37° 45' 25" S
144° 41' 34" E

Proposed School: Sentinel Parade, Truganina

Waste Management Plan

10 May 2024
Prepared for Melbourne Archdiocese Catholic Schools

IMP2401040WMP01D01-

Impact

Company Information

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1 Introduction

1.1 Engagement

IMPACT® have been engaged by Melbourne Archdiocese Catholic Schools to prepare a Waste Management Plan (WMP) for the proposed Primary school development located at Sentinel Road, Truganina.

1.2 Scope of Engagement

This Waste Management Plan has been prepared to accompany a town planning submission.

In preparing this assessment we have referenced the following:

- Development plans prepared by LAW Architects; and
- Sustainability Victoria's 'Guide to Best Practice for Waste Management in Multi-Unit Developments'.

2 Existing Conditions

2.1 Location

The subject site is located on the southern side of Wiltshire Boulevard as illustrated in Figure 1.

Figure 1 Aerial View of Subject Site (Dated 10/03/2024)

The site is irregular in shape with street frontages of approximately 185 metres to Sentinel Parade and Kangri Street to the north and south respectively. As well as frontages of approximately 165 metres to Carpathians Street to the west and 245 metres to Clara Avenue to the west.

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2.2 Planning Zone

The subject site is located within the Urban Growth Zone (UGZ9) as illustrated in Figure 2.

Figure 2 Land Use Planning Zone

The purpose of this zone is to, amongst other things. provide for a range of uses and the development of land generally in accordance with a precinct structure plan.

3 Development Proposition

3.1 Ultimate School Development

LAW Architects have prepared a masterplan for the subject site which contemplates a prep to grade 6 primary school with up to 525 students and up to 36 full-time equivalent (FTE) staff Additionally, an early learning centre (ELC) is planned capable of accommodating 99 3-5 year olds and up to 16 staff at any one time. The ultimate development will be delivered over four (4) stages and includes multiple building upgrades to learning and administrative facilities.

This application is only for Stage 1 of the masterplan.

The stages of the development for the completed masterplan are shown at Figure 3.

