



Leigh Design

waste management plans for all urban developments

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Waste Management Plan



Proposed Development:

583 Ferntree Gully Road, Glen Waverley, Victoria

Prepared for:

Glen Ferntree Gully Development Pty Ltd

Document Control

Report Date: 12 August 2021 (supersedes all prior reports)

Prepared By: Carlos Leigh, MIEAust

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WASTE MANAGEMENT SUMMARY

- The Operator, as defined below, shall be responsible for managing the waste system and for developing and implementing adequate safe operating procedures.
- Waste shall be stored within the development (hidden from external view).
- Users shall place sorted waste into their respective collection bins.
- Waste shall be collected within the subject land.
- A private contractor shall provide waste collection services.

GLOSSARY

Operator: refers to the Owners Corporation, who shall manage site operations (via staff and contractors, if required).

User: refers to residents, who shall utilise the waste system.

1 SPACE AND SYSTEM FOR WASTE MANAGEMENT

1.1 Development Description and Use

This development shall consist of 3-storey residential townhouses (refer to Table 1).

The site faces Ferntree Gully Road and is zoned as a General Residential Zone. All existing buildings shall be demolished.

For waste services, accesses to the development shall be via the proposed roads.

In general, this report complies with Council's 2020 guidelines for preparing a Waste Management Plan (refer to the enclosed City of Monash WMP purpose).

1.2 Estimated Garbage and Recycling Generation

The following table summarises the waste estimate (m³/week):

Table 1: Waste Estimate

Waste Source	Base Qty (est.)	Garbage	Commingled Recycling
Townhouses	No. of units = 77	9.24	9.24
TOTAL (m³/wk)		9.24	9.24

Note: Waste generation rates are based on Council guidelines (120L/unit/wk for garbage and 120L/unit/wk for recycling per townhouse). Recoverable food organics and garden waste shall be separated from general waste. For recycling, it is understood that Council currently collects this stream in a commingled format (if required in future, separate glass bins shall be adopted which is anticipated to represent 30% of the commingled recycling stream).

1.3 Collection Services

Owing to internal road constraints, collections with Council's side-lift trucks seem unfeasible. As such, a private contractor shall be engaged to collect waste. The Operator shall choose a waste collection provider, negotiate a service agreement, and pay for these services.

Note: Every rateable tenement is liable to pay for municipal charges irrespective of the level of collection services provided by Council.

1.4 Location, Equipment, and System Used for Managing Waste

The waste management system is summarised as follows:

- Dwelling receptacles (2x min 15L kitchen units, each for garbage and recycling, plus an approx. 7L benchtop caddy for food organics).
- Collection bins (kept within each tenement, as illustrated in the architectural drawing - refer to Table 2).

The various collection waste-streams are summarised as follows:

Garbage: General waste shall be placed in tied plastic bags and stored within bins.

Recycling: All recyclables shall be commingled into a single type of collection bin (for paper, cardboard, glass, aluminium, steel, and plastics). However, if glass separation is required by future Victorian regulations, the Operator shall provide dedicated glass bins.

Food Organics and Garden Organics (FOGO): Garden waste from communal areas shall be collected and disposed by the landscape maintenance contractor.

For food and garden waste from private tenements, the operator shall organise FOGO bins as listed in Table 2 (however, residents shall separate green waste for collection via the landscape maintenance contractor if requested by the Operator). Approved compostable liners shall be considered for bins and caddies.

Other Waste Streams: Hard/electronic/liquid and other wastes (polystyrene, batteries, paint, chemicals and detox items, etc) shall be kept within each tenement. Users shall organise a private collection from within the subject land noting that e-waste must not be disposed in landfill.

The following table summarises bin quantity/capacity, collection frequency, and area requirements (based on Table 1):

Table 2: Bin Schedule and Collection Frequency

Waste Source	Waste Stream	Bin Qty	Bin Litres	Collections per Week	Net Area m ²
Townhouses (dedicated private bins)	Garbage	77	120	1	2m ² per dwelling
	Recycling	77	240	Fortnightly	
	Glass (future)	77	80	Fortnightly	
	FOGO	77	120	Fortnightly	
Net Waste Storage Area (excludes circulation), m²:					154.0

Notes: Private bins shall be sourced by the Operator (either purchased from a supplier or leased from the collection contractor).

1.5 Planning Drawings, Waste Areas, and Management of the Waste System

The drawings illustrate sufficient space for onsite bin storage, as required by the above schedule (refer to the enclosed drawings).

1.6 Collection Bin Information

The following bins shall be utilised (see Sect. 4.4 for signage requirements):

Table 3: Bin Details

Capacity (litres)	Height (mm)	Width (across front, mm)	Depth (side on, mm)	Empty Weight (kg)	Average* Gross Weight (kg)
80	860	450	530	9	19
120	930	480	545	10	26
240	1060	585	730	13	45

Notes:

- * = Average Gross Weight is based on domestic waste studies (which vary subject to locality and waste-type). Expect greater weight for wet or compacted waste.
- Use the above details as a guide only – variations will occur. The above is based on Sulo plastic (HDPE) flat-lid bins.

Table 4: AS 4123.7-2006 Plastic Bin Colour Coding

Bin	Garbage	Recyclables	Green Waste
Lid	Red	Yellow	Lime Green
Body	Dark Green / Black	Dark Green / Black	Dark Green / Black

Note: Private bins shall be labelled to identify the waste generator and site address. For glass, Victorian publications illustrate bins with purple lids. For Food Waste / Organics bins, AS 4123.7 bins have a Burgundy lid and a Dark Green or Black body.

2 ACCESS FOR USERS, COLLECTORS, AND COLLECTION VEHICLES

2.1 User Access to Waste Facilities

Residents shall dispose sorted waste into their respective collection bins.

2.2 Collection Arrangements and Access to Waste Facilities

- Prior to the collection, residents shall place their bins at designated collection points, as illustrated in the architectural drawings. Once collected, residents shall move the bins back into their premises (bins shall not be left-out more than a 24 hour period).
- Waste shall be collected along the development's internal roads.
- The waste collection shall be carried-out by side/rear-lift vehicles (nom. 8.8m long, 4m operational height, and 24 tonnes gross vehicle mass).
- The enclosed drawings illustrate the waste system and collection points. Up to four bins can be stored within each title (and two bins can be placed at the temporary collection point located at the front of each tenement). Also, the enclosed Swept Paths illustrate truck access.

