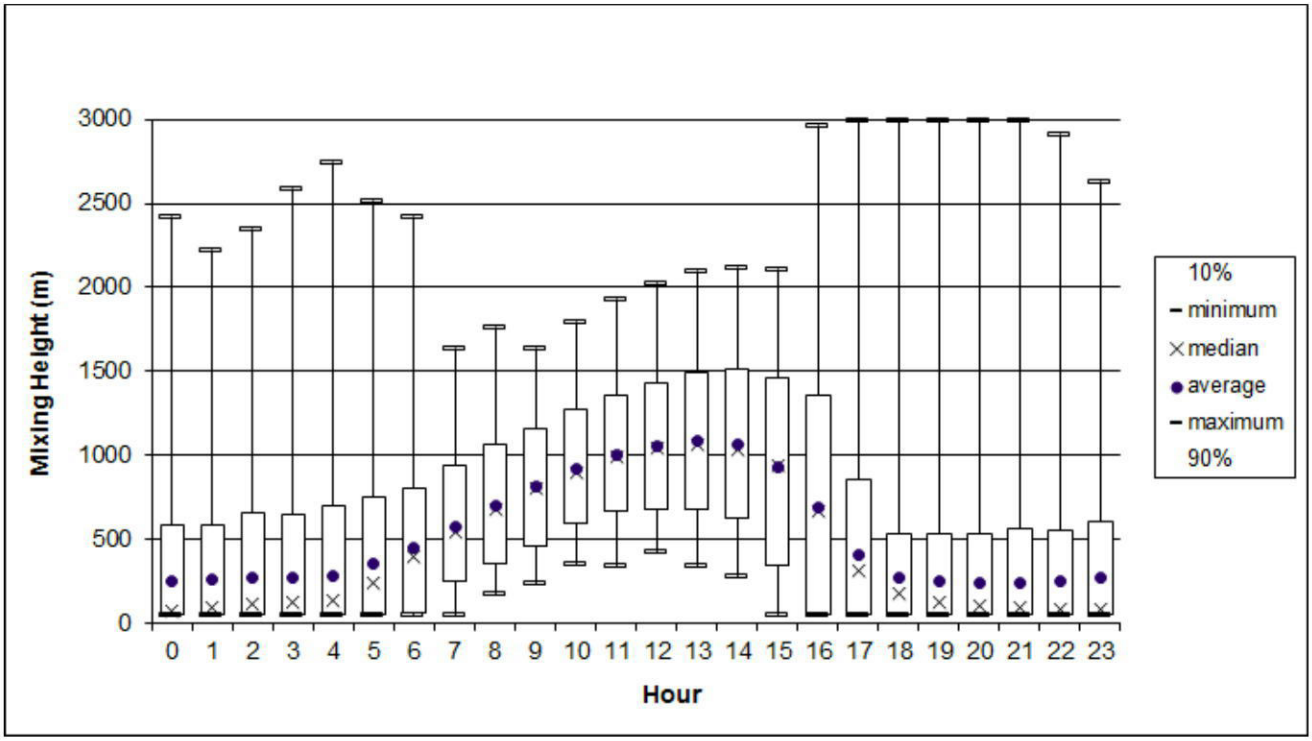

Figure 4-4: Mixing Height of the TAPM-CALMET Derived Data, 2021-2025

4.2 Existing Air Quality

Background concentrations of PM_{10} and $PM_{2.5}$ have been derived from the most recent three years of measured data at the nearest representative monitoring station operated by Environment Protection Authority Victoria. Background concentration data has been sourced from the Alphington Air Quality Monitoring Station (AQMS) (Station ID 10001), located approximately 13.6 km south east of the project site and is considered to be generally representative of the air quality of the surrounding areas to the project site.

The adopted background concentrations are presented in Table 4-2 and have been added to the modelled incremental concentrations to determine total predicted concentrations for comparison with the relevant assessment criteria. Background concentration values used in the assessment are shown in bold.

While several facilities in the surrounding industrial area are listed on the National Pollutant Inventory as reporting VOC emissions, these data represent annual mass emissions only and do not provide information on compound type, odour potential, or emission characteristics. In addition, the surrounding sources undertake different industrial activities and are not expected to emit the same compounds or odorous constituents as the proposed plastic reprocessing operations.

On this basis, a quantitative cumulative odour assessment is not feasible, and the odour impact assessment has been undertaken for the proposed facility emissions.

Table 4-2: Background Concentrations – Average, 75th, 90th Percentiles and Maximum

Pollutant ($\mu g/m^3$)	2022 - 2024					
	Annual Average	Maximum Annual Average	24 – Hour Averages			
			Average	75th %	90th %	Maximum
PM_{10}	**16.6**	18.4	16.5	20.4	**25.2**	44.0
$PM_{2.5}$	**7.1**	8.0	7.1	8.6	**12.0**	31.6

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5 Methodology

5.1 Overview

The air quality impact assessment has been carried out as follows:

- An emissions inventory of PM_{10} and $PM_{2.5}$ was compiled for the proposed Project's truck unloading, sorting and shredding activities and was conservatively estimated based on the National Pollutant Inventory (NPI) and United States Environmental Protection Agency (USEPA) AP-42 emissions estimation methodology for Mining (see Section 5.3).
- The emissions data was used as input for air dispersion modelling. The modelling techniques were based on a combination of measured meteorological data from the closest Vic EPA AQMS at Alphington, The Air Pollution Model (TAPM) prognostic meteorological model (developed by CSIRO), CALMET and the AERMOD dispersion model with reference to the requirements of the EPA Publication 1957 – 'Guide to Air Pollution Modelling', which combines previous EPA Publications 1550 and 1551.
- The atmospheric dispersion modelling results were assessed by comparison between scenarios and the assessment criteria described in Section 3.4.

5.2 Emissions Scenarios

The proposed facility will include three operational buildings, and two operational emission scenarios were considered for the assessment:

- Scenario 1: based on the MRA-reported machinery capacity of 6 t/h per building, which conservatively equates to an estimated maximum annual throughput of 87,000 tpa.
- Scenario 2: based on the reported estimated maximum annual throughput of 48,000 tonnes per annum (tpa), equating to an average throughput of 3.31 t/h per building.

As a worst-case assumption, each building were modelled as operating simultaneously for the full 93-hour operational week throughout the entire modelling period representing extremely conservative emission scenarios.

5.3 Emissions Estimations

5.3.1 Introduction

Emission factors derived from Tables 2 and 3 of the NPI EET Manual for Mining are conservatively used to estimate the Project's emissions from the truck unloading, sorting and shredding activities by the general equation:

$$E_{i\,(kg/yr)} = \left[A_{(t/h)} \times OP_{(h/yr)} \right] \times EF_{i\,(kg/t)} \times \left[1 - \frac{CE_i}{100} \right]$$

Where:

$E_{i\,(kg/yr)}$ = Emission rate of pollutant

$A_{(t/h)}$ = Activity rate

$OP_{(h/yr)}$ = operating hours

$EF_{i\,(kg/t)}$ = uncontrolled emission factor of pollutant

CE_i = overall control efficiency for pollutant

5.3.2 Operational Emissions

Activities associated with the proposed operations have the potential to generate low levels of dust emissions. Potential dust emissions may be generated during the material loading/unloading, processing/sorting material and shredding.

As outlined in Section 2.2, many of the potential dust generating activities including unloading, sorting, partial storage and shredding of materials are proposed in an enclosed buildings thereby minimising dust emissions to the surrounding

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air environment. Furthermore, the proposed transportation routes will all be sealed which would significantly decreases any dust generated by vehicle movements.

A control factor derived from that specified for the miscellaneous transfer and handling within an enclosure in the National Pollutant Inventory Emissions Estimation Technique Manual for Mining Version 3.1 (NPI EET Mining) of 70% control factor is conservatively applied to the emission factors. Although a case could be made for applying a 100% control as outlined in Table 4 of the NPI EET Manual due to these controls. Instead, these control factors were conservatively adopted to reflect the potential for dust generation within the shed that may be released, for example, through an open door.

Estimated emissions for these sources are summarised in Table 5-1 and Table 5-2.

Further details including the activity data and emissions estimation methodology are provided in Appendix B.

Table 5-1: Emissions Input Data Adopted for the Modelling –Scenario 1

Activity	Emission Rate (g/s)			Control Factor (%)
	TSP	PM_{10}	$PM_{2.5}$	
Processing Buildings				
Screening (sorting)	1.65E-03	5.45E-04	3.63E-05	70% for enclosure
processing/shredding	1.88E-02	6.38E-03	4.13E-04	70% for enclosure
Misc Transfers	4.80E-04	2.40E-04	5.04E-05	70% for enclosure
External				
Truck unloading	1.60E-03	8.00E-04	1.68E-04	
Total	**2.25E-02**	**7.96E-03**	**6.67E-04**	

Table 5-2: Emissions Input Data Adopted for the Modelling –Scenario 2

Activity	Emission Rate (g/s)			Control Factor (%)
	TSP	PM_{10}	$PM_{2.5}$	
Processing Buildings				
Screening (sorting)	9.10E-04	3.00E-04	2.00E-05	70% for enclosure
processing/shredding	1.03E-02	3.52E-03	2.28E-04	70% for enclosure
Misc Transfers	2.65E-04	1.32E-04	2.78E-05	70% for enclosure
External				
Truck unloading	8.83E-04	4.41E-04	9.27E-05	
Total	**1.24E-02**	**4.39E-03**	**3.68E-04**	

5.4 Air Dispersion Modelling Methodology

The meteorological data used in the dispersion modelling was processed in two steps. As no suitable measured data is available for the site location, the mandatory and supplementary data required was generated as a prognostic dataset using a combination of TAPM and CALMET. Synoptic scale meteorological data were first processed in The Air Pollution Model (TAPM) and CALMET and then further processed with reference to the EPA Victoria guidelines Publication 1957 to produce the wind field and weather data suitable for dispersion modelling with AERMOD.

5.4.1 TAPM

The Air Pollution Model, or TAPM[1], is a three-dimensional meteorological and air pollution model developed by the CSIRO Division of Atmospheric Research. TAPM solves the fundamental fluid dynamics and scalar transport equations to predict meteorology and (optionally) pollutant concentrations. It consists of coupled prognostic meteorological and air pollution

[1] While it is acknowledged that TAPM is no longer supported by CSIRO, it has been (and is continued) to be used by air quality professionals throughout Australia for many years. It is therefore adopted in this instance in accordance with the EPA Victoria Guidelines.

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concentration components. The model predicts airflow important to local scale air pollution, such as sea breezes and terrain induced flows, against a background of larger scale meteorology provided by synoptic analyses. TAPM's output for five consecutive years was exported as a surface and upper air station approximating to the site location.

TAPM was configured for five individual years from 2021 to 2025 in accordance with Publication 1957 as follows:

- Centre coordinates – 37.675°S, 144.950°E;
- Dates modelled – 1st January 2021 to 31st December 2025
- Four nested grid domains of 30 km, 10 km, 3 km and 1 km;
- 41 x 41 grid points for all modelling domains;
- 25 vertical levels from 10 m to an altitude of 8000 m above sea level; and
- The default TAPM databases for terrain, land use and meteorology were used in the model.

5.4.2 CALMET

CALMET is an advanced non-steady-state diagnostic three-dimensional meteorological model with micro-meteorological modules for overwater and overland boundary layers. The model is the meteorological pre-processor for the CALPUFF modelling system.

The CALMET simulation was run as No-Obs simulation with the gridded TAPM three-dimensional wind field data from the innermost grid. CALMET then adjusts the prognostic data for the kinematic effects of terrain, slope flows, blocking effects and three-dimensional divergence minimisation.

5.4.3 AERMOD

Dispersion modelling of the emission source parameters outlined in Section 6, was undertaken using the currently approved version of the regulatory model in Victoria AERMOD. The following sections discuss the key inputs adopted for the modelling.

5.4.4 Receptor Grid

The AERMOD receptor grid was set with a total of 10,201 receptors with a southwest corner coordinates of 316821.49m E and 5825639.47m S using 50m grid spacing. The receptor grid also included 23 sensitive receptors representative of the closest residences to the project site.

5.4.5 Averaging Period

Post processing of the hourly, 24-hour and annual average predictions.

5.4.6 Terrain

The terrain in the surrounding environment was derived from one-second (30m resolution) DEM.

5.4.7 Modelling Source Input Parameters

The buildings within the plastic reprocessing buildings were modelled as volume sources, in accordance with EPA Victoria recommendations, and sensitive receptors are located at a sufficient distance from the buildings.

As specified by EPA Victoria dry and wet deposition options for PM_{10} and $PM_{2.5}$ were not modelled.

6 Results

Comparison of the modelled results to the assessment criteria is intended to provide an objective evaluation of the potential impact of the operations at the nearest sensitive receptors. Modelled ground-level concentrations for key air pollutants have been compared to the AQACs to determine the potential impacts. Contour plots showing the spatial distribution of

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the maximum predictions and cumulative impacts for the maximum emission scenario (Scenario 1) operations are provided in **Appendix C.**

As discussed in Section 3.3, AQACs are not intended to be concentrations one can 'pollute up to'. They are also not concentrations below which no action is required.

The predicted incremental particulate matter concentrations at the identified sensitive receptors, for the relevant averaging periods and both emission scenarios, are presented in Table 6-1.

Table 6-2 presents the predicted cumulative particulate matter concentrations, for the relevant averaging periods and both emission scenarios, at the identified sensitive receptors.

Table 6-1: Predicted PM_{10} and $PM_{2.5}$ Concentrations - Incremental

ID	Maximum Predicted 24 Hour Average PM_{10} Concentrations (µg/m³)		Predicted Annual Average PM_{10} Concentrations (µg/m³)		Maximum Predicted 24 Hour Average $PM_{2.5}$ Concentrations (µg/m³)		Predicted Annual Average $PM_{2.5}$ Concentrations (µg/m³)	
	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2
1	0.65	0.36	0.04	0.02	0.05	0.03	0.00	0.00
2	0.59	0.32	0.03	0.02	0.05	0.03	0.00	0.00
3	0.39	0.22	0.03	0.02	0.03	0.02	0.00	0.00
4	0.67	0.37	0.04	0.02	0.06	0.03	0.00	0.00
5	0.83	0.46	0.06	0.03	0.07	0.04	0.00	0.00
6	1.06	0.58	0.07	0.04	0.09	0.05	0.01	0.00
7	0.75	0.42	0.05	0.03	0.06	0.03	0.00	0.00
8	0.53	0.29	0.05	0.03	0.04	0.02	0.00	0.00
9	0.49	0.27	0.06	0.03	0.04	0.02	0.01	0.00
10	0.52	0.28	0.06	0.03	0.04	0.02	0.01	0.00
11	0.44	0.24	0.06	0.03	0.04	0.02	0.01	0.00
12	0.32	0.18	0.05	0.03	0.03	0.02	0.00	0.00
13	0.29	0.16	0.05	0.03	0.02	0.01	0.00	0.00
14	0.43	0.24	0.05	0.03	0.04	0.02	0.00	0.00
15	0.19	0.11	0.04	0.02	0.02	0.01	0.00	0.00
16	0.18	0.10	0.03	0.02	0.01	0.01	0.00	0.00
17	0.15	0.08	0.03	0.02	0.01	0.01	0.00	0.00
18	0.18	0.10	0.03	0.02	0.01	0.01	0.00	0.00
19	0.28	0.15	0.03	0.02	0.02	0.01	0.00	0.00
20	0.26	0.14	0.03	0.02	0.02	0.01	0.00	0.00
21	0.24	0.13	0.03	0.02	0.02	0.01	0.00	0.00
22	0.22	0.12	0.03	0.02	0.02	0.01	0.00	0.00
23	0.21	0.11	0.03	0.02	0.02	0.01	0.00	0.00
Criteria PM_{10}	50		20		25		8	

Table 6-2: Predicted PM_{10} and $PM_{2.5}$ Concentrations - Cumulative

Receptor ID	Maximum Predicted 24 Hour Average PM_{10} Concentrations (µg/m³)		Predicted Annual Average PM_{10} Concentrations (µg/m³)		Maximum Predicted 24 Hour Average $PM_{2.5}$ Concentrations (µg/m³)		Predicted Annual Average $PM_{2.5}$ Concentrations (µg/m³)	
	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2
1	25.85	25.56	16.64	16.62	12.05	12.03	7.10	7.10
2	25.79	25.52	16.63	16.62	12.05	12.03	7.10	7.10
3	25.59	25.42	16.63	16.62	12.03	12.02	7.10	7.10
4	25.87	25.57	16.64	16.62	12.06	12.03	7.10	7.10
5	26.03	25.66	16.66	16.63	12.07	12.04	7.10	7.10

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6	26.26	25.78	16.67	16.64	12.09	12.05	7.11	7.10
7	25.95	25.62	16.65	16.63	12.06	12.03	7.10	7.10
8	25.73	25.49	16.65	16.63	12.04	12.02	7.10	7.10
9	25.69	25.47	16.66	16.63	12.04	12.02	7.11	7.10
10	25.72	25.48	16.66	16.63	12.04	12.02	7.11	7.10
11	25.64	25.44	16.66	16.63	12.04	12.02	7.11	7.10
12	25.52	25.38	16.65	16.63	12.03	12.02	7.10	7.10
13	25.49	25.36	16.65	16.63	12.02	12.01	7.10	7.10
14	25.63	25.44	16.65	16.63	12.04	12.02	7.10	7.10
15	25.39	25.31	16.64	16.62	12.02	12.01	7.10	7.10
16	25.38	25.30	16.63	16.62	12.01	12.01	7.10	7.10
17	25.35	25.28	16.63	16.62	12.01	12.01	7.10	7.10
18	25.38	25.30	16.63	16.62	12.01	12.01	7.10	7.10
19	25.48	25.35	16.63	16.62	12.02	12.01	7.10	7.10
20	25.46	25.34	16.63	16.62	12.02	12.01	7.10	7.10
21	25.44	25.33	16.63	16.62	12.02	12.01	7.10	7.10
22	25.42	25.32	16.63	16.62	12.02	12.01	7.10	7.10
23	25.41	25.31	16.63	16.62	12.02	12.01	7.10	7.10
Criteria	**50**		**20**		**25**		**8**	

7 Discussion and Recommendations

The results of the modelling assessment have identified that the predicted incremental 24-hour and annual average concentrations of PM_{10} and $PM_{2.5}$ at the closest identified sensitive receptors, for both emission scenarios, were well below the applicable assessment criteria. Predicted concentrations were below 50 µg/m^3 (24-hour) and 20 µg/m^3 (annual) for PM_{10}, and below 25 µg/m^3 (24-hour) and 8 µg/m^3 (annual) for $PM_{2.5}$.