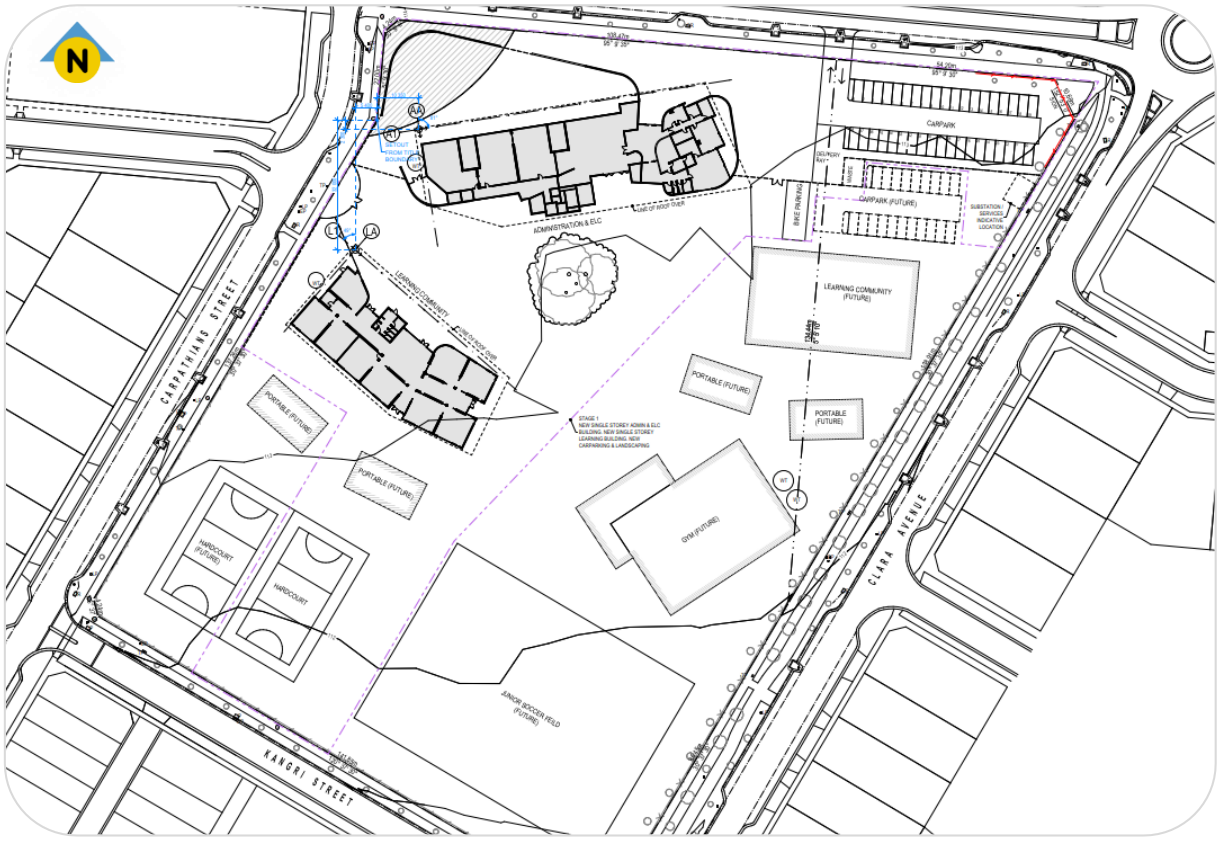

Figure 3 Proposed Masterplan Staging Development Plan

The ultimate development will be delivered over four (4) stages and includes multiple building upgrades to learning and administrative facilities. A breakdown of each stage of development is as follows:

Stage 1 - Learning and Administration (Primary School) & ELC

- A total of 2,215 sq.m of new building area;
- A primary school with a student population of 225 and a total of 16 Staff;
- An Early Learning centre capable of accommodating 99 3-5 year olds and a total of 16 staff;
- A total of 16 car parking spaces for the primary school and 22 spaces for the ELC; and

Stage 2, 3 & 4

The design of the later stages of the masterplan are still in development. However, it is expected that when complete the school will be designed to cater for up to 36 staff and 525 students.

4 Objectives

The primary objective of this WMP is to:

- Identify all potential waste streams likely to be generated on site; and
- Provide a description of how waste is likely to be stored, handled, processed and disposed of, or reused and recycled.

This WMP seeks to establish principles by which the design, provision and maintenance of services and infrastructure that enable garbage, recycling, organics and bulky waste services to be operated at the development site in the best possible way in order to improve resource recovery and align with the principles of waste hierarchy.

5 Waste Generation

5.1 Primary School - Stage 1

In the absence of site-specific waste data for the proposed 225 place school, reference is made to data provided from a school of similar size.

This School has a student population of 400, and is serviced with:

- Garbage: 4,500 Litre Skip Collected Weekly
- Recycling: 4,500 Litre Skip Collected Fortnightly

This equates to a rate of:

- Garbage: 12 Litres per student
- Recycling: 6 Litres per student

It is estimated by the operator that organic waste accounts for between 40 - 60 % of the garbage stream. For the purposes of this assessment, a rate of 50% will be adopted.

The proposal contemplates a school with a total population of 225 students for Stage 1. Application of the above rates to the proposed development yields the following weekly waste generation:

5.2 Primary School Waste Generation - Ultimate Stage

To inform the size and design of the waste storage area the waste generation has been calculated for the ultimate stage of the Primary School and ELC. With up to 525 students expected to be catered for once all stages are complete the following weekly waste is expected.

- Garbage 3,150 Litres per week;
- Organic 3,150 Litres per week; and
- Recycling: 3,150 Litres per week.

5.3 Early Learning Centre

To estimate the likely waste generation for garbage and recycling waste streams associated with the proposed Kindergarten, reference is made to the Sustainability Victoria's 'Guide to Best Practice for Waste Management in Multi-Unit Developments'.

Rates within the guide are provided for childcare centres, which suggests the following waste generation rates:

- Garbage: 50 L / 100m^2 per day; and
- Recycling: 50 L / 100m^2 per day.

In addition to the above, we note that the 'National Waste Report 2010' prepared by the department of Environment, Water, Heritage, and the Arts estimated that approximately 21.5% of commercial landfill waste is comprised of food wastes.

Accordingly, adopting the above, the site is expected to generate the following daily waste generation rates:

- Landfill 39 L / 100m^2 per day;
- Food Organics 11 L / 100m^2 per day; and
- Recycling 50 L / 100m^2 per day.

Note: It has been assumed that the kindergarten will operate 5-days a week.

Application of these rates to the proposed 710 square metre child care centre results in the following weekly waste generation:

- Landfill 1,420 Litres per week;
- Food Organics 355 Litres per week; and
- Recycling: 1,775 Litres per week.

5.4 Total Waste Generation - Stage 1

Noting the above calculations for the Primary School and Kindergarten the development as a whole is expected to have the following waste generation for Stage 1:

- Landfill 2,770 Litres per week;
- Food Organics 1,705 Litres per week; and
- Recycling 3,125 Litres per week.

5.5 Total Waste Generation - Ultimate Stage

Noting the above calculations for the Primary School and Kindergarten the development as a whole is expected to have the following waste generation for Stage 1:

- Landfill 4,570 Litres per week;
- Food Organics 3,505 Litres per week; and
- Recycling 4,925 Litres per week.