3 AMENITY, LOCAL ENVIRONMENT, AND FACILITY DESIGN

3.1 Noise Minimisation Initiatives

- Collection bins shall feature rubber wheels for quiet rolling during transfers.
- Waste areas shall meet BCA and AS2107 acoustic requirements.
- Local laws shall be observed for all operations in public and private areas.
- For private collections, Council's Community Local Law No. 3 requires wastes collections between the following hours: 7am to 8pm Monday to Saturday, and 9am to 8pm Sundays. Also, the waste collector shall protect the acoustic amenity by minimising noise during the collection.

3.2 Litter Reduction and Prevention of Stormwater Pollution

The Operator and residents shall be responsible for:

- Promoting adequate waste disposal into the bins (to avoid waste-dumping).
- Storing bins out of public view.
- Preventing overfilled bins, keeping lids closed.
- Abating any site litter and taking action to prevent dumping and/or unauthorised use of waste areas.
- Requiring the collection contractor to clean-up any spillage that might occur when clearing bins.

The above will minimise the dispersion of site litter and prevent stormwater pollution (thus avoiding impact to the local amenity and environment).

3.3 Ventilation, Washing, and Vermin-Prevention Arrangements

Where bins shall be stored within garages, these areas shall be ventilated to reduce odour. Where bins shall be stored within courtyards/backyards, bin areas shall be ventilated naturally.

The Operator shall engage a suitable contractor to wash bins in a mobile bin-wash vehicle.

3.4 Design and Aesthetics of Waste Storage Areas and Equipment

Waste shall be placed within collection bins and stored at designated areas (hidden from external view). Following waste collection activities, bins shall be returned to the storage areas as soon as practicable.

Bin areas shall be constructed of durable materials and finishes, and maintained to ensure that the aesthetics of the development are not compromised.

4 MANAGEMENT AND SUSTAINABILITY

4.1 Waste Sorting, Transfer, and Collection Responsibilities

Garbage shall be placed within tied plastic bags prior to transferring into the collection bins. Cardboard shall be flattened and recycling containers un-capped, drained, and rinsed prior to disposal into the appropriate bin. Bagged recycling is not permitted.

Refer to Section 2 for waste transfer requirements and collection arrangements.

4.2 Facility Management Provisions to Maintain & Improve the Waste System

The Operator shall manage site operations (refer to the glossary in page 2).

It shall be the responsibility of the Operator and residents to maintain all waste areas and components, to the satisfaction of residents and the relevant authority (residents shall maintain their internal waste receptacles).

The Operator shall ensure that maintenance and upgrades are carried-out on the facility and components of the waste system. When required, the Operator shall engage an appropriate contractor to conduct services, replacements, or upgrades.

4.3 Arrangements for Protecting Waste Equipment from Theft and Vandalism

It shall be the responsibility of the Operator to protect the equipment from theft and vandalism. This shall include the following initiatives:

- Secure the waste areas.
- Label the bins according to property address.
- Waste bins shall be collected within the subject land. Bins shall not be left at the collection points for more than 24 hours once per week.

4.4 Arrangements for Bins/Equipment Labelling and Ensuring Users and Staff are Aware of How to Use the Waste System Correctly

- The Operator shall provide appropriate signage for the bins. Signage is available at the following internet address: www.sustainability.vic.gov.au.
- The Operator shall publish/distribute “house rules” and educational material to:
 - Inform users/staff about the waste management system and the use/location of the associated equipment (provide the summary in page 2 of this report).
 - Improve facility management results (lessen equipment damage, reduce littering, and achieve cleanliness).
 - Advise users/staff to sort and recycle waste with care to reduce contamination of recyclables.

4.5 Sustainability and Waste Avoidance/Reuse/Reduction Initiatives

The *Environment Protection Act 1970* includes principles of environment protection and guidance for waste management decision making. Also, the *Sustainability Victoria Act 2005* established Sustainability Victoria as the statutory authority for delivering programs on integrated waste management and resource efficiency.

From a design perspective, the development shall support the acts by providing an adequate waste system with ability to sort waste.

The Operator shall promote the observance of the acts (where relevant and practicable) and encourage users and staff to participate in minimising the impact of waste on the environment. For improved sustainability, the Operator shall consider the following:

- Observe the waste hierarchy in the *Environment Protection Act 1970* (in order of preference): a) waste avoidance, b) reuse, c) recycle, d) recovery of energy, e) treatment, f) containment, and g) disposal.
- Peruse the Sustainability Victoria website: www.sustainability.vic.gov.au.
- Participate in Council and in-house programs for waste minimisation.
- Establish waste reduction and recycling targets; including periodic waste audits, keeping records, and monitoring of the quantity of recyclables found in landfill-bound bins (sharing results with users/staff).

4.6 Waste Management Plan Revisions

For any future appropriate Council request, changes in legal requirements, changes in the development's needs and/or waste patterns (waste composition, volume, or distribution), or to address unforeseen operational issues, the Operator shall be responsible for coordinating the necessary Waste Management Plan revisions, including (if required):

- A waste audit and new waste strategy.
- Revision of the waste system (bin size/quantity/streams/collection frequency).
- Re-education of users/staff.
- Revision of the services provided by the waste collector(s).
- Any necessary statutory approval(s).

5 SUPPLEMENTARY INFORMATION

- The Operator shall observe local laws and ensure that bins aren't overfilled or overloaded.
- Waste incineration devices are not permitted, and offsite waste treatment and disposal shall be carried-out in accordance with regulatory requirements.
- For bin traffic areas, either level surfaces (smooth and without steps) or gentle ramps are recommended, including a roll-over kerb or ramp. Should ramp gradients, bin weight, and/or distance affect the ease/safety of bin transfers, the Operator shall consider the use of a suitable tug.
- The Operator and waste collector shall observe all relevant OH&S legislation, regulations, and guidelines. The relevant entity shall define their tasks and:
 - Comply with Worksafe Victoria's Occupational Health and Safety Guidelines for the Collection, Transport and Unloading of Non-hazardous Waste and Recyclable Materials (June 2003).
 - Assess the Manual Handling Risk and prepare a Manual Handling Control Plan for waste and bin transfers (as per regulatory requirements and Victorian COP for Manual Handling).
 - Obtain and provide to staff/contractors equipment manuals, training, health and safety procedures, risk assessments, and adequate personal protective equipment (PPE) to control/minimise risks/hazards associated with all waste management activities. As a starting point, these documents and procedures shall address the following:

Task (to be confirmed)	Hazard (TBC)	Control Measures (TBC)
Sorting waste and cleaning the waste system	Bodily puncture. Biological & electrical hazards	Personal protective equipment (PPE). Develop a waste-sorting procedure
Bin manual handling	Sprain, strain, crush	PPE, staff training. Maintain bin wheel-hubs. Limit bin weight. Provide mechanical assistance to transfer bins
Bin transfers and emptying into truck	Vehicular strike, run-over	PPE. Develop a Hazard Control Plan for transfers and collections. Maintain visibility. Use a mechanical bin-tipper
Truck access	Vehicular incident, strike, run-over	PPE. Use a trained spotter. Develop a truck-manoeuving and traffic-control procedure

Note: The above shall be confirmed by a qualified OH&S professional who shall also prepare site-specific assessments, procedures, and controls (refer to Section 6).