The predicted cumulative 24-hour and annual PM_{10} and $PM_{2.5}$ concentrations, for both emission scenarios, were also below the respective criteria of 50 µg/m^3 for PM_{10} and 25 µg/m^3 for $PM_{2.5}$ at the closest sensitive receptors.

Overall, the modelling results indicates a low risk of adverse air quality impacts at nearby sensitive receptors.

Furthermore, the assessment incorporated several conservative assumptions. Two emission scenarios were evaluated: one based on the estimated maximum annual throughput of the proposed facility, and the other based on the maximum hourly machinery throughput capacity. For both scenarios, the three buildings were conservatively assumed to operate simultaneously at maximum capacity for every operational hour over the entire five-year meteorological dataset. Emissions from the proposed activities, which are primarily located within enclosed buildings, were modelled as volume sources, representing a conservative treatment of fugitive building emissions.

Nevertheless, given the uncertainties described for the estimation of emissions from the Facility (discussed in Section 6), it is recommended that an air quality management plan is developed for the facility including a complaints management procedure.

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8 Conclusion

This report provides the results of the air quality assessment of impacts from the operation of the proposed plastics reprocessing facility at 45 Fabio Court, Campbellfield, Victoria.

The assessment has been prepared to support a permit planning application for the use of land for materials recycling and resource recovery facility- plastics reprocessing facility and to address matters regarding air quality raised in the EPA Request for Further Information (RFI; REQ008137 dated 20 October 2025) as follows:

EPA considers that the nature of the proposed use has the potential to generate significant air emissions (odour) from the plastic recycling and melting which may impact the surrounding area including sensitive receptors if not managed appropriately.

It is noted that updated plans prepared by Kangaroo Plastics no longer incorporate the use of extruders in the Facility. No melting of the recycled plastics is therefore proposed and odour emissions from the Facility are expected to be minimal. As a consequence, an air quality impact assessment has been carried out that focusses on the potential for dust (or particulate) emissions.

Two operational emission scenarios were considered for the assessment:

- Scenario 1: based on the MRA-reported machinery capacity of 6 t/h per building, which conservatively equates to an estimated maximum annual throughput of 87,000 tpa.
- Scenario 2: based on the reported estimated maximum annual throughput of 48,000 tonnes per annum (tpa), equating to an average throughput of 3.31 t/h per building.

As a worst-case assumption, all buildings were modelled as operating simultaneously for the full 93-hour operational week throughout the entire modelling period, representing extremely conservative emission scenarios.

The results of the incremental model predictions for both scenarios at the closest sensitive receptors are summarised in Table ES-1.

Overall, air quality impacts from the proposed operation of the Facility at sensitive receptors in the surrounding environment are predicted to be well within relevant Air Quality Assessment Criteria (AQAC) for both scenarios.

A cumulative assessment of particulates was undertaken and background particulate concentrations for PM_{10} and $PM_{2.5}$ were obtained from the closest Vic EPA Air Quality Monitoring station at Alphington. The results of the cumulative model predictions for both scenarios at the closest sensitive receptors are summarised in Table ES-2.

The predicted cumulative 24-hour and annual average predictions for PM_{10} and $PM_{2.5}$ were below criteria for both scenarios. Additionally, the incremental contribution from the proposed facility is minor in comparison to the adopted background levels.

While the assessment has been undertaken on a conservative basis, given the proximity of the Facility to the sensitive receptors, it is recommended that an air quality management plan is developed for the Facility, including a complaints management procedure.

Table 8-1: Summary of Maximum Cumulative Model Predictions at the Sensitive Receptors

Pollutant	Averaging Time	Model prediction (µg/m³)*		Criteria (µg/m³)	Compliant
		Scenario 1	Scenario 2		
PM10	24 Hour	26.26 (25.2)	25.78 (25.2)	**50**	✓
	Annual	16.67 (16.6)	16.64 (16.6)	**20**	✓
PM2.5	24 Hour	12.09 (12.0)	12.05 (12.0)	**25**	✓
	Annual	7.11 (7.1)	7.10 (7.1)	**8**	✓

* adopted background shown in brackets

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Appendix A Site Plans



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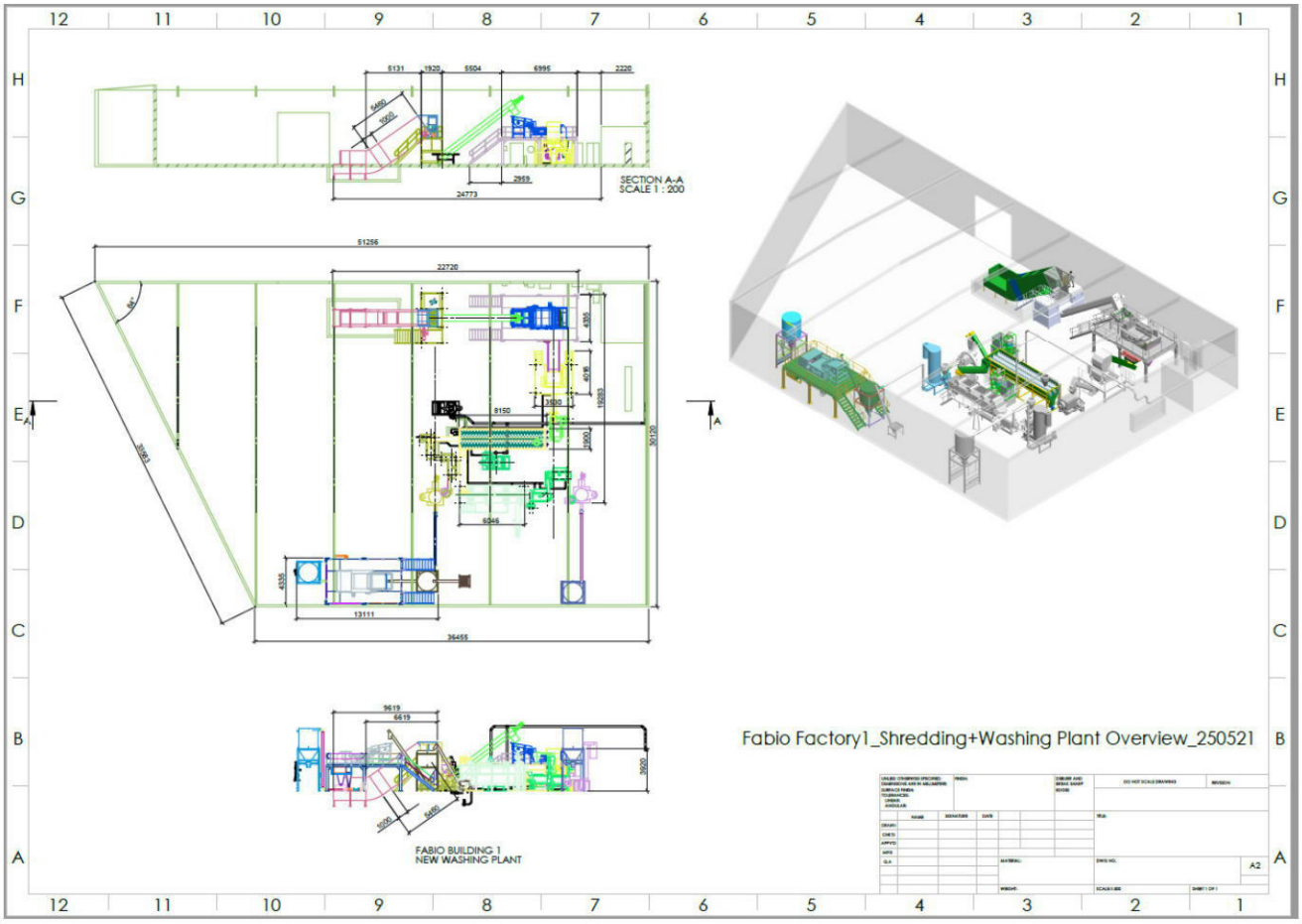



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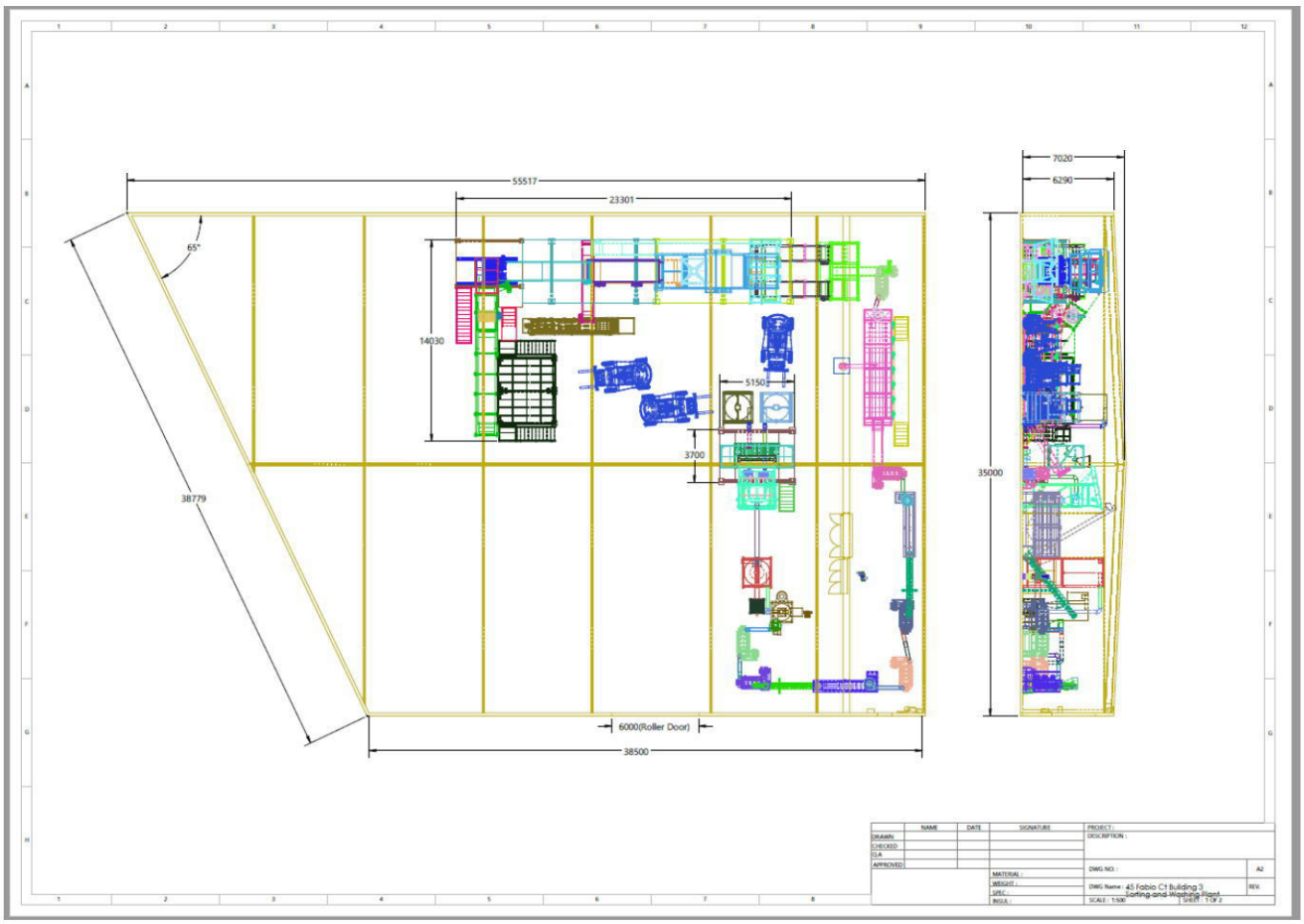

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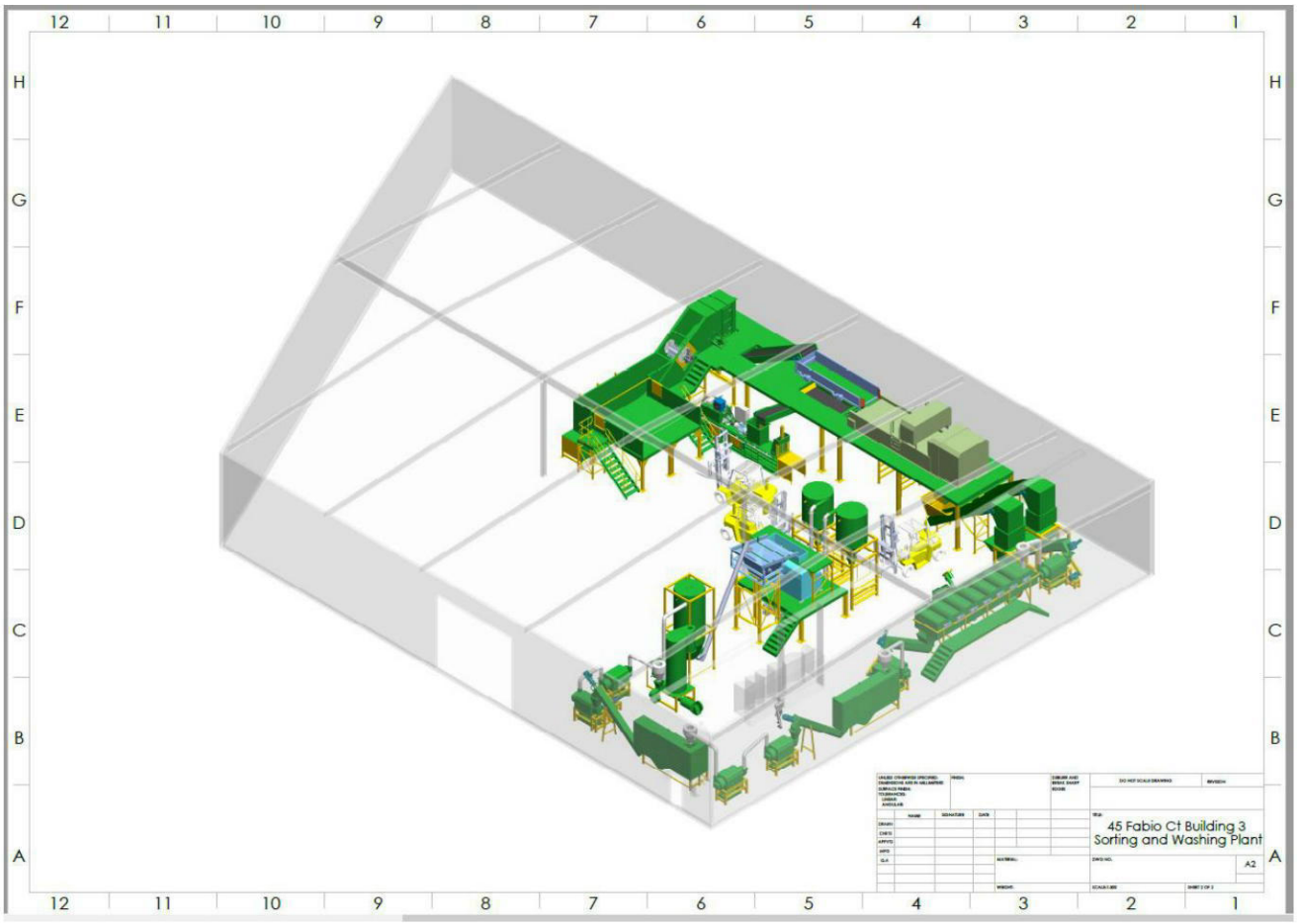

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Appendix B Emissions Estimation

The major air emission from surface mining is fugitive dust. Emission factors can be used to estimate emissions of TSP, PM_{10} and $PM_{2.5}$ to the air from various sources. Emission factors relate the quantity of a substance emitted from a source to some measure of activity associated with the source. Common measures of activity include distance travelled, quantity of material handled, or the duration of the activity.

The National Pollutant Inventory Emission Estimation Technique Manual for Mining (January 2012) provides the equations and emission factors to determine the emissions of TSP and PM_{10} from mining activities. These emission factors have been conservatively adopted as representative of dust emissions from the plastics reprocessing activities.

$PM_{2.5}$ emission factors were derived from the ratio of $PM_{2.5}$ to TSP published in the relevant US AP42 Chapter tables. Table A-1 summarises the $PM_{2.5}$ to TSP ratio adopted for the emissions estimations.

Table A-1: Ratio of PM2.5 to TSP ratio adopted for the emissions estimations

Source	Ratio $PM_{2.5}$/TSP
Screening	0.022
Processing/Shredding	0.022
Miscellaneous transfers/Unloading trucks	0.105

The default emission factors for all of the various operations as specified in Table 3 of the National Pollutant Inventory Emission Estimation Technique Manual for Mining (January 2012) and US AP42 Chapter 11 have been conservatively adopted (Table A-2). Table A-3 outlines the activity data applied in the emissions estimation.