6 Equipment and Systems

6.1 General

The school operator shall engage a Private Contractor to manage the collection, storage and disposal of garbage and recycling which has been generated by the development.

The approximate dimensions for proposed bins are provided in Table 1 and are derived from Sustainability Victoria. It is noted that these details should be used as a guide only as variations will occur between bin manufacturers.

Table 1 Bin Dimensions

Bin Size	Height (mm)	Depth (mm)	Width (mm)
240 L MGB	1,065	540	500
660 L MGB	1,200	780	1,260
1,700 L MGB	1,470	1,250	1,770
2,000 L MGB	865	1,400	1,830

The dimensions provided above are from Sustainability Victoria's 'Guide to Best Practice for Waste Management in Multi-Unit Developments' and are subject to vary between different manufacturers.

It is recommended that bin colours be adopted from options provided in AS4123.7 (or Council guidelines) and labelled accordingly to identify the waste generator and site address.

As private collection is proposed, Council's minimum waste service charge will apply.

6.2 Waste Bin and Equipment Storage & Locations

A waste storage area is proposed at the southern end of the carpark.

The location of the bin storage area, and possible bin layout is illustrated at Figure 4.

Waste vehicle collection swept paths drawn to scale are provided in Appendix A for reference.

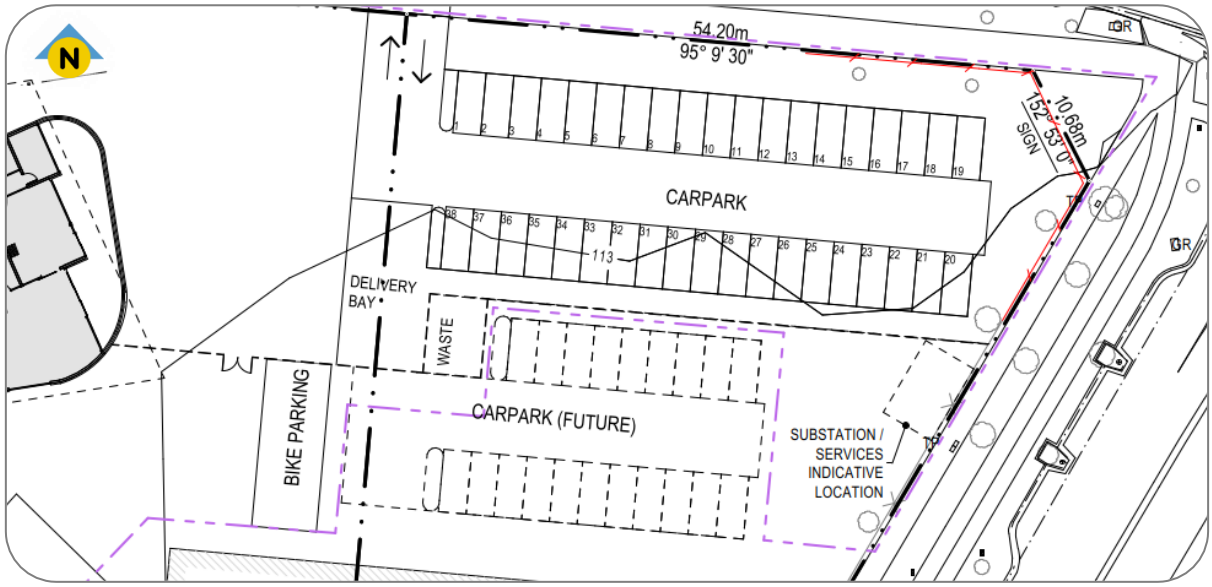

Figure 4 Proposed Bin Storage Area

In summary, it is proposed to provide the following bins within the waste storage area for Stage 1:

Landfill 1x 1,700L bin

Food Organics 1x 660L & 2x 240L bins

Recycling 1x 1,700L bin

6.3 Bins - Ultimate Stage

To cater for the expect waste for the ultimate stage the following will be provided:

Landfill 1x 2,000L & 1x 660L bins

Food Organics 3x 660L bins

Recycling 1x 2,000L 1x 660L bins

6.4 Collection Frequency

The bin details and collection frequency for each waste type and stream are summarised in Table 2 for Stage 1 and Table 3 for the ultimate stage.

Table 2 Waste Collection Frequency - Stage 1

Component	Weekly Waste Generation (Site Total)	Bin Capacity	Collection Frequency
Landfill	2,770 L	1,700 L	Twice a Week
Organic	1,705 L	900 L	Twice a Week
Recycling	3,125 L	1,700 L	Twice a Week

Table 3 Waste Collection Frequency - Ultimate Stage

Component	Weekly Waste Generation (Site Total)	Bin Capacity	Collection Frequency
Landfill	4,570 L	2,660 L	Twice a Week
Organic	3,505 L	1,980 L	Twice a Week
Recycling	4,925 L	2,660 L	Twice a Week

Waste generation and disposal should be monitored as the school develops and the bin strategy (i.e. allocation / distribution of bins) adjusted accordingly.