6 CONTACT INFORMATION

Monash City Council (local Council), ph 03 9518 3555

CSC Waste & Recycling (private waste collector) ph 1300 499 927

Waste Wise Environmental (private waste collector), ph 1300 550 408

FJP Safety Advisors (OH&S consultant), ph 03 9255 3660

Warequip (tug supplier – for bin transfers), ph 1800 337 711

Sulo MGB Australia (bin supplier), ph 1300 364 388

One Stop Garbage Shop (bin supplier), ph 03 9338 1411

Note: The above includes a complimentary listing of contractors and equipment suppliers. The stakeholders shall not be obligated to procure goods/services from these companies. Leigh Design does not warrant (or make representations for) the goods/services provided by these suppliers.

7 LIMITATIONS

The purpose of this report is to document a Waste Management Plan, as part of a Planning Permit Application.

This report is based on the following conditions:

- Operational use of the development (excludes demolition/construction stages).
- Drawings and information supplied by the project architect.
- The figures presented in this report are estimates only. The actual amount of waste will depend on the development's occupancy rate and waste generation intensity, the user's disposition toward waste and recycling, and the Operator's approach to waste management. The Operator shall make adjustments, as required, based on actual waste volumes (if the actual waste volume is greater than estimated, then the number of bins and/or the number of collections per week shall be increased, STCA).
- This report shall not be used to determine/forecast operational costs, or to prepare feasibility studies, or to document operational/safety procedures.

What is a Waste Management Plan?

A Waste Management Plan is a document which outlines the waste management system, and the assumptions and building design elements that have driven the design of the waste management system. A WMP can be updated and endorsed as the requirements of the development change.



The Purpose of the Waste Management Plan (WMP) is to:

- » Demonstrate the development of an effective waste management system that is compatible with the design of the commercial or multi-unit development (MUD) and the adjacent built environment. An effective waste management system is hygienic, clean and tidy, minimises waste going to landfill, and maximises recycling
- » Provide a waste management system that is supported by scaled drawings to ensure the final design and construction is compliant with the WMP, and is verifiable
- » Form a document that achieves effective communication of the waste management system so that all stakeholders can be properly informed of its design, and the roles and responsibilities involved in its implementation
- » Stakeholders are defined (but not limited to): owners, occupiers, body corporate, property managers/real estate agents, Council, neighbours and collection contractors
- » Ensure residents of MUD's are not disadvantaged in their access to recycling and other responsible waste management options
- » Avoid existing legacy issues that plague many MUD's due to poor design and insufficient consideration for waste management.

Applicants and site operators should note that failure to comply with the endorsed Waste Management Plan can attract a fine under the City of Monash Local Law No.3.

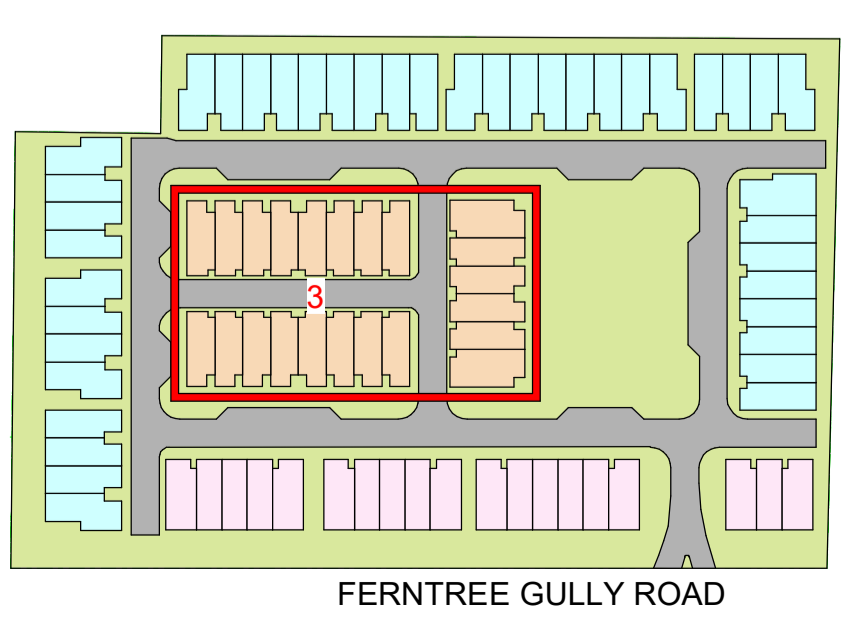


PART 3 - GROUND FLOOR PLAN - TH TYPE C

PERMIT ISSUE

Revisions / 26.03.21 Town Planning Submission
 P1 27.07.21 For Coordination
 P2 06.08.21 Draft TP Drawings

- Notes & Legends /
- BIN COLLECTION ZONE
 - AC AIR CONDENSOR
 - CL CLOSELINE
 - LA LAUNDRY
 - LB LETTERBOX
 - RWT RAIN WATER TANK
 - ST STORAGE
- 6m² STORAGE ACHIEVED FOR EACH DWELLING FOR EACH 2000L RWT INCLUDED FOR EACH DWELLING CONNECTED TO ALL SANITARY FLUSHING SYSTEMS