*Table A-2: Source type Emission Factors applied**

Source type	TSP Emission factor	PM_{10}/TSP ratio	Units
Handling:			
Miscellaneous transfers/ Unloading Trucks	0.00032	0.5	kg/t
Wet Screening	0.0011	0.33	kg/t
Processing/shredding	0.0125	0.34	kg/t

* Uncontrolled default emission factors

Table A-3: Parameters applied in emissions estimation

Parameter ID	Value	Units	Description	Data source
Hours	93	hours/week	Hours of operation	client supplied
Days	300	Days/year	Hours of operation	estimated
Average materials processed	9.93	t/h	Average materials processed	estimated
Max materials processed	18	t/h	Max materials processed	estimated

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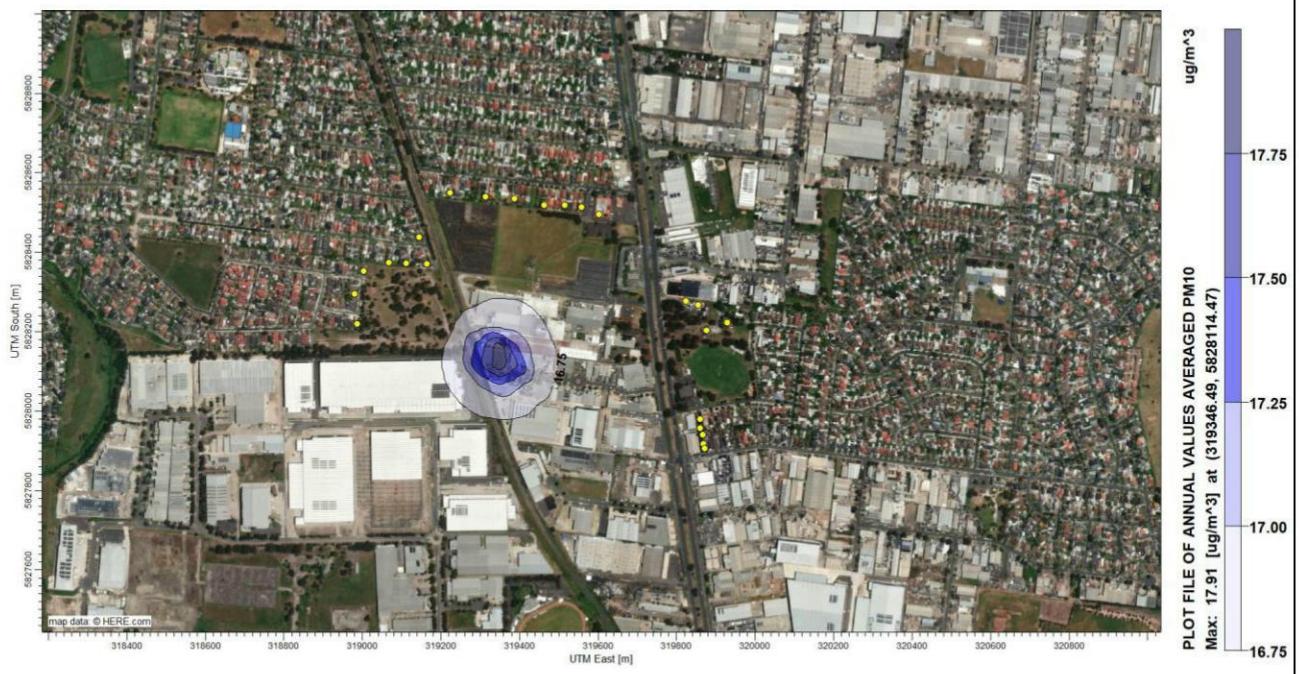
Appendix C Cumulative Isopleth Plots – Scenario 1



Scenario 1:	Pollutant:	Averaging Period:	Percentile:	Criteria:
Cumulative	PM_{10}	Annual	MAX	20 µg/m^3

Figure C 1 - Predicted cumulative maximum annual average concentrations –PM_{10}

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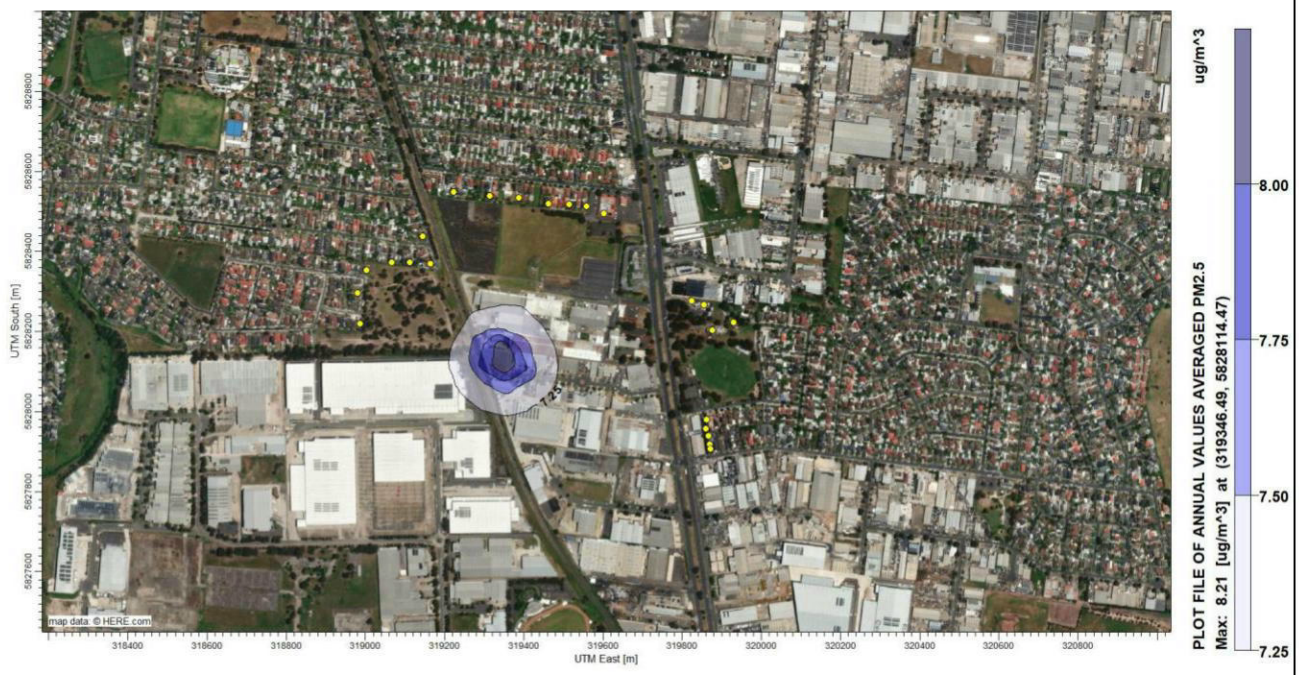

Scenario 1:	Pollutant:	Averaging Period:	Percentile:	Criteria:
Cumulative	$PM_{2.5}$	Annual	MAX	8 µg/m³

Figure C 2 - Predicted maximum Annual average concentrations –$PM_{2.5}$

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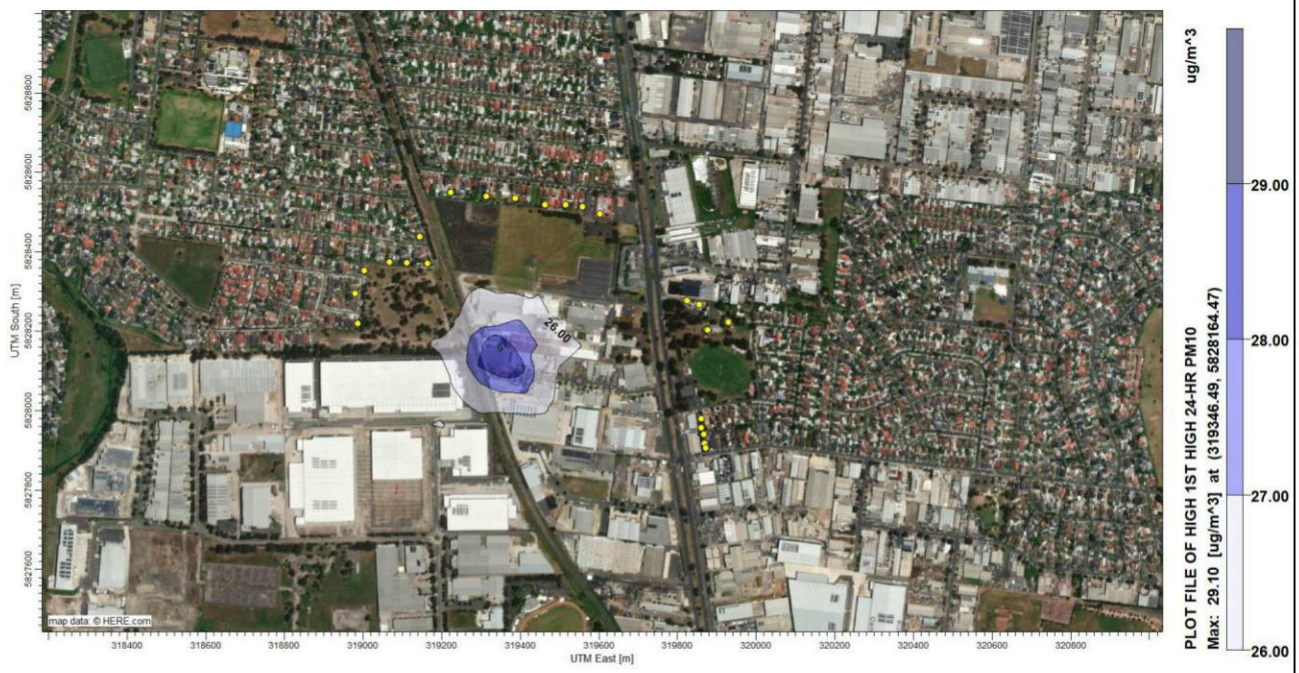

Scenario 1:	Pollutant:	Averaging Period:	Percentile:	Criteria:
Cumulative	PM_{10}	24 Hour	MAX	50 µg/m^3

Figure C 3 - Predicted cumulative maximum 24-Hour average concentrations –PM_{10}

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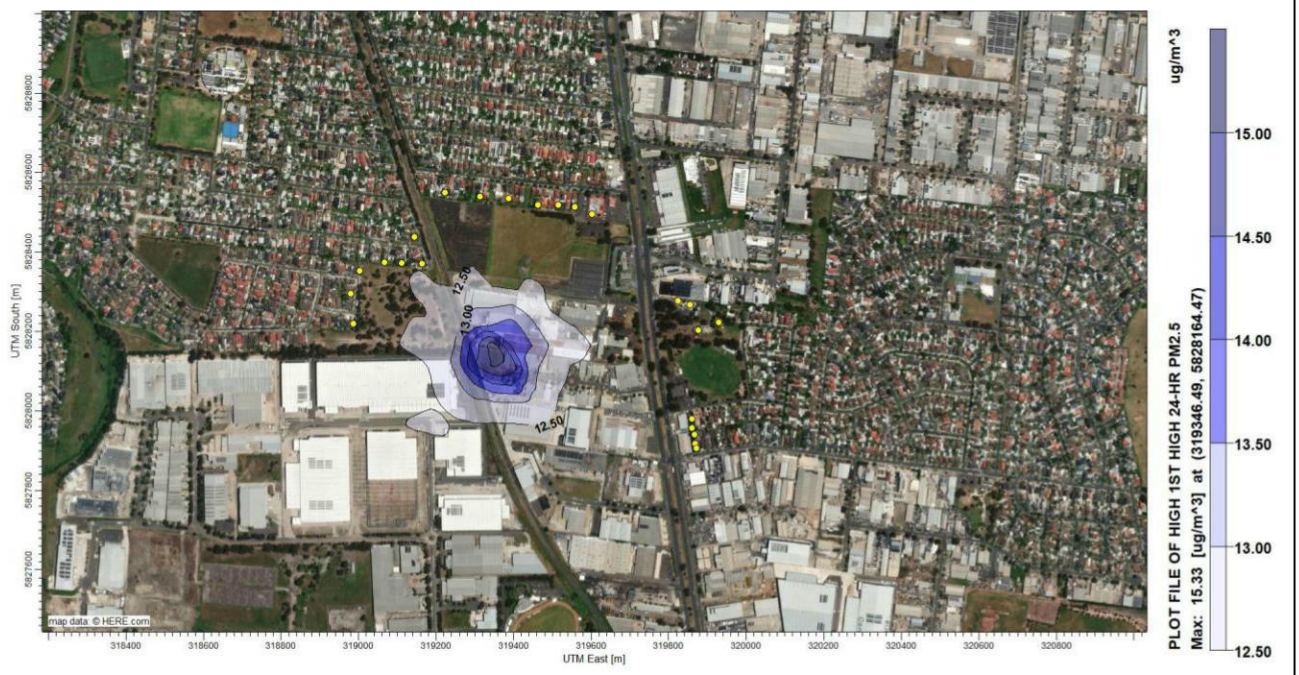

Scenario 1:	Pollutant:	Averaging Period:	Percentile:	Criteria:
Cumulative	$PM_{2.5}$	24 Hour	MAX	25 µg/m^3

Figure C 4 – Predicted cumulative maximum 24-Hour average concentrations –$PM_{2.5}$

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Willow Acoustics Pty Ltd ABN 94 660 341 537 Trading as noiseconsult.com.au
AUDIOMETRIC & ACOUSTIC SERVICES
(03) 9817 5517
info@noiseconsult.com.au

19th December 2025 **Report No. 25127**

Title: **Environmental noise assessment for Kangaroo Plastics at 45 Fabio Court, Campbellfield, VIC 3061.**

Brief: **Assess compliance with the Environment Protection Act 2017 (the EP Act) and the Environment Protection Regulations 2021 (the EP Regulations) by application of the EPA Publication 1826.4, Part I (Noise Protocol) 'urban area method' for potential noise emanating from proposed site at 45 Fabio Court, Campbellfield, VIC 3061.**

Client: **Kangaroo Plastics**
202-204 Northbourne Rd
Campbellfield
VIC 3061

Contact: **Naomi Mynott**
MRA Consulting Group (MRA)

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Executive Summary

Audiometric and Acoustic Services (A&AS) has been commissioned by Kangaroo Plastics Pty Ltd to assess compliance with the *Environment Protection Act 2017* (the EP Act) and the *Environment Protection Regulations 2021* (the EP Regulations) by application of the EPA Publication 1826.5, (Noise Protocol) Part I 'urban area method' for potential noise emanating from the proposed Kangaroo Plastics at 45 Fabio Court, Campbellfield, VIC 3061.

The situation is calculated to be compliant with the EP Regulations (State of Victoria, 2021) and incorporated Noise Protocol (State of Victoria, 2021).

Additionally, the situation is seen as low risk of being determined as unreasonable noise as per the description within Section 3(1) of the EP Act (State of Victoria, 2017) due to its likely inaudibility at Noise Sensitive Areas (NSA).

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1 Introduction

Audiometric and Acoustic Services (A&AS) has been commissioned by Kangaroo Plastics Pty Ltd to assess compliance with the *Environment Protection Act 2017* (the EP Act) and the *Environment Protection Regulations 2021* (the EP Regulations) by application of the EPA Publication 1826.5, (Noise Protocol) Part I 'urban area method' for potential noise emanating from proposed site at 45 Fabio Court, Campbellfield, VIC 3061

The scope of the assessment therefore includes:

- Assessment of potential noise emissions in relation to mechanical plant and the requirements of EPA Publication 1826.5 "Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues" Part I 'urban area method' (State of Victoria, 2021).
- Application of 'cumulative noise limits' as per The EPA Publication 1997 Technical guide: Measuring and analysing industry noise and music noise (EPA Victoria, 2021).
- Consideration of the general environmental duty (GED) under the Environment Protection Act (State of Victoria, 2017).
- Provision of advice on noise attenuation measures necessary to comply with the relevant legislation or guidelines at any nearby noise sensitive areas as required.

A glossary of the acoustic terminology used in this report is presented in Appendix A.

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2 Site Description

The proposed project site is located at 45 Fabio Court, Campbellfield, VIC 3061 as shown below in Figure 1.

The topography in the immediate area between the site and nearby noise sensitive areas has a flat topography gradient for the purposes of the acoustic assessment.



Figure 1 Location of Project Site (Image Source: Nearmap 2025)

Figure 2 presents the proposed layout of the site.

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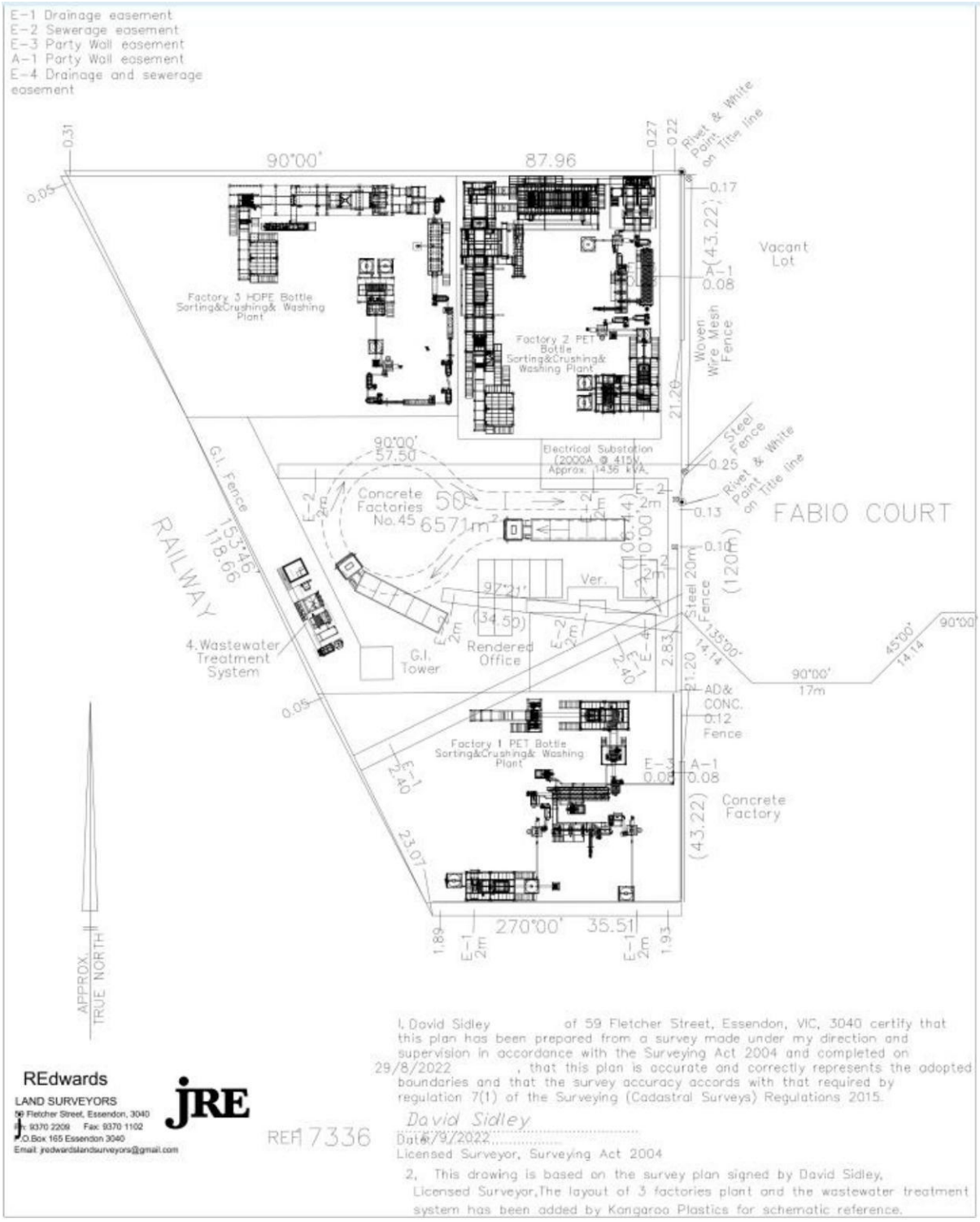

Figure 2 **Proposed Plan (Image Source: JREdwards *Land Surveyors, 2025*)**

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2.1 Proposed Operations

All proposed operations are listed as below in Table 1.

Table 1 Proposed Operating Hours

Operations	Days	Operating Hours
Material Receival	Monday to Friday	7:30 am – 3:00 pm
Material Processing	Monday to Saturday	7:30 am – 11:00 pm

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3 Legislation and Guidelines

The following legislations and guidelines apply to the project site.

3.1 Environment Protection Act

Part 7.6, Division 2, Section 166 'Unreasonable noise' of the *EP Act* (State of Victoria, 2017) states *'A person must not, from a place or premises that are not residential premises—*

a) emit an unreasonable noise; or

b) permit an unreasonable noise to be emitted.

Note 'Unreasonable noise' is defined in section 3(1)' as the following:

'Unreasonable noise means noise that—

(a) is unreasonable having regard to the following—

(i) its volume, intensity or duration;

(ii) its character;

(iii) the time, place and other circumstances in which it is emitted;

(iv) how often it is emitted;

(v) any prescribed factors; or

(b) is prescribed to be unreasonable noise;'

Note that for the purposes of paragraph (a) (v) of the definition of 'unreasonable noise' in section 3 (1) of the Act, frequency spectrum is a prescribed factor.

Noise can be determined as 'unreasonable' under both section 3(1)(a) or that noise can be prescribed to be 'unreasonable noise' (under the section 3(1)(b) definition) of the EP Act (State of Victoria, 2017) if it exceeds the noise limits set using Part 5.3 of the Environment Protection Regulations (State of Victoria, 2021). Note that publication 1826.5 'the Noise Protocol', is an incorporated document for Part 5.3 and should also be used as a *guide* for assessing noise under section 3(1)(a).

The *Environment Protection Act* (State of Victoria, 2017) also outlines the General Environmental Duty (GED) (S.25) which requires that a person who is engaging in an activity that may give rise to risks of harm to human health or the environment from pollution or waste must minimise those risks, so far as reasonably practicable.

The EPA publication 'Industry Guidance: supporting you to comply with the general environmental duty' (State of Victoria, 2020) offers the following definition:

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*"**Reasonably practicable** means putting in controls that are proportionate to the risk.*

It relates to the chance of harm occurring and potential impacts on the environment. It also relates to what controls are available, their cost, and considers what an industry generally knows about the risk and control options. This is termed the 'state of knowledge'."

S.25 of the Environment Protection Act 2017) operates independently and concurrently with the obligations regarding unreasonable noise (which include section 166 and section 167 of the Act, and Part 5.3 of the Environment Protection Regulations 2021). The GED applies to all Victorians at any time they engage in an activity that may give rise to risks of harm to human health or the environment from pollution or waste to minimise those risks, so far as reasonably practicable. This can be the case even when the noise limits set by Part 5.3 of the Environment Protection Regulations 2021 are not exceeded.

If the noise were to be found 'unreasonable noise' under either 3(1)(a) or 3(1)(b), this could also be used to inform the duty holder's compliance with the GED. i.e., they are unlikely to be managing the risk associated with those noise emissions so far as reasonably practicable.

For the purposes of calculation and prediction within an acoustic report it is surmised that mitigation measures should first aim to reduce noise levels below the applicable noise limits in relation to the EP Regulations (State of Victoria, 2021) and incorporated Noise Protocol (State of Victoria, 2021).

Secondly the effective noise level should be further assessed as per the definition of section 3(1)(a) of the EP Act (State of Victoria, 2017). For example, this may apply in cases where the ENL may be technically below the noise limits but has an intrusive character or low frequency during a sensitive time or similar scenario.

Thirdly, noise levels should be reduced as far as reasonably practicable in line with the GED. This may include silencers on plant, noise barriers or selection of low noise plant and the like. The acoustic report should also include recommendations for ongoing compliance which may include but is not limited to, ensuring all machinery is well maintained and scheduling of noisy activities to the less sensitive periods of the day. In cases of entertainment venues these items may be incorporated within a Noise Amenity Action Plan (NAAP).

3.2 Control of Noise from Commercial, Industrial and Trade Premises

The Environment Protection Regulations (State of Victoria, 2021) Part 5.3 – Noise, requires the prediction, measurement, assessment and analysis to be in accordance with the EPA Publication 1826.5: 'Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues' otherwise known as the Noise Protocol (State of Victoria, 2021) to determine if a noise is unreasonable or aggravated.

The Environment Protection Regulations (State of Victoria, 2021) prescribe the following definitions for operating time periods for Trade, Commerce, and Industry:

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Table 2 Definitions of Operating Times for Trade, Commerce, and Industry

Period	Applicable Times
Day	Monday to Saturday (except public holidays), from 7 am to 6 pm
Evening	(i) Monday to Saturday, from 6 pm. to 10 pm; and (ii) Sunday and public holidays, from 7 am to 10 pm;
Night	10 pm to 7 am the following day.

The EPA publication 1826.5 'Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises' (Noise Protocol) Part I prescribes methodology for setting noise limits for commercial, industrial or trade premises.

The aim of the Noise Protocol is to protect people from commercial, industrial or trade noise that may affect the beneficial uses of noise sensitive areas (NSAs). A definition of NSAs is provided in Appendix A.

The Noise Protocol identifies the noise limit at or within the nearest NSAs such as residential dwellings. The limits are dependent on the time of day the noise is emitted, the planning zone types in the area and the measured background noise levels representative of the NSAs.

The method of assessing the source noise level involves an L_{Aeq} sound pressure level that is representative of the audible noise at the nearest likely affected NSA over a continuous 30-minute period. In layman's terms the L_{Aeq} can be described as the "average" noise level.

The effective noise level is the result of the L_{Aeq} having been adjusted for duration, measurement position and characteristics, such as intermittency, tonality, and impulsiveness as per the following formula:

$$\text{Effective noise level (ENL)} = L_{Aeq} + A_{tone} + A_{dur} + A_{int} + A_{refl} + A_{ind} + A_{imp}.$$

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4 Noise Sensitive Areas

The nearest and potentially most affected areas have been identified as per Figure 3. As sound attenuates with distance, in the absence of any major reflecting surface or similar, it is taken that if the nearer residences are compliant then any residences at further distance will also be compliant.

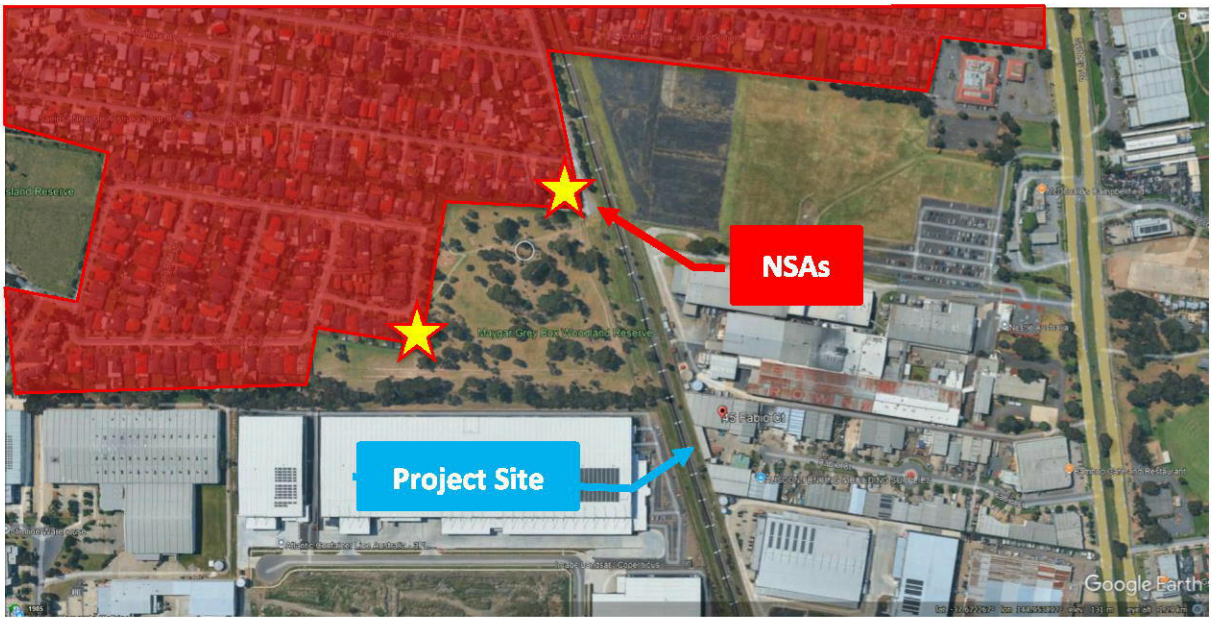

Figure 3 Location of NSAs (Image Source: Google Earth 2025)

Key receivers have been located as per Table 3 as these are believed to be the most exposed and likely affected based on line of sight or proximity to the project site.

Table 3 Noise Sensitive Areas

Location Reference	Address	Comment
NSA 1	1 Garner Parade, Dallas VIC 3047	Single storey dwelling with receiver at 1.5 m
NSA 2	9 Columbia Cct, Broadmeadows VIC 3047	Single storey dwelling with receiver at 1.5 m

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5 Existing Acoustic Environment

Background noise levels were measured at an alternative assessment location on the footpath outside at 1 Garner Parade, Dallas VIC 3047 at approximately 12:11 pm on Tuesday the 9th of December 2025 as well as the evening of Tuesday the 16th of December for the evening & night periods. No adjustment for reflection was required.

The background noise levels were measured at a conservative location representative of the nearest NSAs as presented below in Figure 4.



Figure 4 **Location of Background Noise Level measurements (Image Source: Google Earth 2025)**

5.1 CIT Background Level Measurements

The background noise levels determined in accordance with EPA publication 1826.5 Part I 'short method' for the 'day' period are presented below Table 4.

Table 4 Day Period Background Levels Using Short Method

Date and Start Time	Background Noise Level, L_{A90} dB(A)
09/12/2025 12:11	46.7
09/12/2025 12:21	46.2
Average	47

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The background noise levels determined in accordance with EPA publication 1826.5 Part I 'short method' for the 'evening' period are presented below Table 5

Table 5 Evening Period Background Levels Using Short Method

Date and Start Time	Background Noise Level, L_{A90} dB(A)
16/12/2025 21:17	43.6
16/12/2025 21:27	43.7
Average	44

The background noise levels determined in accordance with EPA publication 1826.5 Part I 'short method' for the night period are presented below Table 6

Table 6 Night Background Levels Using Short Method

Date and Start Time	Background Noise Level, L_{A90} dB(A)
16/12/2025 22:02	44.0
16/12/2025 22:12	43.1
Average	44

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6 Noise Criteria

The following noise limits apply to the project site.

6.1 CIT Noise Limits

The noise limits for the nearby noise sensitive areas (NSAs) have been calculated as per the EPA's Noise Protocol Part I 'urban area' methodology for Commerce, Industry and Trade (CIT).

The following limits apply as per Table 7 below.

Table 7 Noise Protocol Part I Noise Limits

Period	Applicable Times	Noise Limit, (ENL, dB(A))	Cumulative Noise Limit (ENL, dB(A))
Day	▪ Monday to Saturday (except public holidays), from 7 am to 6 pm	55	52
Evening	▪ (i) Monday to Saturday, from 6 pm to 10 pm; and	49	46
Night	▪ (ii) Sunday and public holidays, from 7 am to 10 pm;	47	44

Noise Protocol Part I calculations are presented in Appendix C.

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7 Site Assessment

Audiometric and Acoustic Services conducted a site visit to the existing site located at 202-204 Northbourne Rd, Campbellfield VIC 3061 to obtain data on general operations as well as the proposed site at 45 Fabio Ct Campbellfield and NSA at 1 Garner Parade, Dallas on Tuesday the 9th of December 2025.

The existing site visit included spot measurements of general operations of forklifts, and all mechanical plant relative to their operations.

Weather was warm and clear during the site attendance with light wind.

7.1 Effective Noise Levels

Table 8 presents the measurements of all equipment's that was assessed on the existing site, the sound levels of existing machinery operations.

Table 8 Existing Operation Levels

Plant	L_{Aeq} at 1m (dB)
LPG Forklift	75
Truck	87*
Granulator	93
Washing line	90

*Inhouse data

Adjustments for character to the effective noise level (ENL) as per the Noise Protocol methodology are not included as the noise is taken to be inaudible at the NSA.

No adjustment for duration has been made. The proposed situation is modelled with all plant running at the same time for a 30 min duration as a conservative worst-case scenario.

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8 Noise Modelling

iNoise version V2024.3 environmental noise modelling software was used to model the possible environmental noise emissions from the project site to establish noise levels due to a potential worst-case operating scenario and to calculate relative noise contributions to establish any noise mitigation requirements.

Key modelling parameters include:

- Site layout and locations of key operational noise sources have been modelled according to onsite observations, drawings provided, and the latest Google Earth satellite imagery.
- iNoise version V2024.3 environmental noise modelling software conforms to ISO 9613-2:1996 Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation (ISO, 1996).
- Building footprints and heights have been derived from the drawings provided, Google Earth and observations on site.
- Sources have been modelled as specified in Section 7.1
- NSA receivers are modelled as per Section 4.
- Scenario has been modelled with all roller doors in an open position

8.1 Proposed Operations Noise Levels

Table 9 presents the highest calculated effective noise levels at the potentially most-affected NSAs with the proposed project site fully operating as per the proposed scenario.

Table 9 Effective Noise Level Results at NSAs

Name	Description	Height	'Night' ENL $L_{Aeq(30min)}$ (dB)
NSA 01	1 Garner Parade, Dallas VIC 3047	1.50	12✓
NSA 02	9 Columbia Circuit, Broadmeadows VIC 3047	1.50	12✓
Prevailing 'Evening' Cumulative Noise Limit			43
Compliance			Yes✓

The effective noise levels presented in Table 9 calculated in accordance with the Noise Protocol methodology indicate that all operations noise emissions as proposed will be compliant during all periods.

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9 Summary

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The situation is calculated to be compliant with the EP Regulations (State of Victoria, 2021) and incorporated Noise Protocol (State of Victoria, 2021).

Additionally, the situation is seen as low risk of being determined as unreasonable noise as per the description within Section 3(1) of the EP Act (State of Victoria, 2017) due to its likely inaudibility at NSAs

Please feel free to contact the undersigned with any queries. This applies to any parties that have legitimate access to this report.

Respectfully,

R. Feltwell
Acoustic Consultant
B.Mus

Reviewed by S. Henderson, Principal Acoustic Consultant, M.A.A.S.

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Appendix A Definitions of Terminology

decibel	Unit usually used to define sound pressure level relative to a reference pressure. $dB = 20 \log_{10} (\frac{P}{Pref})$ The following are examples of the decibel readings of every day sounds; 0 dB — The faintest sound we can hear 30 dB — A quiet library or in a quiet location in the country 45 dB — Typical open office space. Ambience in the city at night 60 dB — A vacuum cleaner in a typical lounge room 70 dB — The sound of a car passing on the street 80 dB — Loud music played at home 90 dB — The sound of a heavy truck passing on the street 100 dB — The sound of a rock band 115 dB — Limit of sound permitted in industry 120 dB — Deafening
(A)	Reference to particular weighting network within a Sound Level Meter which modifies the linear response. 'A' weighting is designed to approximate the response of the human ear.
Sound Power Level	A measure of the total sound energy radiated by a source, per unit time. Mathematically, it is ten times the logarithm to the base ten of the ratio of the sound power (W) of the source to the reference sound power; where the reference sound power is $1x10^{-12}$ W. [Unit: dB]
Sound Pressure Level	The root-mean-square values of the pressure fluctuations above and below atmospheric pressure caused by the passage of a sound wave, usually expressed in decibels (re 20 μ Pa)
Free Field	In acoustics a free field is a measurement area not subject to significant reflection of acoustical energy. A free field measurement is typically not closer than 3.5 metres to any large flat object (other than the ground) such as a fence or wall or inside an anechoic chamber.
Effective Noise Level	The level of noise emitted from the commercial, industrial or trade premises ($L_{Aeq,30min}$), adjusted if appropriate for character and duration. (ENL) [Unit: dB(A)]
Fast - F	Dynamic characteristic - time averaging constant is 125m sec.
$L_{90,T}$	The noise level exceeded for 90% of a measurement period. Commonly accepted as the natural Background Noise Level as an A-weighted value.
Ambient Noise	The ambient noise level at a particular location is the overall environmental noise level caused by all noise sources in the area, both near and far, including all forms of traffic, industry, lawnmowers, wind in foliage, insects, animals, etc. Usually assessed as an energy average over a set time period 'T' (L_{Aeq}, T).
$L_{eq,T}$	Equivalent Continuous Sound Level. This is calculated on the basis of the average of the Sound Pressure Level (acoustic energy) over a period of time and is expressed in decibels. This can be thought of as the time average sound pressure level. [Unit: dB / dB(A)]
$L_{Aeq,T}$	The 'A' weighted Equivalent Continuous Sound Level.
ENL	See 'Effective Noise Level'.
Octave band	Division of the frequency range used for the purposes of acoustic design and noise assessment, allowing for a more targeted control of sound as it

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	varies with frequency. Noise is measured in octave bands using frequency filters as specified in Australian standard AS IEC 61260.1:2019, Electroacoustics - Octave-band and Fractional-octave-band Filters.
Noise Sensitive Area	For the purposes of assessment of noise levels in relation to the 'Noise Protocol', a Noise Sensitive Area is defined as: (a) that part of the land within the boundary of a parcel of land that is— (i) within 10 metres of the outside of the external walls of any of the following buildings— (A) a dwelling (including a residential care facility but not including a caretaker's house); (B) a residential building; (C) a noise sensitive residential use; or (ii) within 10 metres of the outside of the external walls of any dormitory, ward, bedroom or living room of one or more of the following buildings— (A) a caretaker's house; (B) a hospital; (C) a hotel; (D) a residential hotel; (E) a motel; (F) a specialist disability accommodation; (G) a corrective institution; (H) a tourist establishment; (I) a retirement village; (J) a residential village; or (iii) within 10 metres of the outside of the external walls of a classroom or any room in which learning occurs in the following buildings (during their operating hours)— (A) a child care centre; (B) a kindergarten; (C) a primary school; (D) a secondary school; or (b) subject to paragraph (c), in the case of a rural area only, that part of the land within the boundary of— (i) a tourist establishment; or (ii) a campground; or (iii) a caravan park; or (c) despite paragraph (b), in the case of a rural area only, where an outdoor entertainment event or outdoor entertainment venue is being operated, that part of the land within the boundary of the following are not noise sensitive areas for the purposes of that event or venue— (i) a tourist establishment; (ii) a campground; (iii) a caravan park;
R_w	Weighted Sound Reduction Index. A single number rating of the airborne sound insulation performance of a specific building element in the absence of flanking transmission. A higher R_w value indicates better airborne sound insulation. [Unit: dB]
Airborne noise	Airborne noise comes from common sound sources such as voices, TVs and radios.