Project / **RESIDENTIAL DEVELOPMENT**
 583 FERNTREE GULLY RD GLEN WAVERLEY

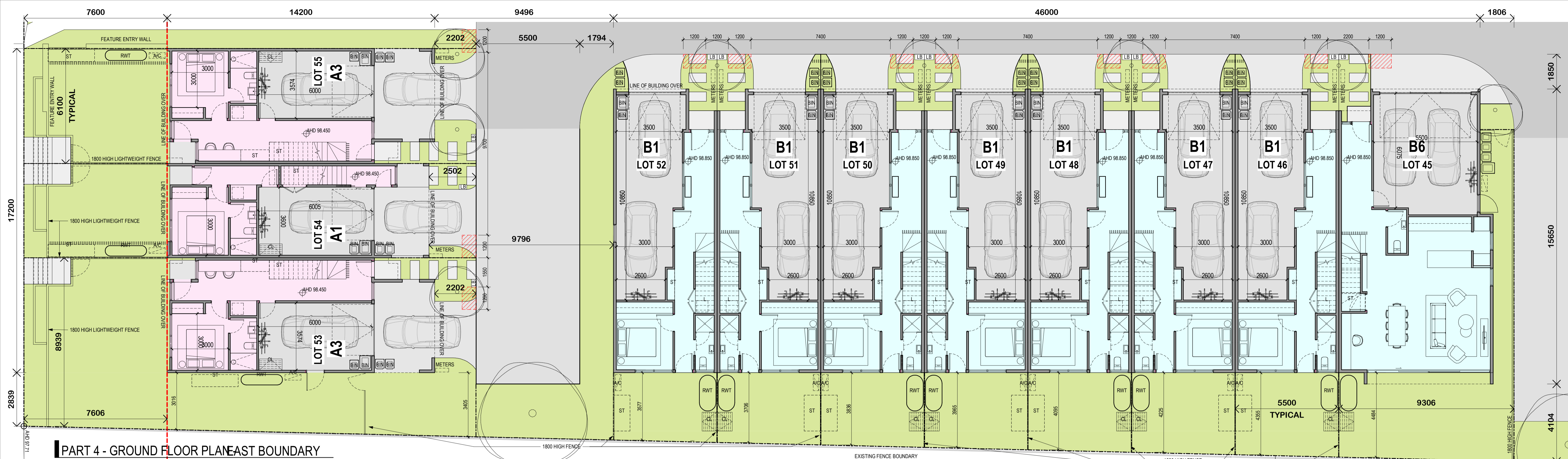
Drawing / **GROUND FLOOR PLAN - PART 3** Project No / **220037** Date / **09/10/20**

Author / **RB** Scale: @ A1 / **1 : 100** Drawing No. / **TP01.30 P2**

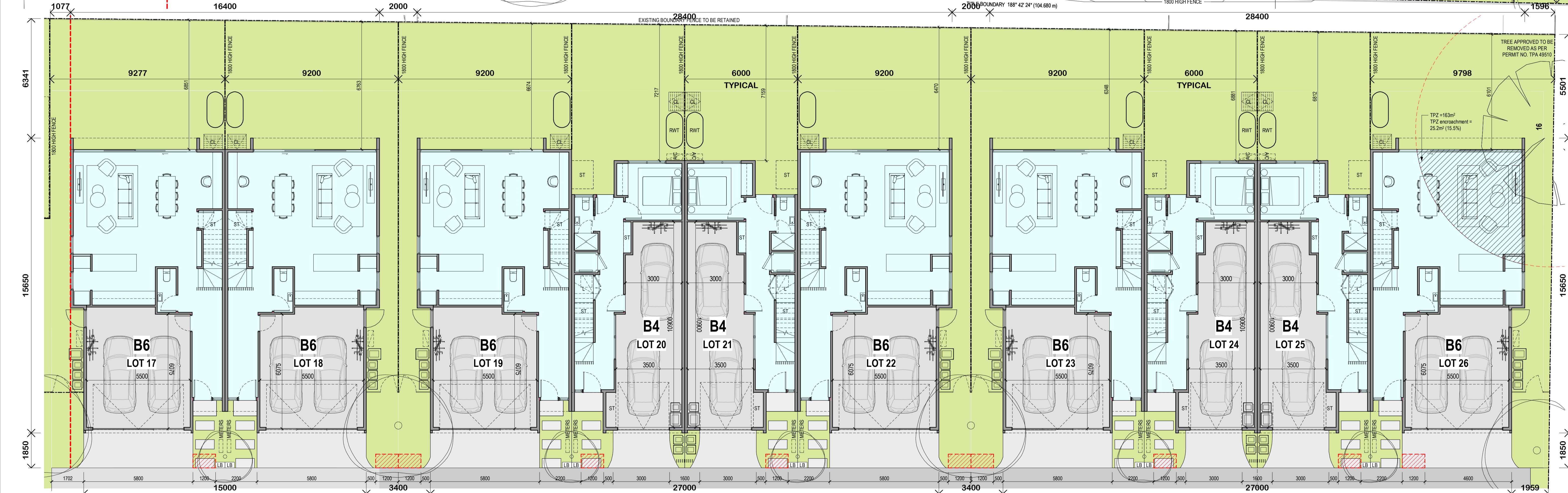
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PART 4 - GROUND FLOOR PLAN EAST BOUNDARY



PART 5 - GROUND FLOOR PLAN - WEST BOUNDARY

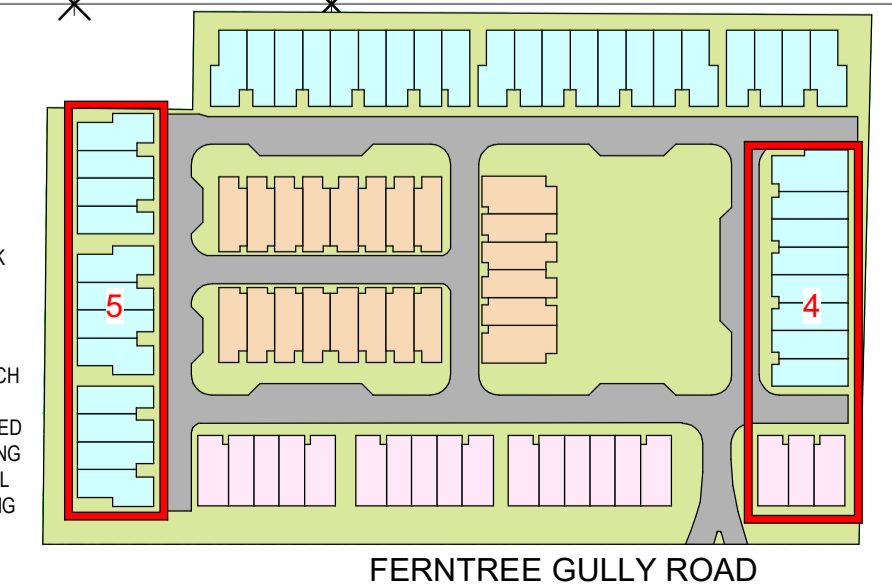
Notes & Legends

PERMIT ISSUE

Revisions	26.03.21	Town Planning Submission	EK
P1	27.07.21	For Coordination	EG
P2	06.08.21	Draft TP Drawings	EG

■ BIN COLLECTION ZONE
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• 6m² STORAGE ACHIEVED FOR EACH DWELLING
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Project **RESIDENTIAL DEVELOPMENT**
583 FERTREE GULLY RD GLEN WAVERLEY