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Sound Attenuation	A reduction of sound due to distance, enclosure or some other devise. If an enclosure is placed around a machine, or an attenuator (muffler or silencer) is fitted to a duct, the noise emission is reduced or attenuated. An enclosure that attenuates the noise level by 20 dB reduces the sound energy by one hundred times.
LFN	Low Frequency Noise. Noise with low frequency components containing significant acoustic energy within a frequency range defined by one-third octave bands 10 Hz to 160 Hz.
Third Octave Band	A division of the frequency range that can be used when octave bands don't provide sufficient resolution. Each octave band comprises three one-third octave bands. Noise is measured in one-third octave bands using frequency filters as specified in Australian Standard AS IEC 61260.1:2019 Electroacoustics—Octave band and fractional-octave-band filters.

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Appendix B Instrumentation

NTi Audio	Type 1 Sound Level Meter
	NTI XL2-TA Device Info:
	XL2, SNo. A2A-16630-E0, FW3.11 Type Approved
	Mic Type: NTi Audio M2230, SN. 8481
	NATA Laboratory calibration due 4th November 2027
Bruel & Kjaer	Sound Level Calibrator
	Serial No. 1 441 408
	NATA Laboratory calibration due 3rd November 2026

The equipment was check calibrated before and after the measurements. No significant change was found to have occurred.

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Appendix C Noise Protocol Calculations

NSA Address: 1 Garner Parade, Dallas Victoria 3047, Australia

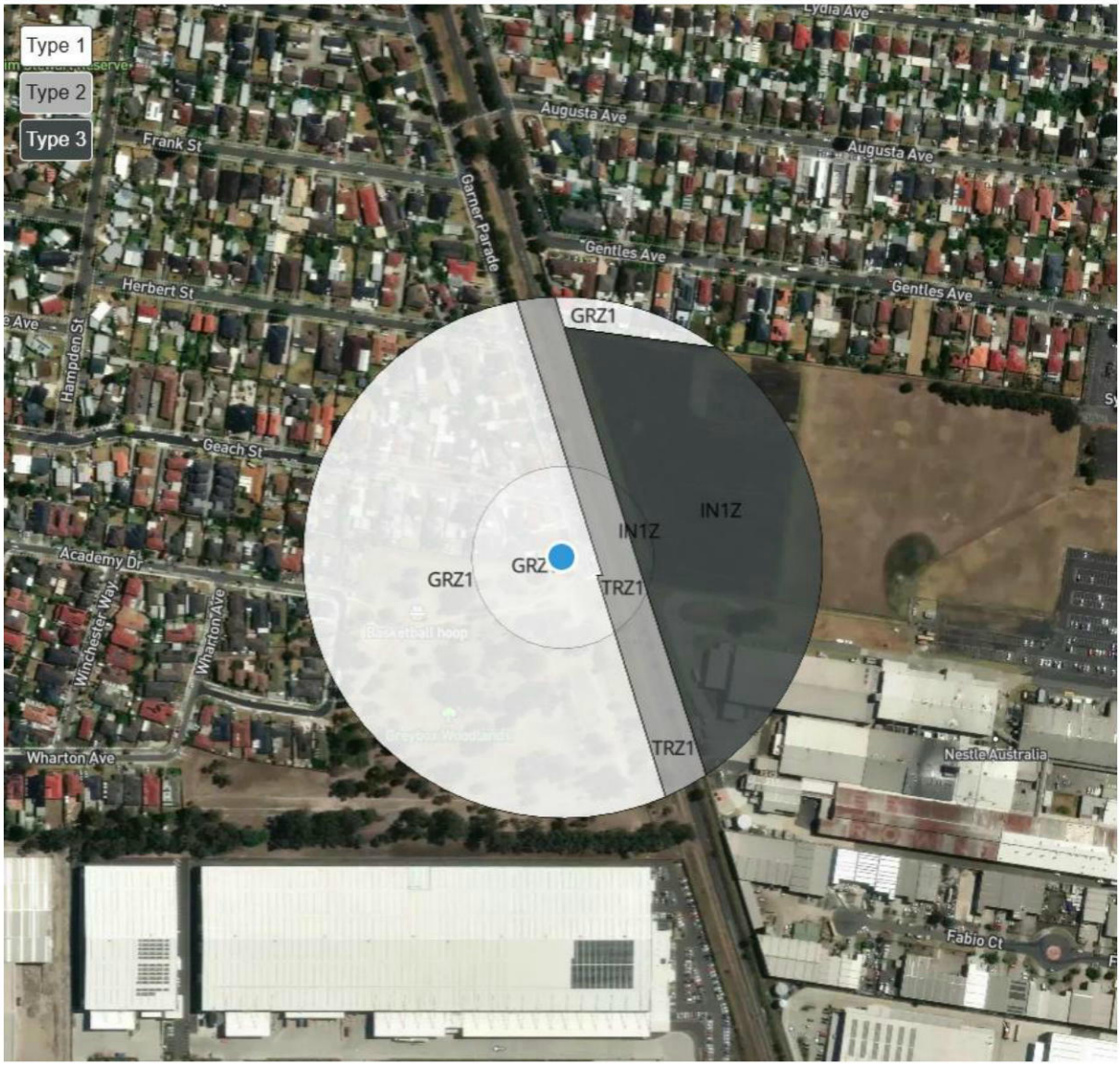

Figure 5 Zoning Area Circles (Image Source: Arup Arcadian 2025)

Calculations as per Protocol methodology result in an influencing factor of 0.268 as per Figure 6.

Type	Zone	Description	140m			400m		
1	GRZ1	GENERAL RESIDENTIAL ZONE - SCHEDULE 1	10942	10942	71%	74352	74352	59%
2	TRZ1	TRANSPORT ZONE 1 - STATE TRANSPORT INFRASTRUCTURE	3481	3481	23%	12184	12184	10%
3	IN1Z	INDUSTRIAL 1 ZONE	971	971	6%	39126	39126	31%
Influencing Factor				**0.268**				

Figure 6 Zoning Type Summary (Image Source: Arup Arcadian 2025)

The applicable limits and zoning levels are presented in Figure 7.

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		Day	Evening	Night
Zoning Level		55	49	44
Background Noise	L_{90} dB(A)	47	44	44
Background Condition		neutral	neutral	high
Noise Limit	$L_{eq,30min}$ dB(A)	55	49	47

Figure 7 Zoning Levels and Noise Protocol Limits

The background level is considered to be typical of a inner city environment adjacent to industry and commercial sites and therefore considered to be an acceptable limit to apply to all other potentially affected NSAs as required.

Cumulative Noise Limits

During the attended site visits it was noted that the other surrounding commerce, industry and trade (CIT) included a multiple commercial traders in the same vicinity of the project site.

None were audible during the site visit however as part of a conservative approach, a noise limit less 3 dB is applied according to the equal sharing method (EPA Victoria, 2021).

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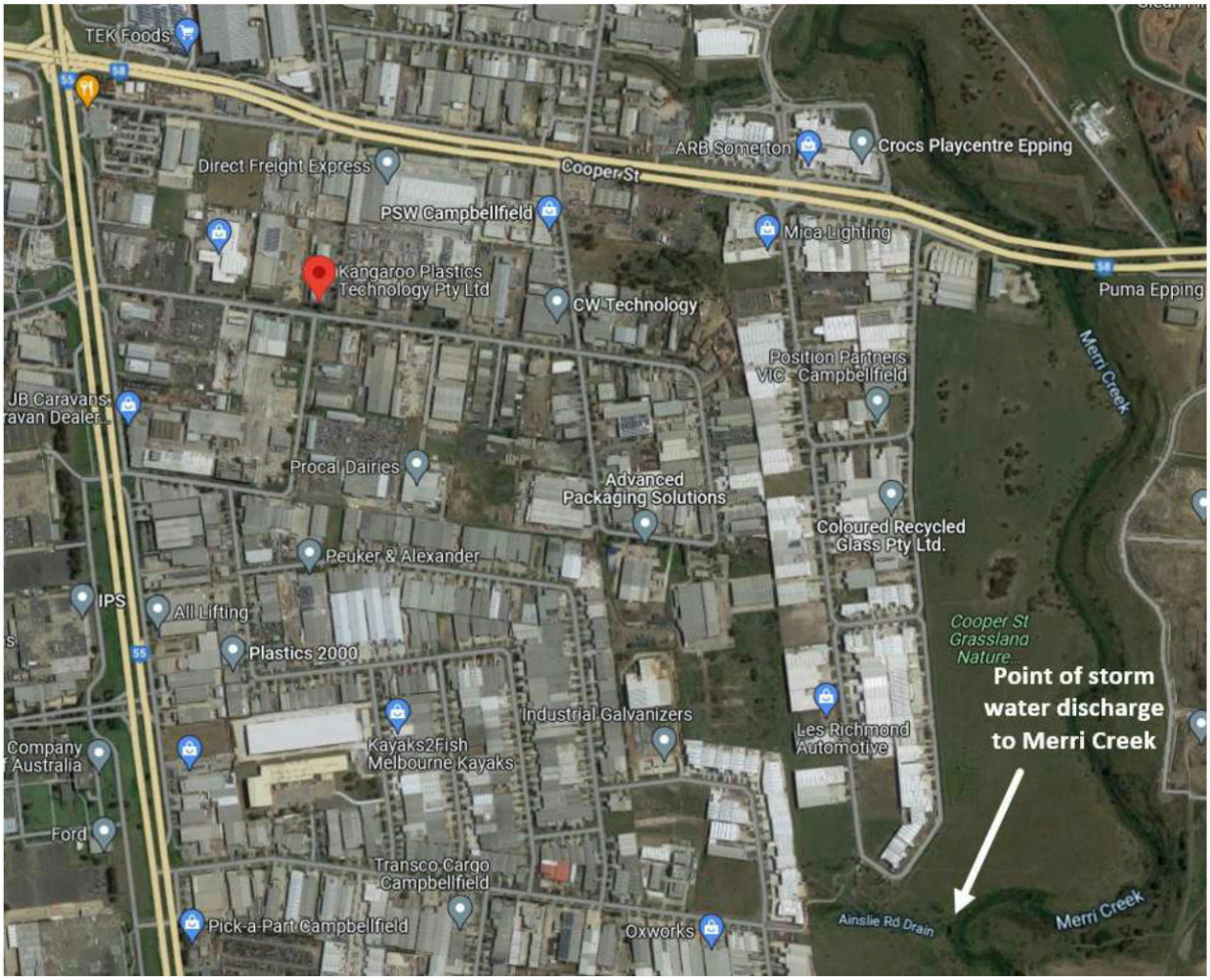
1 PURPOSE AND SCOPE

This Environmental Management Plan describes how recycled plastic is received, processed, stored and despatched at 202-204 Northbourne Rd. It identifies the significant environmental aspects, their impacts, the associated risks, and the controls that mitigate the risks to as low as reasonably practicable. The hazards considered are those that could impact the environment and those that could generally impact human health (not health impacts that are task related).

It has been prepared in accordance with Kangaroo Plastics Environmental Management Procedure. It addresses the current operations as well as those for the Warehouse that is to be built under Planning Permit P23744. It addresses the Permit's requirements for an Environmental Management Plan.

2 SITE FEATURES AND ACTIVITIES

2.1 Site Location



Site Locality

The site is surrounded by industrial properties being:

- concrete block manufacturer's to the east (Adbri Masonary);
- construction equipment servicers to the west (CJD Equipment); and
- a transport company to the north (Direct Freight Express).

The stormwater discharged from the site and neighbouring properties enters Merri Creek through the Ainslie Rd drain 500 m south.

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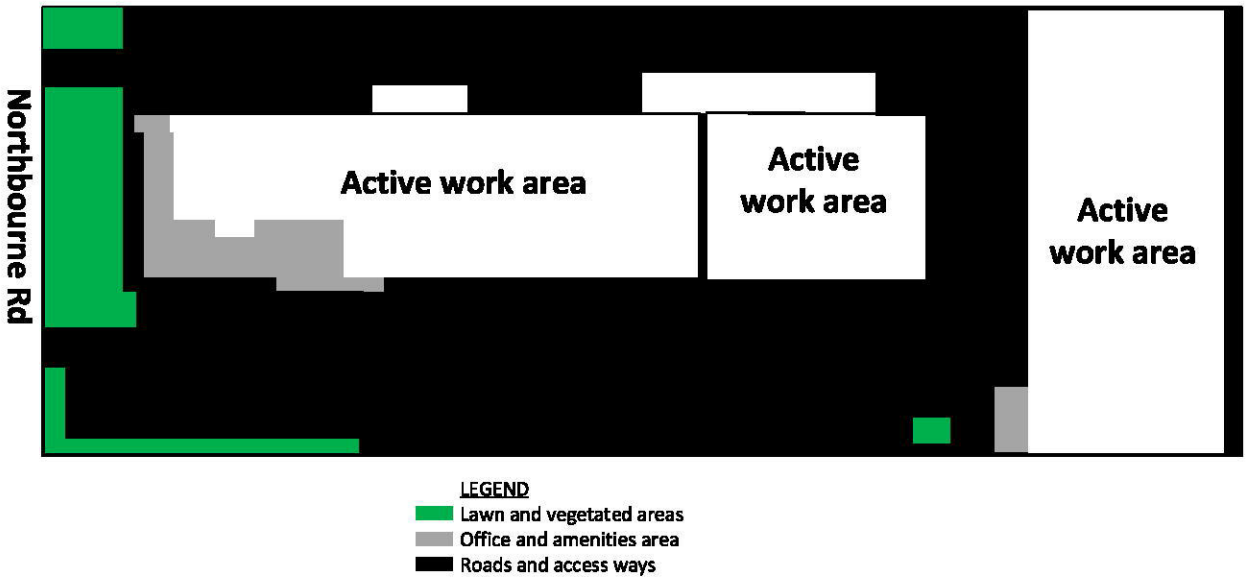
2.2 Site Details

Item	Description
Address	202-204 Northbourne Road, Campbellfield, VIC 3061,
Lot and Plan Number	Lot 18 Plan LP 78811
Council	Hume City Council
Zoning	Industrial 1
Land area	12125 m^2
Water Authority	Yarra Valley Water
EPA Registration	R000300895
Trade Waste Agreement	2705803681



Site Areas

The site is 148 metres above sea level and naturally slopes 0.5 m decreasing from south to north. The Council's stormwater drain and easement is along the back northern boundary and the sewer is at the front of the site under Northbourne Rd. The site is not subject to flooding.

Office hours are Monday to Friday 8:30am to 5:00pm and the factory operates Monday to Friday 7.30am to 12.30am. The site is unstaffed outside of these hours. After hours, some Kangaroo Plastics management can view site activities through CCTV cameras and thermal cameras.

Staffing consists of approximately nine factory staff per shift working day and afternoon shifts, and during the day there are four office staff and one maintainer. The Site Supervisor or a Kangaroo Plastics manager is always present on site whilst plastic is being processed.

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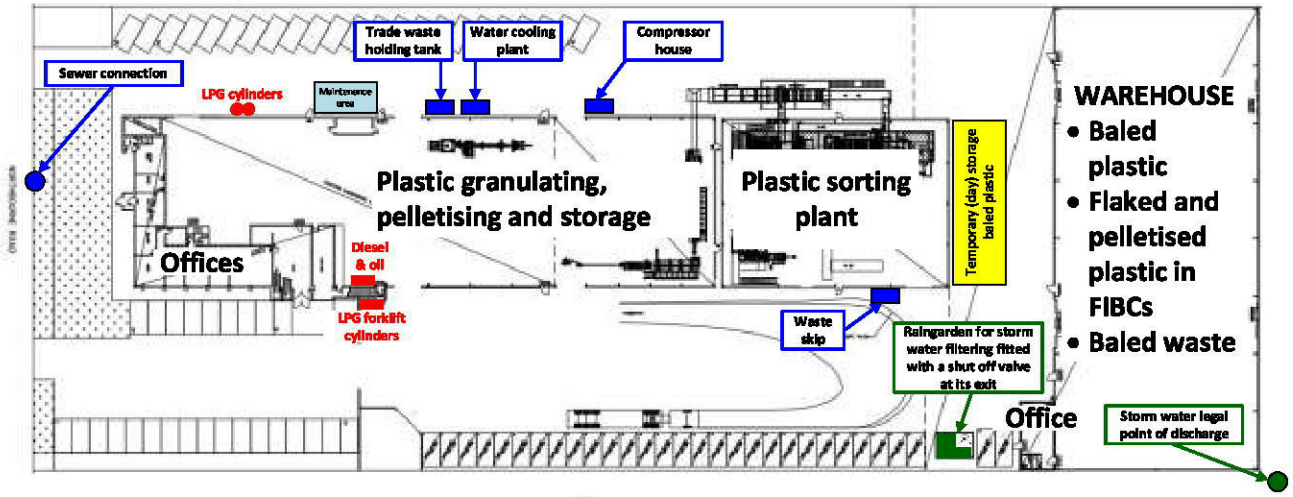
2.3 Manufacturing and Site Utilities



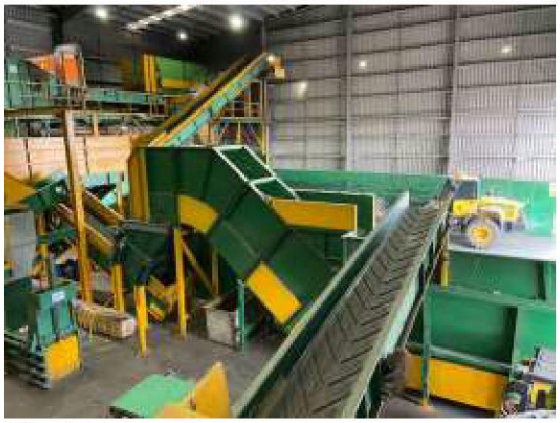
Site Plan

2.3.1 Manufacturing

The EPA Registration permits plastics numbers 1 to 7 to be processed with no more than 4500m^3 to be stored at any one time.