Drawing **GROUND FLOOR PLAN - PART 4 AND 5** Project No. **220037** Date **09/10/20** Author **RB** Scale: @ A1 1 : 100

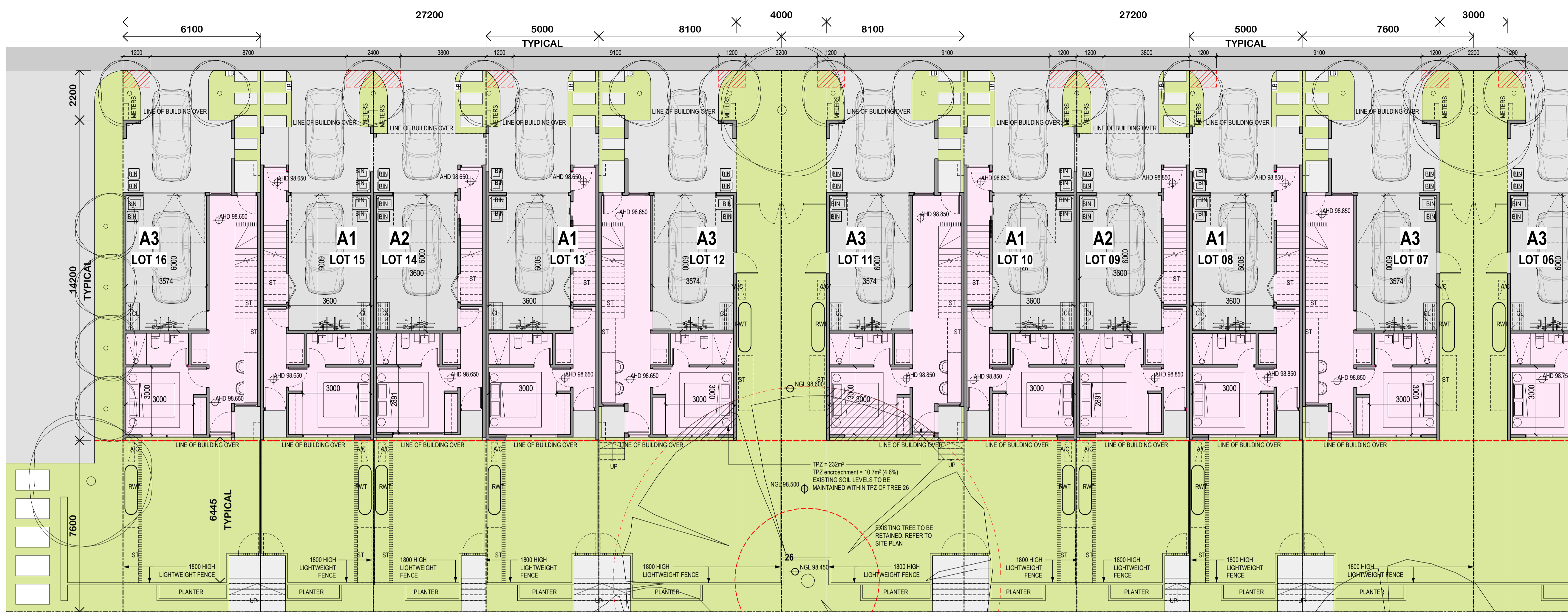
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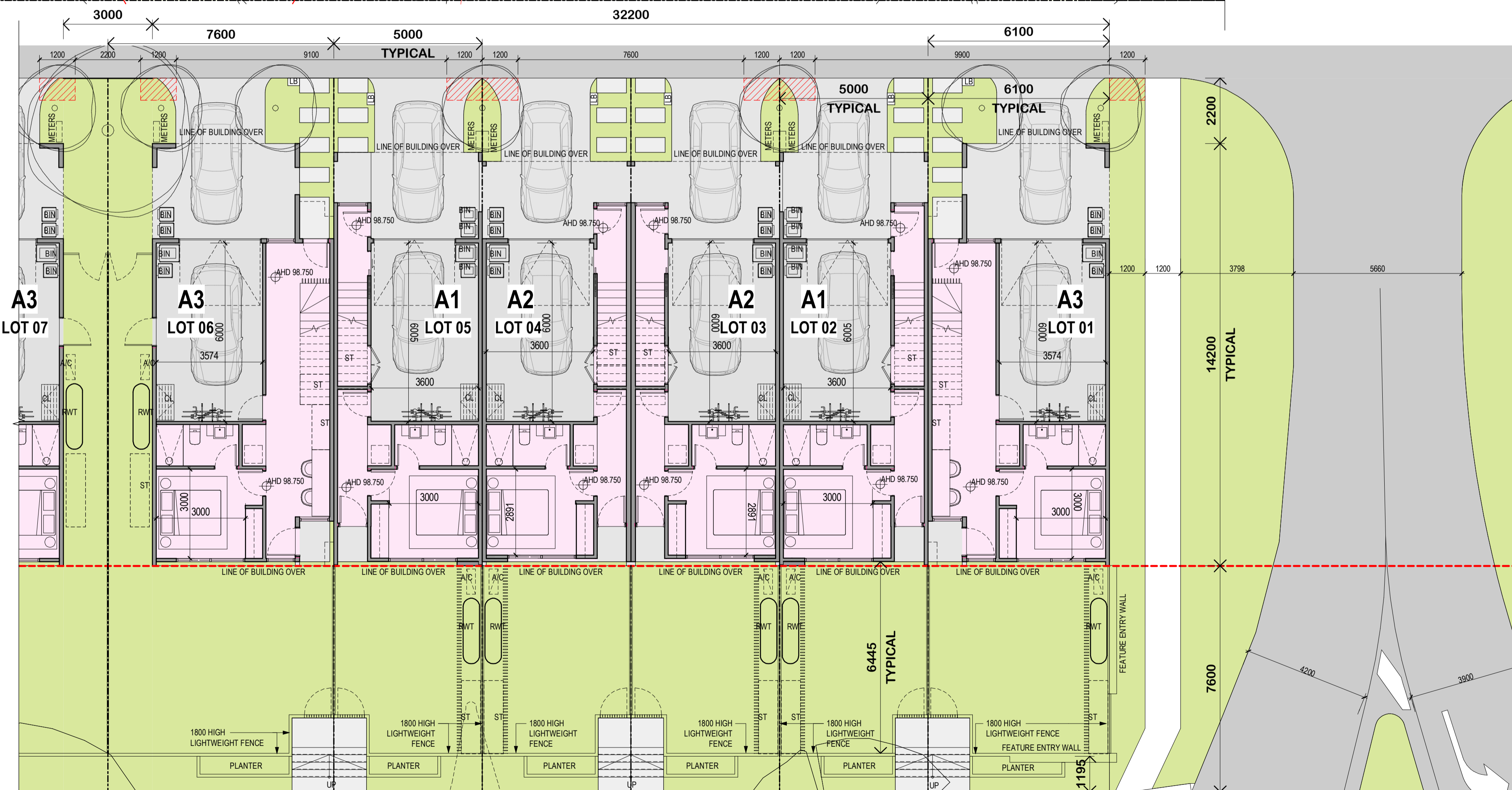
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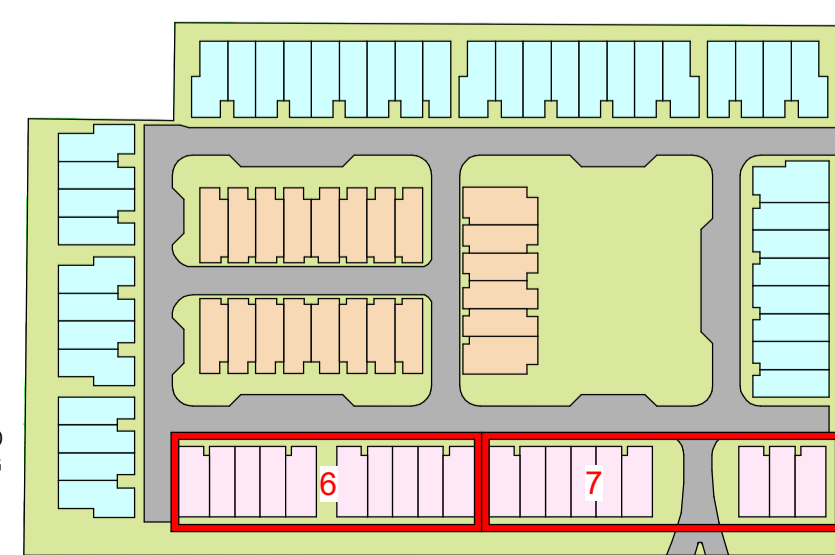


PART 6 - GROUND FLOOR PLAN - SOUTH BOUNDARY



PART 7 - GROUND FLOOR PLAN - SOUTH BOUNDARY

- Notes & Legends
- BIN COLLECTION ZONE
 - AC AIR CONDENSOR
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 - L LETTERBOX
 - RWT RAIN WATER TANK
 - ST STORAGE
 - 6m³ STORAGE ACHIEVED FOR EACH DWELLING
 - 200L RWT INCLUDED FOR EACH DWELLING CONNECTED TO ALL SANITARY FLUSHING SYSTEMS



PERMIT ISSUE

Revisions	Date	Description
-	26.03.21	Town Planning Submission
P1	27.07.21	For Coordination
P2	06.08.21	Draft TP Drawings

EK
EG
EG

Project: RESIDENTIAL DEVELOPMENT
583 FERNTREE GULLY RD GLEN WAVERLEY

Drawing: GROUND FLOOR PLAN - PART 6 AND 7

Project No: 220037 Date: 09/10/20 Author: RB Scale: @ A1 1 : 100 Drawing No: TP01.60 P2

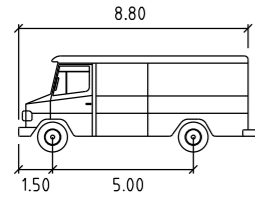
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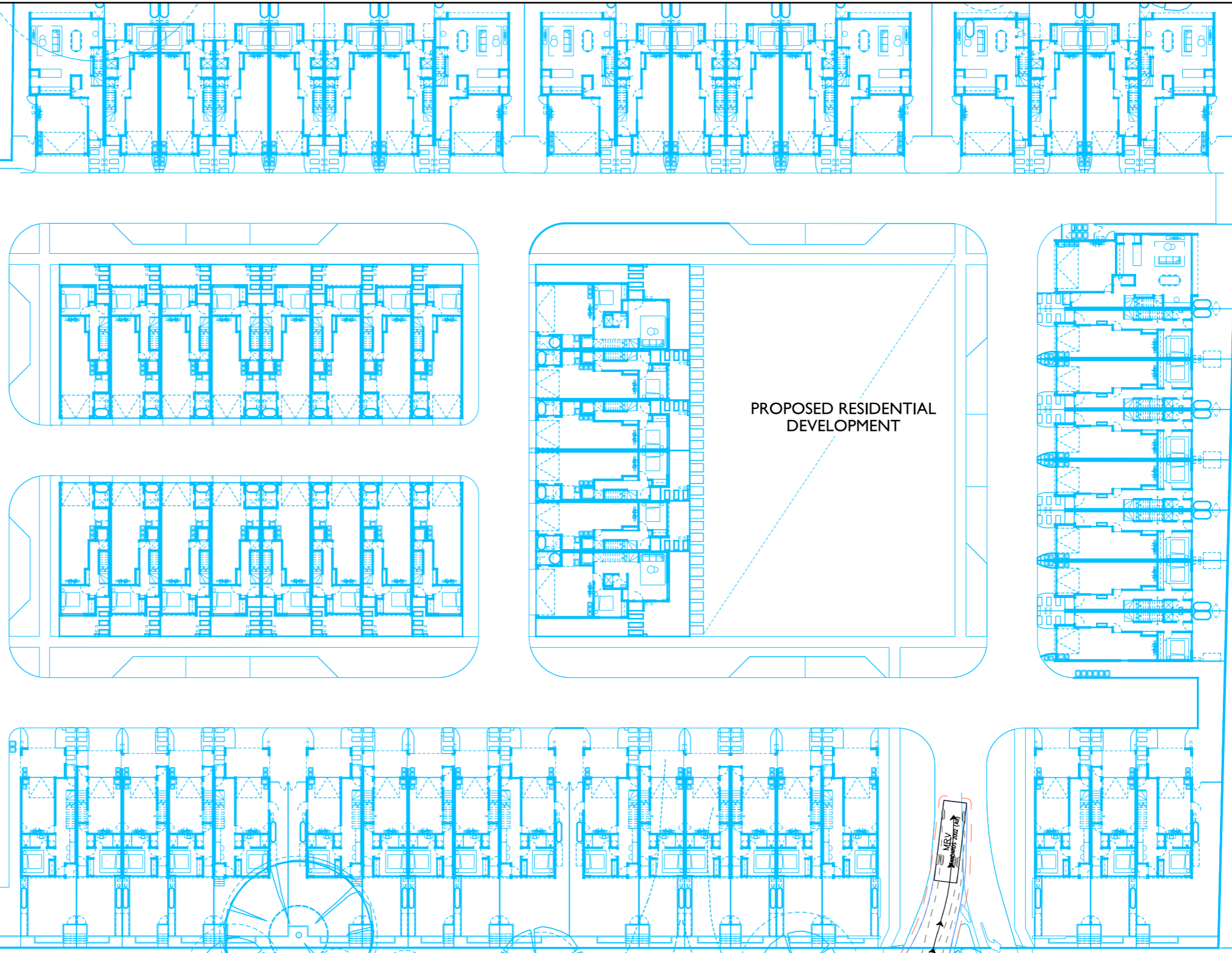
SWEPT PATH KEY