Semi-trailer tautliners arrive with bales of recycled plastic from plants that have done the primary or secondary sorting of it from commingled recycling. A forklift with bale clamps unloads the bales and takes them to the sorting plant, or to the temporary (day) storage area.

In the sorting plant, bales of mixed plastic are broken down and a front-end loader loads the process plant's hopper. Sorting is by four optical scanners and manually by an Operator. Plastic is sorted into HDPE (milk and colour), PET, PP, PS and PVC, and contaminants (metal, glass and organics) removed. HDPE, PET, PP, PS and PVC loose product is baled; HDPE and PP is also transferred to the south building for granulating. The sorting plant is cleared of loose plastic at the close of business and no bales are stored in it after hours. The temporary day storage area for baled product is cleared at the close of business.

Sorting Plant

In the south building two separate plants granulate and wash the HDPE and PP. One dries the plastic using LPG-combustion heat, the other uses electric heating. The flaked plastic is packed into FIBCs as product or as feedstock for an extruder. Two extruders melt the flaked plastic and make it into pelletised product which is also stored in FIBCs. The filled FIBCs are transferred to the Warehouse by forklift.

The site's usual throughput of loose plastic is 60 tonnes per day and is generally processed within a few days of receipt. Fifteen bales of waste is extracted per shift and sent to Cleanaway's Ravenhall Melbourne Regional Landfill about every two days. The residence time of plastic product depends on market conditions and can range from days to months.

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Semi-trailers load and despatch product and waste from the Warehouse in tautliners, walking floors and containers. Truck movements of incoming plastic, product plastic and waste are variable; there can be up to 5 truck movements per day.

The incoming plastic is received as Waste Code Z500. Though contaminants in it are unavoidable, commercial contracts specify a maximum amount of contamination. Waste is baled and stored in the Warehouse, and fines not able to be baled are stored in a skip. Contaminant wastes, maintenance wastes and emergency waste have the following waste codes:

Waste type	Waste Code	Classification
Waste from incoming plastics		
E-waste	T300	Priority waste
Steel	Z300	Industrial waste
Aluminium	Z310	Industrial waste
Plastic	Z500	Industrial waste
Textiles	X100	Industrial waste
Maintenance wastes		
Waste oils	J100	Reportable priority waste
Used oil filters	J170	Reportable priority waste
Emergency wastes		
Fire debris and fire wash waters	N140	Reportable priority waste

The plastic products do not have a waste code.

The first training that staff receive is the site induction, with further training in process plant and/or mobile plant operation. Emergency response training consists of Gate Warden and Chief Warden training, and training in firefighting and spill response.

2.3.2 Utilities

Yarra Valley Water supplies potable water and receives trade waste from Northbourne Rd. Process water is also supplied from six 5000 litre rain water tanks. The site's stormwater collects at the raingarden which filters the water of solids prior to discharge at the NE corner of the property.

Trade waste is retained in a holding tank and is permitted to be discharged Monday to Friday 7:30am to 5:00pm. Within these hours no more than 21,000 litres may be discharged per day. There are no requirements for sampling and testing trade waste, nor the flow metering of it. On the east boundary there is a disused sewage treatment plant which predates the sewer.

Though the site is supplied with mains natural gas, 400 litre cylinders supply LPG for the south granulating plant. Other utilities are a compressor house, two water cooling plants, fire hose reels and feed fire hydrants; they are maintained by contracted maintenance specialists. The site also has a Jemena substation.

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3 ENVIRONMENTAL ASPECTS AND IMPACTS

The aspects of the site's operations and the associated impacts that have been considered are listed below. The impacts arise from normal operation of the site and from emergencies.

Aspect	Normal Impacts	Emergency Impacts
Bulk storage of liquids (diesel, oil, cooling water chemicals, trade waste)		• Loss of stored liquids to storm water • Ignition sources causing fire (smoke emissions, property damage, fire water to storm water)
Handling and storage of incoming plastic and produced product	• Litter escapes site's boundaries • Litter to storm water • Dust emissions from site • Diesel particulate emissions	• Spill of hydrocarbons when maintaining mobile plant • Spill of diesel when operating the loader
Sorting of loose plastic	• Waste to landfill from processing plastic • Litter to storm water • Noise emissions from site	• Ignition sources causing fire (smoke emissions, property damage, fire water to storm water) • Spill of oil from maintaining processing plant
Granulating and pelletising of plastic	• Waste to landfill from processing plastic • Litter to storm water • Noise emissions from site • Odour emissions from site • Emission of legionella to air	• Spill of oil when maintaining processing plant • Spill of chemicals when dosing cooling water • Cooling water to storm water • Trade waste to sewer exceedances • Ignition sources causing fire (smoke emissions, property damage, fire water to storm water)
Storage of baled, granulated and pelletised plastic	• Litter escapes site's boundaries • Litter to storm water • Odour emissions from site • Sustaining inordinate numbers of vermin and animal pests	• Ignition sources causing fire (smoke emissions, property damage, fire water to storm water)

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4 ENVIRONMENTAL/HUMAN HEALTH RISK BY IMPACT

Assessment and treatment of risk utilises the following from from EPA Publication 1695.1 'Assessing and controlling risk A guide for business'.

			Likelihood				
			Could happen but probably never will	Not likely to happen in normal circumstances	May happen at some time	Expected to happen at some time	Expected to happen regularly under normal circumstances
			Rare	**Unlikely**	**Probable**	**Likely**	**Almost certain**
Consequence	Permanent or long-term serious environmental harm / life threatening or long-term harm to health and wellbeing	**Severe**	Medium	High	High	Extreme	Extreme
	Serious environment harm / high-level harm to health and wellbeing	**Significant**	Medium	Medium	High	High	Extreme
	Medium level of harm to health and wellbeing or the environment over an extended period of time.	**Moderate**	Low	Medium	Medium	High	High
	Low environmental impact / low potential for health and wellbeing impacts	**Minor**	Low	Low	Medium	Medium	High
	No or minimal environmental impact, or no health and wellbeing impacts	**Negligible**	Low	Low	Low	Medium	Medium

Risk level	Description
Extreme	Totally unacceptable level of risk. Stop work and/or take action immediately.
High	Unacceptable level of risk. Controls must be put in place to reduce to lower levels.
Medium	Can be acceptable if controls are in place. Attempt to reduce to low.
Low	Acceptable level or risk. Attempt to eliminate risk but higher risk levels take priority.

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4.1 Loss of stored liquids to storm water

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Storage of hydraulic oil	• Prevent liquids being stored from entering storm water	• Environment Protection Regulations 2021 • Dangerous Goods (Storage and Handling) Regulations 2012	• Hydraulic oil is stored inside a building • Hydraulic oil is stored in IBCs in a bund	Low	
Storage of diesel			• Diesel is stored inside a building • Diesel is stored inside in a 5500 litre self-bunded (double wall) storage tank complying with AS1692 and AS1940	Low	
Storage of cooling water chemicals			• Cooling water chemicals are stored inside a building • Cooling water chemicals are stored in bunded 20 litre containers	Low	
Storage of trade waste			• Trade waste pump and piping is on the Maintenance Schedule to inspect for leaks every 6 months	Low	

4.2 Litter escapes site's boundaries

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Unloading and loading of baled plastic	• Prevent litter from escaping the site by road traffic or wind	• Environment Protection Regulations 2021	• Baled plastic is transported by enclosed tautliner • Site boundaries have high mesh or Colorbond fences preventing litter escape • Loading/unloading occurs within the Warehouse or 100m from road exit • A site gate 50m from road exit is kept closed when trucks not entering/exiting • Loose litter cleared from hardstand every day	Low	
Sorting of loose plastic			• Loose plastic processed within a building • Loose plastic conveyed to the granulator by an enclosed conveyor • Processing is plant cleared of loose plastic at the close of processing	Low	
Granulating and pelletising of plastic			• Granulated and pelletised plastic processed within a building • Granulated and pelletised plastic not carried by wind	Low	
Storage of baled plastic			• Baled plastic is stored in Warehouse • Baled plastic is stored during the day in the temporary storage area at the rear of the site. At the close of business, it is moved into the Warehouse • Loose is litter cleared from hardstand every day	Low	
Storage of granulated and pelletised plastic			• Granulated and pelletised plastic is stored within sealed FIBCs	Low	
Storage of waste			• Waste is stored in bales within the Warehouse • Waste fines are stored outside in a high sided or covered skip • Waste is loaded into a walking floor truck within the Warehouse	Low	

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4.3 Litter to storm water

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Unloading/loading of baled plastic	• Prevent litter from entering Council storm water drain	• Environment Protection Regulations 2021	• Litter is prevented from entering the storm water drains by sand bags and steel mesh • Litter is prevented from entering the storm water Council drain by rain garden filtering • Loose litter is cleared from the rain garden every day	Low	
Sorting of loose plastic			• Loose plastic is processed within a building • Stormwater drain within the sorting plant is blocked off • Processing plant is cleared of loose plastic at the finish of processing	Low	
Granulating and pelletising of plastic			• Granulated and pelletised plastic is processed within a building	Low	
Storage of baled plastic			• Litter is prevented from entering the storm water drains by sand bags and steel mesh • Litter is prevented from entering the storm water Council drain by rain garden filtering • Loose litter is cleared from the rain garden every day	Low	
Storage of granulated and pelletised plastic			• Granulated and pelletised plastic is stored within sealed FIBCs	Low	
Storage of waste			• Waste is stored in bales within the Warehouse • Waste fines are stored outside in a high sided or covered skip • Waste is loaded into a walking floor truck within the Warehouse	Low	

4.4 Dust emissions from site

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Unloading/loading of baled plastic	• Minimise dust generation • Prevent wind-borne dust leaving the site	• Environment Protection Regulations 2021	• Baled plastic has inherently low levels of dust	Low	
Sorting of loose plastic			• Plastic processing generates low levels of dust • Waste fines are not wind-borne	Low	
Granulating and pelletising of plastic			• Granulated and pelletised plastic is processed in enclosed equipment or in water	Low	

4.5 Diesel particulate emissions

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Loader operation	• Loader particulate emissions do not exceed loader design specification	• Environment Protection Regulations 2021	• Loader pre-start checks include looking for observable exhaust emissions and are completed daily • Loader is serviced based on runtime hours	Low	

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4.6 Waste to landfill from processing plastic

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Sorting of loose plastic	• Minimise volume of waste to landfill from processing of recycled plastic • Minimise volume of waste to landfill from processing of granulated and pelletised plastic	• Environment Protection Regulations 2021	• Specifications placed on recycled plastic suppliers limit percentage of contamination by weight with financial penalties being applied for exceedances • Customer specifications for recycled plastic product limit percentage of contamination by weight with financial penalties being applied for exceedances • First pass waste is returned for reprocessing • Percentage of contamination in plastic product is subject to product auditing conducted periodically or upon clients request • Waste is disposed of as per its waste codes	Low	
Granulating and pelletising of plastic			• Plastic product has specifications on melt flow index to prevent it being rejected by the customer • Waste from plastic extrusion is sold to a plastics recycler	Low	

4.7 Noise emissions from site

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Truck movements on site	• No unreasonable or aggravating noise emitted to neighbours	• Environment Protection Regulations 2021 • EPA 1826.2 Noise Protocol	• Uncalibrated noise measurement of Northbourne Rd at south boundary measured to be 60 dB(A).	Low	
Sorting of loose plastic			• No nearby noise sensitive areas where the noise limit applies • Noise at east and west boundaries measured by an uncalibrated meter to be 70 dB(A).	Medium	• Arrange for a qualified acoustic engineer or consultant to measure noise as per Part I B of the Noise Protocol
Granulating and pelletising of plastic			• No nearby noise sensitive areas where the noise limit applies • Noise at east and west boundaries measured by an uncalibrated meter to be 70 dB(A).	Medium	• Arrange for a qualified acoustic engineer or consultant to measure noise as per Part I B of the Noise Protocol

4.8 Odour emissions from site

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Storage of baled plastic	• No offensive odours present at the site's boundaries	• Environment Protection Regulations 2021	• Unpleasant odour from baled plastic is not strong • Temporary storage is at the rear site and at the close of business is moved into the Warehouse	Low	
Sorting of loose plastic			• Unpleasant odour from loose plastic is slightly detectable within the building, and is not detectable at the boundary	Low	
Granulating and pelletising of plastic			• Unpleasant odour from HDPE milk residue is detectable within the building but is not detectable at the boundary • Washing of HDPE removes almost all of the milk odour	Low	

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4.9 Sustaining inordinate numbers of vermin and animal pests

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Storage of plastic product	• Vermin and pest population does not impact health of site workers • Vermin and pest population is not deleterious to site operations and to neighbouring properties	• Environment Protection Regulations 2021 • Catchment and Land Protection Act 1994 • Public Health and Wellbeing Regulations 2019	• Granulated and pelletised product does not attract vermin and pests • Compaction and tiered storage of baled plastic restricts number of vermin and pests able to utilise it • Pest control services attend on a monthly basis	Low	
Sorting of loose plastic			• Processing plant cleared of loose plastic at the finish of processing • Residence time of loose plastic in processing plant does not permit vermin and pests to utilise it • Pest control services attend on a monthly basis	Low	

4.10 Spill of diesel and cooling water chemicals when operating mobile and process plant

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Filling loader with diesel	• Prevent spillage when filling loader • Attend to spilled liquids to prevent them from entering storm water or being carried into storm water by rain	• Environment Protection Regulations 2021 • Dangerous Goods (Storage and Handling) Regulations 2012	• Loader is filled inside a building • Diesel is transferred to the loader by the loader operator using an electric pump • A spill kit is readily available at the diesel tank • Loader driver competency training includes ability to refuel • Staff have been trained in use of a spill kit	Low	
Dosing cooling water with chemicals			• Cooling water dosing occurs inside the building • Cooling water is automatically dosed by electric pump in small quantities	Low	

4.11 Spill of hydrocarbons when maintaining mobile and process plant

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Replenishment of baler and extruder hydraulic oil	• Prevent spillage when replenishing oils or greasing • Attend to spilled oil to prevent it from entering storm water or being carried into storm water by rain	• Environment Protection Regulations 2021	• Hydraulic oil is replenished inside buildings and infrequently done • Hydraulic oil is transferred by a maintainer to/from containers using a pump • Spill kits are mobile and can be taken to a work area • Staff have been trained in use of a spill kit	Low	
Lubricating mobile plant and replenishment of hydraulic oil			• Mobile plant is maintained outside with plastic underneath it • Lubricating and replenishment of hydraulic oil is infrequently done • Spill kits are mobile and can be taken to a work area • Staff have been trained in use of a spill kit	Low	

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4.12 Emission of legionella to air

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Operation of the cooling tower	• Maintain water treatment plant to minimise legionella risk	• Environment Protection Regulations 2021 • Public Health and Wellbeing Regulations 2019	• HydroChem maintains the cooling tower in accordance with its risk management plan • HydroChem organises testing for legionella • HydroChem is certified to AS/NZS 9001 and AS/NZS 14001	Low	

4.13 Cooling water to storm water

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Pumping cooling water to/from the water treatment plant	• Cooling water prevented from entering storm water	• Environment Protection Regulations 2021	• HydroChem maintains the pumps and piping in good order • HydroChem is certified to AS/NZS 9001 and AS/NZS 14001	Low	

4.14 Trade waste to sewer exceedances

Activity Causing Impact	Objectives	Compliance Obligations	Existing Controls (Preventive and Mitigating)	Current Risk Rating	Actions to Implement Further Controls
Washing of granulated plastic	• Comply with Trade Waste Agreement 2705803681	• Water (Trade Waste) Regulations 2014	• Discharge to sewer within the hours Monday to Friday 7:30am to 5:00pm • 1/7/22 to 1/9/22 trade waste volume 1,023.897kL = 16785 kL/day. This complies with the Trade Waste Agreement as is less than 21,000 kL/day	Low	

4.15 Ignition sources causing fire

Refer to the fire engineer's report.

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5 DEFINITION OF TERMS AND ABBREVIATIONS

FIBC	-	Flexible intermediate bulk container
HDPE	-	High density polyethylene
may	-	a suggestion
must	-	a mandatory requirement
PET	-	Polyethylene terephthalate
PP	-	Polypropylene
PS	-	Polystyrene
PVC	-	Poly vinyl chloride
shall	-	a mandatory requirement
should	-	a recommendation

6 REFERENCED DOCUMENTS

Kangaroo Plastics Environmental Management Procedure rev 1
Hume City Council Planning Permit P23744
Trade Waste Agreement 2705803681
EPA Registration R000300895

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Kangaroo Plastics	Campbellfield	
EMERGENCY MANAGEMENT PLAN		**Revision: 3**

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1 FIRE

1.1 General Facility Information

1.2 CRWM storage conditions

The CRWM on site comprises multiple storage areas with a maximum mass of ~1400 t.
Material is stored up to a height of 4 bales or 4 m as required.
Outdoor storage is in compliance with the stockpile management plan
Indoor storage is kept to a minimum and is separated with sufficient distance.
Buildings, and boundaries are protected to a level that meets the prescribed provisions or is at least equivalent.

1.3 Operations Summary

The site is operated 6 days a week (Mon- Sat) between 6am and 2am, with staff on call at all times.
Saturday is predominantly utilised as a housekeeping day.