- VEHICLE CENTRE LINE
 - - VEHICLE TYRE PATH
 - VEHICLE BODY PATH
 - 500mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 5km/h



MRV AS2890.2 metres

Width : 2.50
 Track : 2.50
 Lock to Lock Time : 6.0
 Steering Angle : 34.0



PROPOSED RESIDENTIAL DEVELOPMENT



FERNTREE ROAD

ROAD



MAP REF 71/B8

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Melbourne 03 9851 9600
 Sydney 02 8448 1800
 Brisbane 07 3113 5000
 Adelaide 08 8334 3600
 Perth 08 6169 1000



PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES
 ONLY SUBJECT TO CHANGE
 WITHOUT NOTIFICATION

WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATIONS OF UNDERGROUND SERVICES ARE
 APPROXIMATE ONLY AND THEIR EXACT POSITION
 SHOULD BE PROVEN ON SITE. NO GUARANTEE IS
 GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED
 R. ABRAHAM

DESIGN CHECK
 D. GRAHAM

APPROVED BY
 D. GRAHAM

DATE ISSUED
 29 JULY 2021

SCALE
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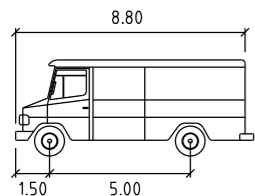
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PROPOSED RESIDENTIAL DEVELOPMENT
 583 FERNTREE GULLY ROAD, GLEN WAVERLEY
 8.8m MRV SITE ACCESS & CIRCULATION
 SWEPT PATH ASSESSMENT

DRAWING NO. V200270-AT01-01 SHEET 01 OF 07 ISSUE P5

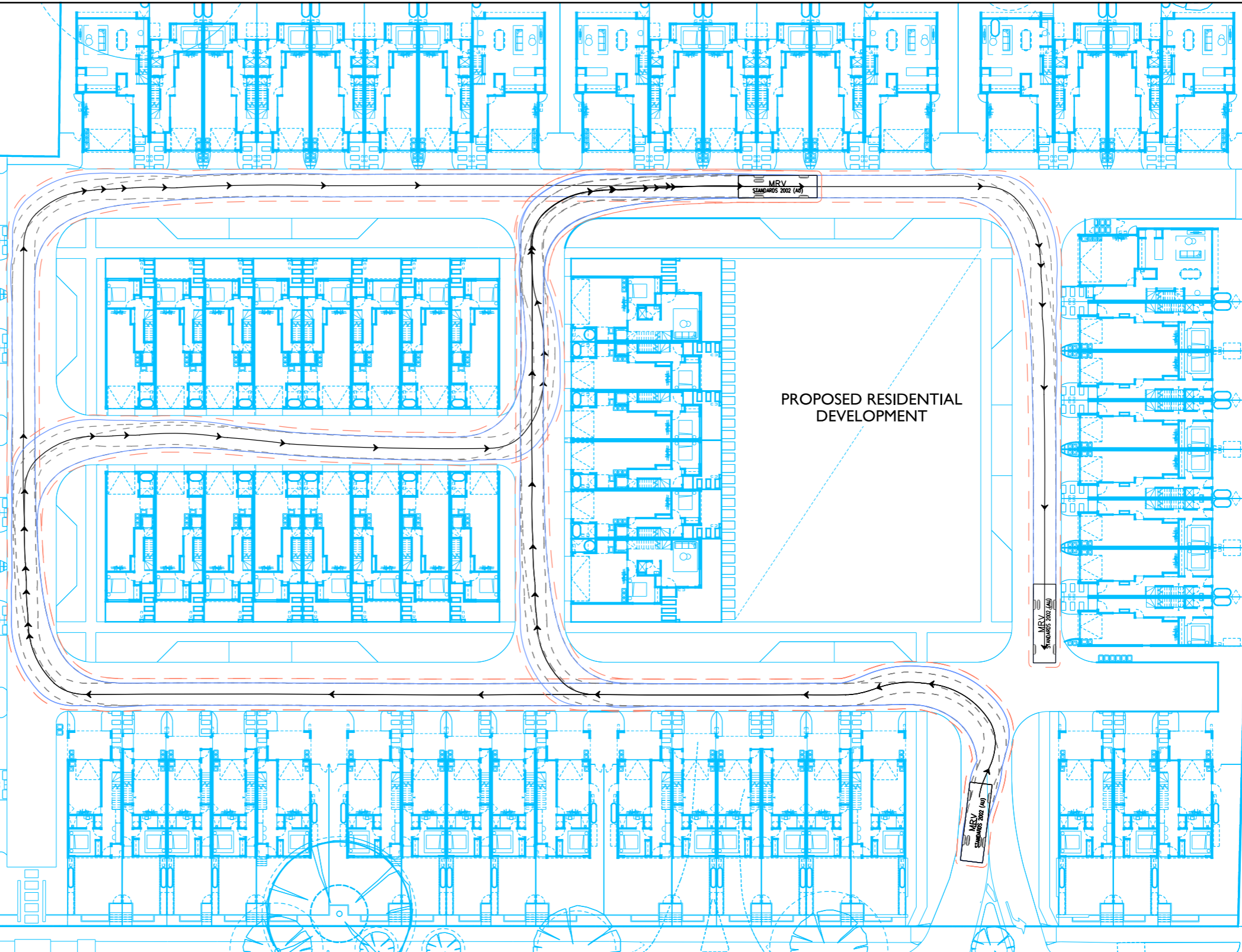
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MRV AS2890.2 metres

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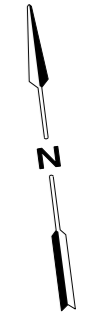


PROPOSED RESIDENTIAL DEVELOPMENT

FERNTREE ROAD

ROAD

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MAP REF 71/88



Melbourne 03 9851 9600
 Sydney 02 8448 1800
 Brisbane 07 3113 5000
 Adelaide 08 8334 3600
 Perth 08 6169 1000



PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES
 ONLY SUBJECT TO CHANGE
 WITHOUT NOTIFICATION

WARNING
 BEWARE OF UNDERGROUND SERVICES
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DESIGNED
 R. ABRAHAM

APPROVED BY
 D. GRAHAM

DESIGN CHECK
 D. GRAHAM

DATE ISSUED
 29 JULY 2021

SCALE
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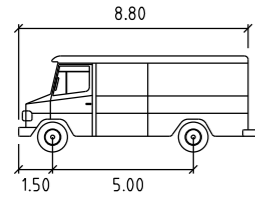
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PROPOSED RESIDENTIAL DEVELOPMENT
 583 FERNTREE GULLY ROAD, GLEN WAVERLEY
 8.8m MRV SITE ACCESS & CIRCULATION
 SWEPT PATH ASSESSMENT

DRAWING NO. V200270-AT01-02 SHEET 02 OF 07 ISSUE P5

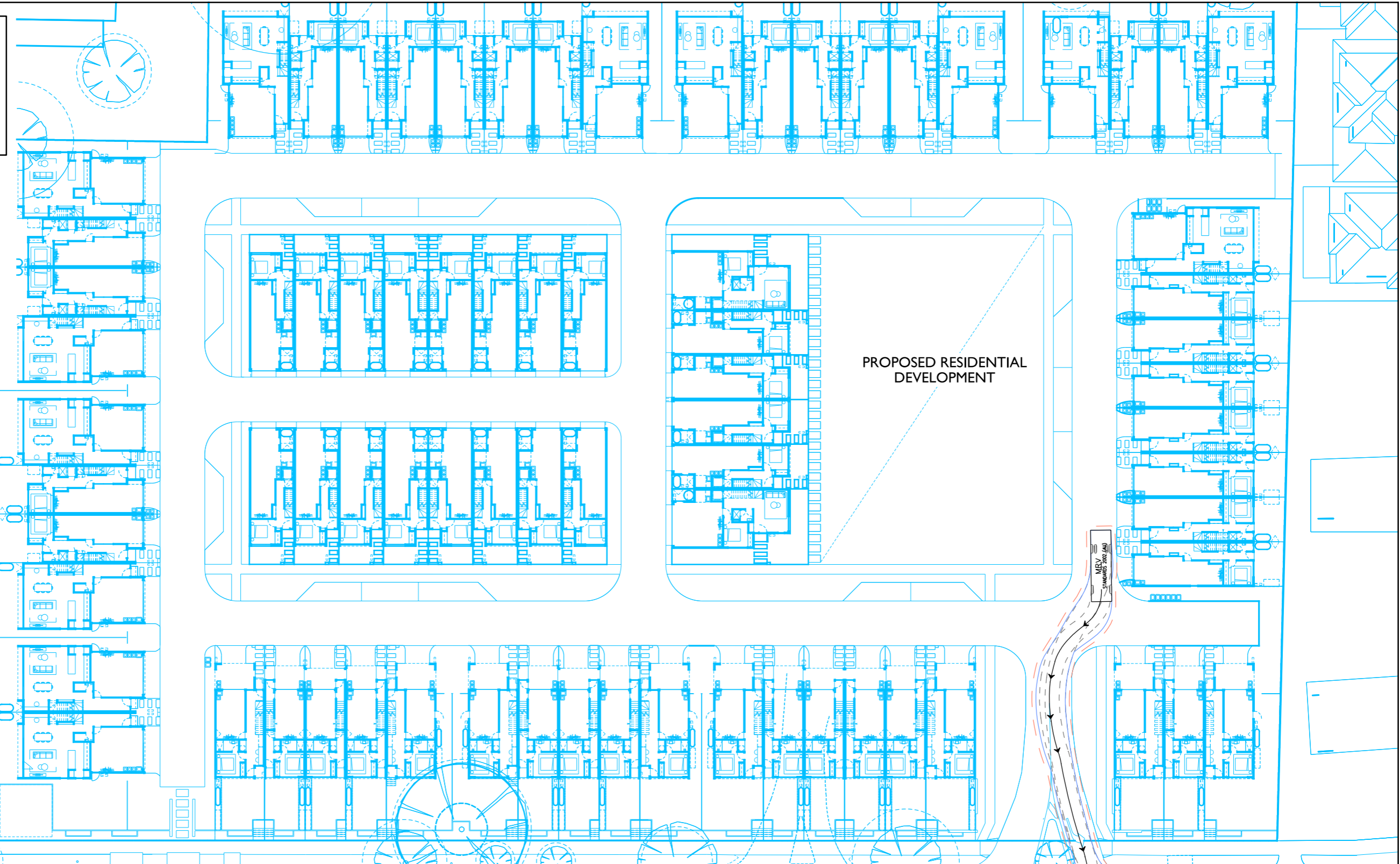
SWEPT PATH KEY

- VEHICLE CENTRE LINE
 - VEHICLE TYRE PATH
 - VEHICLE BODY PATH
 - 500mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 5km/h



MRV AS2890.2 metres

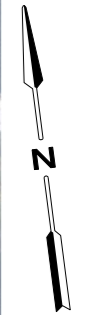
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 Track : 2.50
 Lock to Lock Time : 6.0
 Steering Angle : 34.0



PLOTTED BY : r.abraham ON 29/7/2021 AT 3:14:43 PM

FERNTREE ROAD

ROAD



MAP REF 71/B8



Melbourne 03 9851 9600
 Sydney 02 8448 1800
 Brisbane 07 3113 5000
 Adelaide 08 8334 3600
 Perth 08 6169 1000



PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES
 ONLY SUBJECT TO CHANGE
 WITHOUT NOTIFICATION

WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATIONS OF UNDERGROUND SERVICES ARE
 APPROXIMATE ONLY AND THEIR EXACT POSITION
 SHOULD BE PROVEN ON SITE. NO GUARANTEE IS
 GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED
 R. ABRAHAM

DESIGN CHECK
 D. GRAHAM

APPROVED BY
 D. GRAHAM

DATE ISSUED
 29 JULY 2021

SCALE
 A3 1:500

CAD FILE NO.
 V200270-AT01-P5.dgn

PROPOSED RESIDENTIAL DEVELOPMENT
 583 FERNTREE GULLY ROAD, GLEN WAVERLEY
 8.8m MRV SITE ACCESS & CIRCULATION
 SWEPT PATH ASSESSMENT
 DRAWING NO. V200270-AT01-03 SHEET 03 OF 07 ISSUE P5