Operations Area	***Summary***
Stockpile access	▸ From one side ▸ From multiple building entrances (indoors) ▸ Hardstand provided throughout site
Suppression mediums	▸ Water
Equipment available for moving material	▸ Loader ▸ Forklifts
Suppression equipment	▸ Fire hydrant system ▸ Fire hose reels ▸ Fire extinguishers
Communications equipment	▸ Mobile Telephones
Leachate and fire water containment	▸ Bunding ▸ Containment area
Thermal monitoring	▸ Thermal imaging camera (indoors)
Other monitoring	▸ CCTV ▸ Physical checks by personnel
Information and signage	▸ Contact and site information at front gate in Emergency information container
Site layout	Refer to Site Storage Block Plan.

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1.4 Nearby Key Infrastructure

Location	*Summary*
Street Frontage	South boundary (202-204 Northbourne Road, Campbellfield)
Site boundaries	East: ▸ 70 m to Adbri Masonry - Campbellfield West: ▸ 140 m to Construction equipment (earthmoving machinery) supplier North: ▸ 230 m to Bunnings Somerton trade centre
Waterways, reserves and the like	Stormwater to: ▸ 1.2 km North-East to Merri Creek ▸ 1.5 km South-West to Merlynston Creek
Sensitive receptors	Residential areas: 2.2 km South & Southwest Hospitals: 4.5 km East to Epping Private Hospital Aged care: 650 m North-West to Endeavor in Home Care Melbourne

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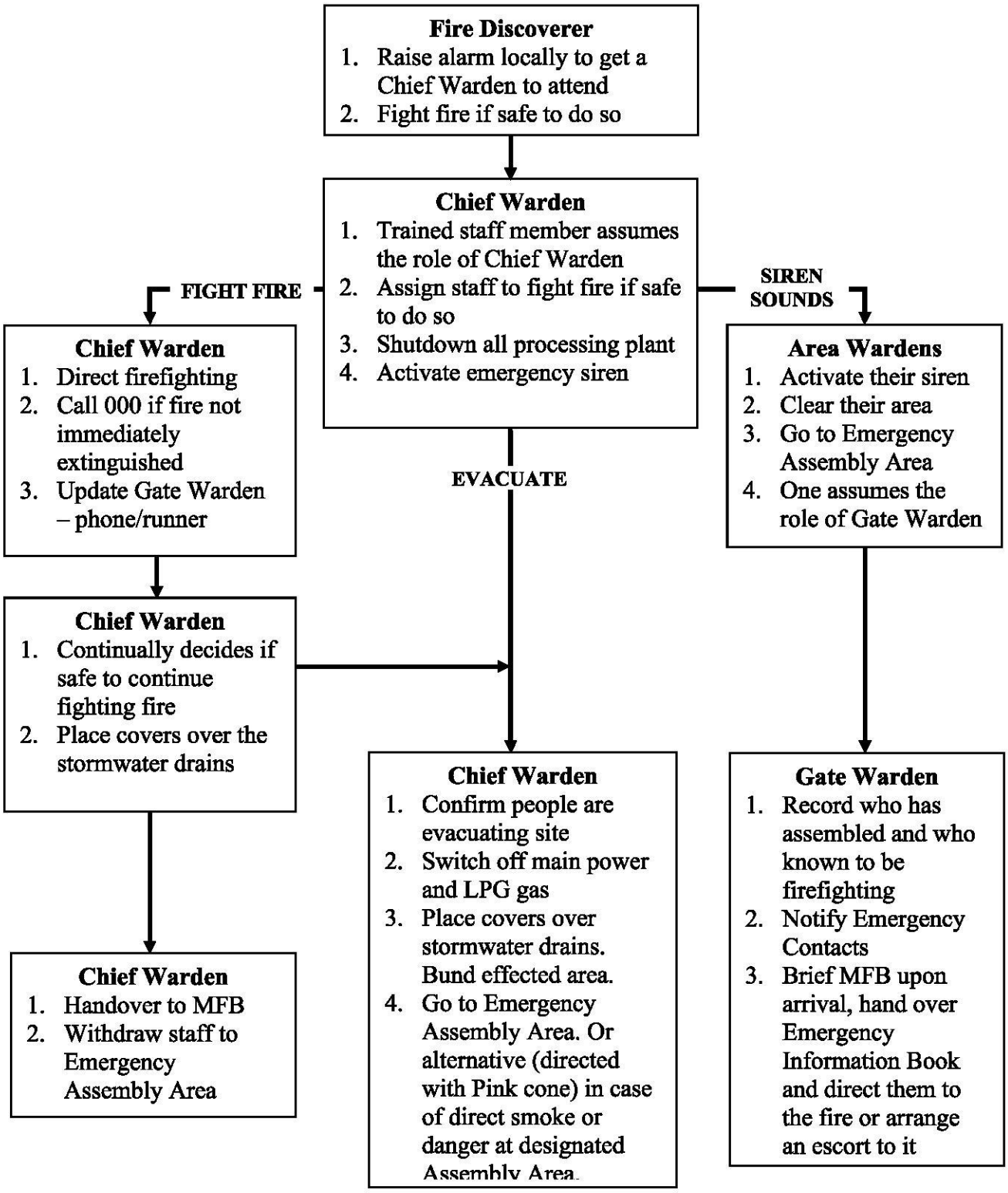
1.5 Incident Response Procedure



NOTES

1. Firefighting by staff is limited to using lay flat fire hose at hydrant pressure, fire extinguishers and fire hose reels.
2. For maximum quantities and locations of combustible materials, refer to the Combustible Material Storage Plan (in the Emergency Information Book). The Chief Warden and/or Gate Warden are aware of the current quantities and locations of combustible materials.

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NOTES

3. Firefighting by staff is limited to using lay flat fire hose at hydrant pressure, fire extinguishers and fire hose reels.
4. For maximum quantities and locations of combustible materials, refer to the Combustible Material Storage Plan (in the Emergency Information Book). The Chief Warden and/or Gate Warden are aware of the current quantities and locations of combustible materials.

1.6 Combustible Material Fire

- Fight fire using lay flat fire hose and fire hose reels
- Minimise spread of fire by closing upwind roller doors
- Emergency stop shutdown any equipment likely to be impacted
- Move loaders and forklifts out of building if safe to do so
- Avoid smoke; evacuate if you can't

1.7 Granulator Fire

- Emergency stop granulator
- Switch off LPG at the cylinders at the granulator



Emergency gas isolation valves

- Look for escape routes before fighting fire
- Fight fire using:
  - ✓ lay flat fire hose connected to a hydrant or fire hose reels on combustible material
  - ✓ dry powder fire extinguishers on motors and oil
- Check all around granulator for fire spread - underneath, in the pit, outlet and inlet
- Avoid smoke; evacuate if you can't

1.8 Conveyer and Baler Fire

- Emergency stop machinery
- Look for escape routes before fighting fire
- Fight fire using:
  - ✓ hose reels on waste and rubber
  - ✓ dry powder fire extinguishers on motors and hydraulic oil and electrical cabinet
- Check all around conveyer for fire spread - underneath, in the pit, outlet and inlet
- Avoid smoke; evacuate if you can't

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1.9 Mobile Plant Fire

- If possible, drive mobile plant out into the open away from fuel sources and drains
- Shutdown the plant (and any LPG valve)
- If fitted, fight fire using onboard fire extinguisher
- Continue fighting fire using fire extinguisher or hose reel (dry powder fire extinguishers best for engine fires)
- Evacuate if LPG cylinders are being impacted by the fire
- Cover stormwater drains and/or use spill absorbent to make bunds to prevent firewater entering them.
- Bund roller door Entry to prevent firewater leaving the plant and contaminating stormwater drains on the East boundary.

1.10 Switchboard Fire



Main power supply switch

- Turn off Main Switch
- Fight fire using dry powder fire extinguishers (DO NOT USE WATER)
- Avoid smoke; evacuate if you can't

1.11 Diesel or Oil Fire

- Fight fire using dry powder fire extinguishers (DO NOT USE WATER)
- Have escape route should fuel container rupture
- Cover stormwater drains and/or use spill absorbent to make bunds to prevent firewater entering them.
- If necessary bund roller door Entry to prevent firewater leaving the plant and contaminating stormwater drains on the East boundary.
- Avoid smoke; evacuate if you can't

1.12 Flammable Gas Cylinder Uncontrolled Leak or Fire

1.12.1 Leak

- Move gas cylinder into the open away from ignition sources, combustible material or other gas cylinders
- Cordon off leaking cylinder
- Advise management

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1.12.2 Fire

- Extinguish using water or dry powder fire extinguisher
- If fire impacting on other gas cylinders or combustible material, direct firefighting to douse cylinders or combustible material
- Evacuate if fire emanating from the cylinder intensifies
- Avoid smoke; evacuate if you can't

1.13 Office Fire

- Fight fire using office fire extinguishers or fire hose reel
- When evacuating, close doors and turn off air conditioning

1.14 Neighbouring Property Fire

1. Raise alarm locally to get site management to attend
2. Staff member assumes the role of Chief Warden
3. Call 000 to confirm MFB notified
4. Consider moving combustible materials away from boundary

2 MEDICAL LIFE-THREATENING EMERGENCY

1. Raise alarm locally to get site management to attend
2. Get a First Aider to attend
3. Staff member assumes the role of Chief Warden
4. Chief Warden to:
   - Make area safe to prevent further injury
   - Call 000
   - Clear immediate area of personnel who are not required to assist
   - Appoint staff member to be the Gate Warden (if necessary)
   - Establish and maintain communication with the Gate Warden
   - Keep First Aider abreast of any information regarding emergency services
   - Obtain assistance for First Aider if requested
5. Gate Warden to:
   - Prevent vehicles from accessing affected area
   - Notify Polytrade management if not already aware - Emergency Contacts List
   - Brief emergency services upon arrival and direct them to the incident or arrange an escort to it
6. Chief Warden to:
   - Handover to emergency services
   - Arrange a staff member to accompany injured person to hospital
   - Obtain next-of-kin details
   - Preserve the scene of the incident
7. Management
   - Attend site
   - Notify next-of-kin and offer to reimburse for any expenses to get to hospital, look after children etc
   - Notify statutory authorities as per Procedure "Management of Incidents"

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3 TOTAL LOSS OF ELECTRICITY OR WATER

3.1 Electricity

3.1.1 Daytime

Chief Warden to:

1. Go to main switchboard to ascertain if obvious damage and/or fire/smoke
2. Check to see if the main circuit breaker has tripped
3. Check to see if neighbouring properties are also affected
4. Contact electricity supply company to understand situation – Emergency Contacts List
5. If supply interruption is of long duration, halt incoming deliveries of material

3.1.2 Night Time

All persons to go to the Emergency Assembly Area and do a head count

Chief Warden to:

1. Observe if the power outage is area wide
2. Obtain a torch from Emergency Information Container
3. Go to main switchboard to ascertain if obvious damage and/or fire/smoke
4. Check to see if the main circuit breaker has tripped
5. Contact electricity supply company to understand situation – Emergency Contacts List

3.2 Water

Chief Warden to:

1. Walk the site and roadway to check for any obvious water leaks
2. Contact water supply company to understand situation – Emergency Contacts List
3. If supply interruption is expected to or lasts for more than 1 hour;
   - Stop processing material
   - Halt incoming deliveries of material
   - Advise MFB of the situation

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4 WARDEN DUTIES

4.1 Chief Warden

1. Upon being alerted of an incident, stop work and attend scene of emergency.
2. Assess severity of the emergency, current response actions and potential for escalation.
3. Yourself or direct staff to (as required):
   - Call 000
   - Sound the emergency siren
   - Obtain first aid assistance
   - In fire emergencies
     - access the nearest firefighting equipment and from what direction to firefight from
     - cover the stormwater drains with their mats
   - Communicate with the Gate Warden either by phone or runner
4. Do not take part in the emergency response but control and coordinate with safety being the first priority and environmental protection the second.
5. Send non-essential staff to the Emergency Assembly Area.
6. Remain aware of where all assisting staff have been deployed to.
7. In a deteriorating situation, withdraw staff to the Emergency Assembly Area.
8. At the Emergency Assembly Area, put on the white Chief Warden cap and direct the Gate Warden. If necessary re-direct staff to secondary Emergency Assembly Area (pink Cone).
9. Liaise with and take instruction from the Emergency Services Controller when they arrive.
10. Declare when the emergency over.

4.1.1 Chief Warden (and Kangaroo Plastic Management) After Hours

1. Upon receiving a thermal camera alarm or being notified by ADACS control room of one, ascertain what camera is alarming then:
   - If combustion is visible phone 000 and inform fire brigade.
   - If no combustion is visible, contact a Polytrade manager and organise someone to attend the site. Continually monitor the camera.

4.2 Gate Warden

1. Stop vehicles from entering the site (unless they are emergency services or the Chief Warden permits them to).
2. From the Emergency Information Container:
   - Put on red Fire Warden cap
   - Get out the Gate Warden clipboard
3. Record:
   - Time
   - Names of people who have assembled and whereabouts of others as this becomes known
   - Time of major events (e.g. MFB arriving, ambulance)
4. Keep everyone assembled; people not to leave or go into the site unless requested by the Chief Warden.
5. Make contact with the Chief Warden and act on their instructions.
6. Notify people/organisations of the situation as per the Emergency Contact List (Gate Warden clipboard).

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7. Signal emergency response services to the best gate to enter, brief them on the nature of the incident, for the MFB handover the Emergency Information Book, and direct them to the incident or arrange an escort to it.
8. Handover to the Chief Warden or the Emergency Services Controller when they arrive at the Emergency Assembly Area.
9. After emergency is over, direct staff back to work when advised to by the Chief Warden.

4.3 Area Warden

1. Upon hearing the emergency siren:
   - Activate the siren for your area
   - Ensure staff and truck drivers have heard the siren and are evacuating to the Emergency Assembly Area in the most safe and direct route
   - Move loaders and forklifts outside of the building if safe to do so
   - Close the west entry gate
   - Visit all of your area to make sure everyone not involved in the emergency have evacuated
   - Go to the Emergency Assembly Area

4.4 ADACS Control Room

1. Upon receiving a thermal camera alarm, phone Polytrade management in the order listed on the Emergency Contacts List and act on any further contact instructions given.
2. If no response, contact the Chief Wardens in the order listed on the Emergency Contacts List and act on any further contact instructions given.
3. If no response, phone 000 and inform the fire brigade.

5 EMERGENCY RESPONSE OVERVIEW

The principal activities at the site are:

- receiving baled plastic, mechanically sorting it into plastic types, baling and despatching it
- receiving baled plastic, granulating it, packaging it and despatching it
- storing baled recycled plastic and granulated plastic.

The site is usually staffed with 12 people during the day and 8 during the afternoon shift.

5.1 Combustible and Flammable Materials

The current locations and maximum quantities of combustible and flammable materials, and locations dangerous goods is shown on the Combustible Material Storage Plan.

5.2 Emergency Response Personnel

Wardens have been assigned to cover the production area and the offices. They are responsible for ensuring people have heard the emergency siren and are responding accordingly.

The Gate Warden will normally be an office person as they are always present during office hours and are often the first at the Assembly Area. All Wardens have been trained to assume the role of Gate Warden.

In order, those assuming the Chief Warden role shall be:

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1. Site Supervisor
2. Operator

ADACS control room personnel respond to thermal camera alarms.

5.3 Emergency Response Equipment

- Four thermal cameras that, upon detection of combustion, alarm to apps on the Chief Wardens' mobile phone and provide vision. They also alarm to ADACS control room but they do not have vision. The cameras are automatically rearmed every night in case they have been inadvertently disarmed e.g. to perform hot work
  NOTE: Display of a red cross and the wording ARMED means that the thermal cameras are in operation i.e.

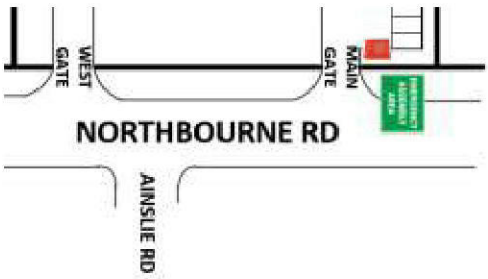


- Emergency siren consisting of 3 portable air horns individually activated by the wardens
- 70m of 25mm diameter lay flat fire hose connected to NE hydrant
- Fire extinguishers
- Fire hose reels
- Fire hydrants
- Stormwater mats
- First aid kit
- Spill absorbent

For location details, refer to the Emergency Equipment Map.

5.4 Emergency Response Documentation

- Emergency Management Plan
- Emergency Information Book containing maps/plans of combustible materials, fire water runoff, location of emergency equipment, contact lists



Location of the Emergency Information Container and Assembly Area

5.5 Fire Water Runoff Management

The predominant slope on the site is west to east (900 mm) and a shallow south to north one. Stormwater flows on the east hardstand flow into the east boundary drains. The SW hardstand flows into two stormwater drains. The NW hardstand flows into the rear building and passageway between the buildings. The rear building has an internal stormwater drain.

The rear unpaved ground has negligible capacity for ground absorption and water regularly pools on in its NE corner. In this corner there is an access shaft into the main stormwater

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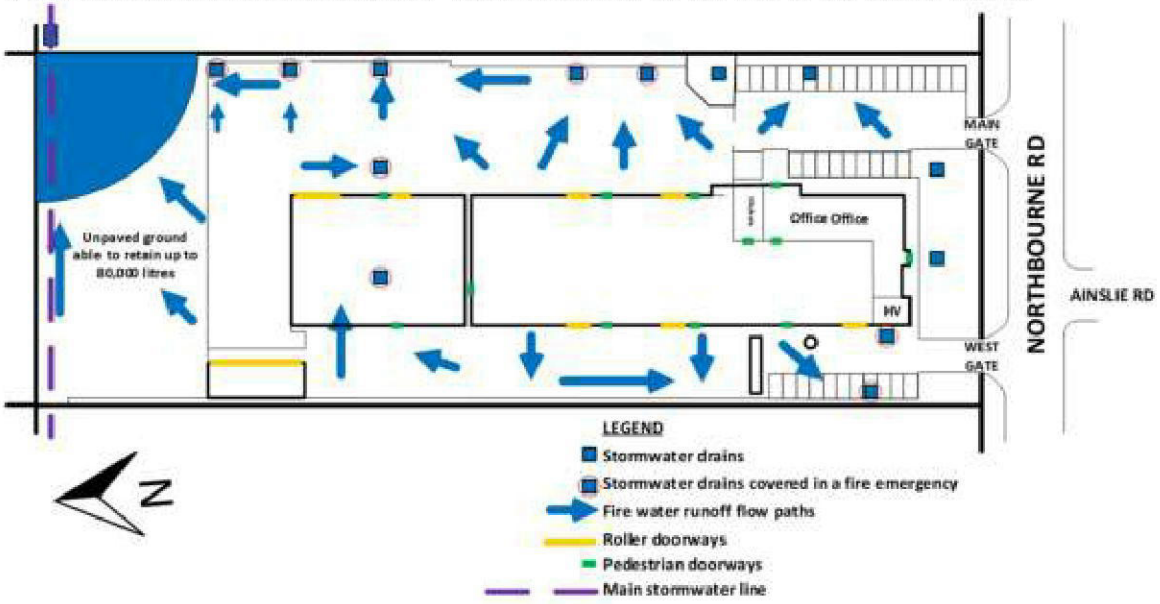
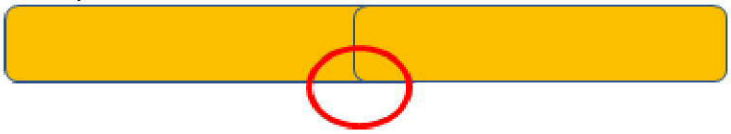
drain sealed by a concrete cover. The north and NE neighbouring properties (Bunnings Trade Centre and Direct Freight Express) are 500 mm higher than the stormwater access cover. The east neighbouring property (Adbri Masonary) is 300 mm higher. It has a stormwater drain adjacent the boundary where fire water runoff not contained on the site would enter the stormwater drain. Stormwater flows 1.5 km to the Merri Creek.



Onsite fire water runoff retention capacity is the rear unpaved ground is expected to retain up to 80,000 litres fire water runoff.

The firewater containment strategy is to accumulate it by blocking 7 stormwater drains in the production area and bunding over east side roller doors effected by firewater. 9.6m roller door area to be overlapped. CSA Specialised Services 24/7 1300 859 829 to be called after the Fire brigade has cleared the area and Kangaroo Plastics have taken control of the property for the removal of fire water.

overlap:



6 EMERGENCY RESPONSE TRAINING

During production there must always be:

- at least one staff member trained to be a Chief Warden;
- at least one other staff member trained to be a Gate Warden; and
- at least one staff member trained to be a First Aider.

Refer to 'Chief Wardens List' for identification of staff who have been trained as Chief Wardens and 'First Aiders List' for those who are First Aiders.

Staff performing the Chief Warden role shall complete the Chief Warden Competency Record and all staff who are Gate/Area Wardens shall complete the Gate Warden Competency Record.

First Aiders shall every 36 months complete first aid training as per First Aid Competency Record.

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All staff shall every 60 months complete firefighting training as per Fire Fighting Competency Record. Records found in 'Training-Firefighting training Certificates' conducted by Fire Marshall (John Coupe-Training Officer). Warden and Evacuation Training.

7 EMERGENCY DRILLS

An emergency drill shall be held at 12 month intervals. Further drills shall be held whenever:

- a new Chief Warden has been trained; and
- when there has been more than a one third new staff present.

Each emergency drill shall exercise:

- Response to an emergency scenario; and
- Assembly of site people and communication between Wardens.

Emergency drills shall be reviewed for effectiveness and learnings. These shall be documented and any actions arising entered into the Issues and Actions Register.

8 REFERENCED CONTROLLED DOCUMENTS

Chief Warden Competency Record - Campbellfield
Chief Wardens List - Campbellfield
Combustible Material Storage Plan – Campbellfield
Emergency Equipment Map – Campbellfield
Emergency Information Book – Campbellfield
Emergency Contact List – Campbellfield
Fire Fighting Competency Record
Fire Water Runoff Map – Campbellfield
First Aid Competency Record
First Aiders List - Campbellfield
Gate Warden Competency Record

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9 EMERGENCY EQUIPMENT AND RESOURCES:

9.1 Emergency equipment – Routine Servicing

Maintenance and routine servicing of fire services to comply with AS 1851 - 2012

Standard	*Activity*	*Period*
AS 1851 - 2012 Section 10 *Fire extinguishers*	Table 10.4.1	Six monthly
	Table 10.4.2	Yearly
	Table 10.4.3	Five Yearly
AS 1851-2012 Section 9 *Fire hose reels*	Table 9.4.1	Six monthly
	Table 9.4.2	Yearly
AS 1851 - 2012 Section 4 *Fire hydrant systems*	Table 4.4.2	Six monthly
	Table 4.4.3	Yearly
	Table 4.4.4	Five Yearly

WARDEN CONTACTS		
Raymond Ng	Chief Warden	[redacted]
Tat Hong	Chief Warden	[redacted]
Lino Kapeli	Gate Warden	[redacted]
Frank Fraiia	Gate Warden	[redacted]
Chong-Liang Cheng	Gate Warden	[redacted]

KANGAROO PLASTICS MANAGEMENT CONTACTS		
Raymond Ng	[redacted]	Site Manager
Frank Fraiia	[redacted]	Business Manager
Chinh Ho	[redacted]	Maintenance

REVISION STRATEGY

Manager/staff	*Person responsible*	*Review Frequency*
Business Manager	Frank Fraiia	*Annually & after any major operational change or emergency*
HSEQ Advisor		*Annually & after any major operational change or emergency*

Revision history

Version Number	*Changes made*	*Person responsible*	*Date updated*
1	Initial issue	Craig Walters	14/04/2020
2	Changes made for 2nd Emergency Assembly	Frank Fraiia	09/07/2021
3	Changes made to address EPA comments	Frank Fraiia	28/09/2021

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1. General

This procedure details the requirements for carrying out site housekeeping assessments to ensure all Kangaroo Plastics sites are kept safe, clean, neat, tidy, appealing and environmentally responsible at all times.

Formalised housekeeping assessments shall be undertaken to identify, observe, assess and implement actions necessary to correct unsafe deficiencies and increase the safety performance of Polytrade facilities.

2. Requirements

3.1 Good Housekeeping

Good housekeeping in the workplace, shall include, but is not limited to, the following:

- Materials and equipment stored in a tidy manner (including empty packaging and containers)
- Aisles, walkways and other thoroughfares are kept unobstructed (eg. Trip hazards)
- Cleanliness and tidiness of all areas
- Accumulation of combustible material
- Adequacy of, and access to, emergency equipment and first aid boxes
- Means of escape

3.2 Hazard identification and corrective action

Any hazard or risk identified shall be reported to the responsible person for the inspection area. Hazards that cannot be immediately rectified shall be reported and recorded.

All records shall be maintained by the responsible person for the audit area in an easily accessible location.

3.3 Monthly Walkarounds

A monthly site walkaround shall be undertaken using form 'Monthly Work Walkaround'.

The Monthly audit team preferably consist of at least two people from Operations and management.

Any issues identified that cannot be immediately rectified shall be entered into the IMR

3.4 Training Requirements

All employees shall receive training in hazard identification and reporting, and in the importance of housekeeping.

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3. Definitions & Abbreviations

Walkaround	Checks conducted in the workplace to identify health, safety and environmental hazards and work area risks, which could interfere with the maintenance of a clean, safe, healthy and environmentally responsible workplace and result in negative on site or off site impacts.
Housekeeping	Those arrangements for having things orderly, organised and neat in our work area. "There should be a place for everything and everything should be in its place."
Behaviours	Observable actions of employees and "What they do as opposed to what they should be doing".
OH&S	Occupational Health and Safety
Hazard	A source of potential harm, a condition that could cause injury or illness to a person, damage to property (including our products) or to the environment.
Risk	For every hazard there is a risk. By risk we mean the chance of being harmed in a specific way by being exposed to a hazard. In other words, risk = likelihood and consequence to the possible harm that could come from being exposed to a hazard.

4. Associated documents & Attachments

DOCUMENT
Monthly Site Walkaround

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LOT 50 ON PLAN OF SUBDIVISION No. LP211961E
CROWN PORTION 12 (PART)
PARISH OF WILL-WILL-ROOK
COUNTY OF BOURKE

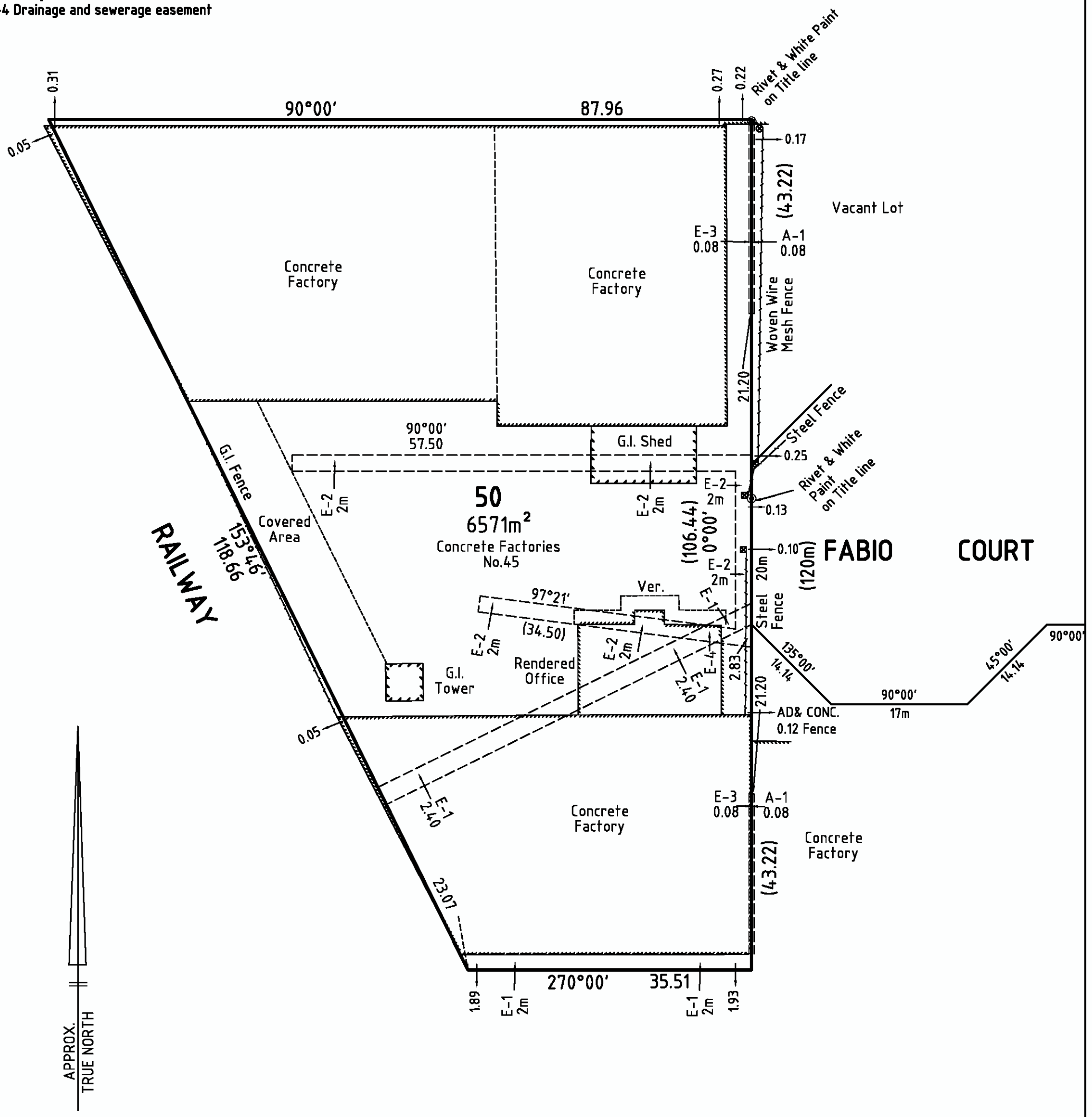
RELOCATION SURVEY

Scale 1 : 500

5 0 5 10 15 20 25

LENGTHS ARE IN METRES

E-1 Drainage easement
E-2 Sewerage easement
E-3 Party Wall easement
A-1 Party Wall easement
E-4 Drainage and sewerage easement



jREdwards
LAND SURVEYORS
59 Fletcher Street, Essendon, 3040
Ph: 9370 2209 Fax: 9370 1102
P.O.Box 165 Essendon 3040
Email: jredwardslandsurveyors@gmail.com

REF 17336

I, **David Sidley** of 59 Fletcher Street, Essendon, VIC, 3040 certify that this plan has been prepared from a survey made under my direction and supervision in accordance with the Surveying Act 2004 and completed on **29/8/2022**, that this plan is accurate and correctly represents the adopted boundaries and that the survey accuracy accords with that required by regulation 7(1) of the Surveying (Cadastral Surveys) Regulations 2015.

[redacted]
Date: 6/9/2022
Licensed Surveyor, Surveying Act 2004

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Please note that the plan may not be to scale.

SOUTH ELEV. SHED 2

EAST ELEV. SHED 2

EAST ELEV. SHED 1

WEST ELEV. SHED 1

PLANNING AND ENVIRONMENT ACT 1987
The Endorsed Plan forms part of
Permit No. 4792
22 JUL 1998
Signature for the Responsible Authority

NORTH ELEV. SHED 2.

NORTH ELEV. SHED 1.

WEST ELEV. SHED 2

SOUTH ELEV. SHED 1

SHED 2

SHED 2. FLOOR PLAN.

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SHED 1.

SHED 1. FLOOR PLAN.

SHED 2

SHED 1

FABIO COURT

SITE ANALYSIS –

SITE PLAN



AUSTRALIAN RECYCLED TIMBER
"TIMBER RECYCLING PLANT"
45 FABIO COURT,
CAMPBELLFIELD

ARCHITECTURAL

JUNE 1998

TP1.A

AS NOTED

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LOT 50 ON PLAN OF SUBDIVISION No. LP211961E
CROWN PORTION 12 (PART)
PARISH OF WILL-WILL-ROOK
COUNTY OF BOURKE

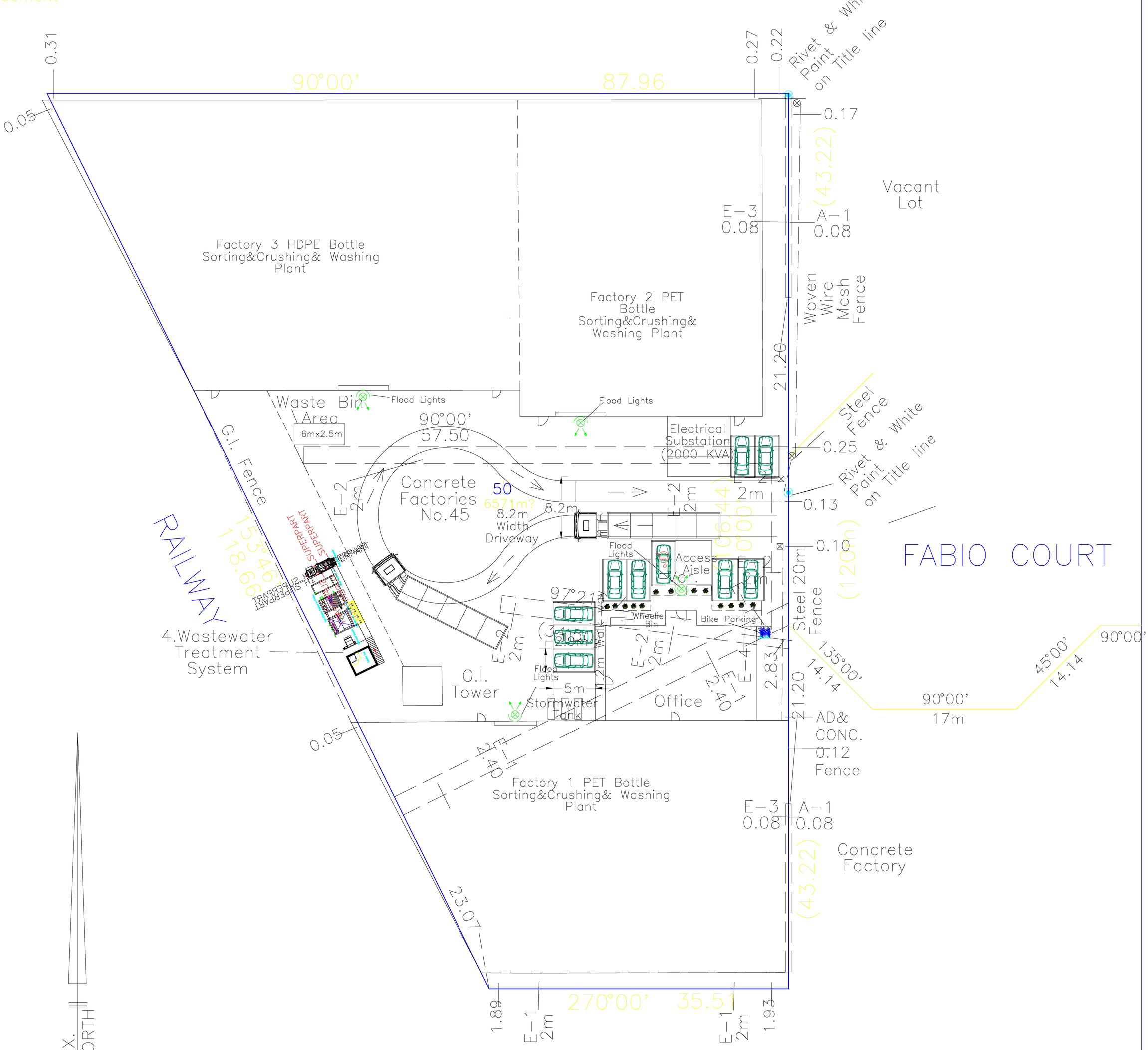
RELOCATION SURVEY

Scale 1 : 500

5 0 5 10 15 20 25

LENGTHS ARE IN METRES

E-1 Drainage easement
E-2 Sewerage easement
E-3 Party Wall easement
A-1 Party Wall easement
E-4 Drainage and sewerage easement



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David Sidley
.....
Date: 6/9/2022
Licensed Surveyor, Surveying Act 2004

2, This drawing is based on the survey plan signed by David Sidley, Licensed Surveyor,The layout of 3 factories plant and the wastewater treatment system has been added by Kangaroo Plastics for schematic reference.