6.5 Waste Disposal

Staff & Students

Each classroom, staffroom and ancillary areas (which generate waste) shall have a minimum provision for a standard bin station arrangement, comprised of landfill, organic and recycling waste bins.

These stations should have at the very minimum sufficient cumulative capacity for the temporary holding of waste expected to be generated on a daily basis.

Cleaners will be responsible for transferring the waste collected at these bin stations to the bin storage area at the end of each day.

An example of a bin station arrangement that could be adopted is shown in Figure 5.

Figure 5 Example Bin Station Arrangement

Teachers will be responsible for educating and monitoring students to ensure that waste is deposited into the correct bin (and to prevent contamination) wherever possible.

School Operator

The school (in conjunction with the contractor) will be responsible for transferring waste from the waste storage area to the truck at the time of collection.

After bins have been collected the school (in conjunction with the contractor) will be responsible for ensuring that bins are transferred back to the waste storage area.

6.6 Collection Arrangements

Waste shall be collected within the development, by the private waste collection contractor engaged.

Waste bins shall be collected by an 8.8m Waste Collection Vehicle and be undertaken outside of school peak periods.

A swept path analysis, provided as Appendix A confirms that the development plans make adequate provision for the safe and convenient manoeuvring of this design vehicle.

6.7 Responsibility

The school will be responsible for implementing the Waste Management Plan and providing staff with correct and current information and operating practices as required.

It will be the responsibility of staff / teachers to educate and assists students with the disposal of waste into the correct bins to try and limit / prevent cross contamination.

The school will be responsible for engaging and managing the waste collection contractor, including frequency of garbage and commingled recycling collections, and monitoring the transfer of bins between the bin area and collection vehicle.

6.8 Amenity Management

6.8.1 Washing, Ventilation and Vermin-Prevention Measures

The school shall maintain, wash, sanitise/deodorise and arrange vermin prevention measures for their bin area as required. The bin wash down areas should be appropriately graded, and connected into a suitable grease trap (or similar) device, in accordance with the relevant authority requirements.

A private cleaning contractor can be engaged by the school to wash and sanitise as required - the contractor would be responsible for containing and disposing of any contaminated water.

6.8.2 Noise Reduction Measures

The hours of waste collections shall be as specified in Council's local laws and / or in accordance with the Victorian EPA Noise Control Guideline, which sets out the following requirements:

- Collection occurring once a week should be restricted to the hours: 6am to 6pm Monday to Saturday.
- Collections occurring more than once a week should be restricted to the hours: 7am to 6pm Monday to Saturday.
- Compaction should only be carried out while on the move.
- Bottles should not be broken up at the point of collection.
- Routes which service entirely residential areas should be altered regularly to reduce early morning disturbance.
- Noisy verbal communication between operators should be avoided where possible

6.8.3 Stormwater Pollution Prevention

To prevent stormwater pollution, the school will be required to:

- Ensure all waste is disposed into bins;
- Ensure rubbish and recycling items are secured so they can't blow away;
- Keep bins closed to prevent animals from searching through waste; and
- Make sure any bin spillage is cleaned up using dry absorbent materials (such as sand, sawdust or paper towel, as required).

6.8.4 Other Waste Streams

6.8.4.1 Hard Waste / E-Waste

It is expected that hard waste services will be provided by a private contractor, under the supervision of the school.

No dedicated hard waste / e-waste bin is currently shown on-site.

We note however, that there is ample space to provide for hard/e-waste within the subject site.

We recommend that as the school develops, hard waste / e-waste generation be monitored / recorded and dedicated bins provided to cater to these waste streams where necessary.

6.8.4.2 Green Waste

In addition to the above organic waste generated through the garbage waste stream, it is also expected that the site will generate a portion of green / garden waste.

We expect that upkeep, maintenance and gardening undertaken on-site will be managed by a private contractor who is appointed by the school.

The contractor will be responsible for the collection and disposal of green waste generated during their gardening / maintenance.

6.9 Communication Strategy

The Building Manager will be responsible for the education of staff (and cleaners) in the practices of waste reduction / minimisation to divert waste from landfill. This will be achieved by the following:

- Document and distribute details of the waste management system that is in place on-site to staff;
- Encourage waste separation from staff, including education posters above each bin station as indicatively shown in Figure 6;
- Any future change to regulatory requirements or the development's waste generation rates will require the operator to conduct a waste audit and revise the waste management system that is in place; and
- Waste bins will be clearly marked and signed with the appropriate signage.

Staff and parents will be instructed by the Building Management to adhere to these requirements.

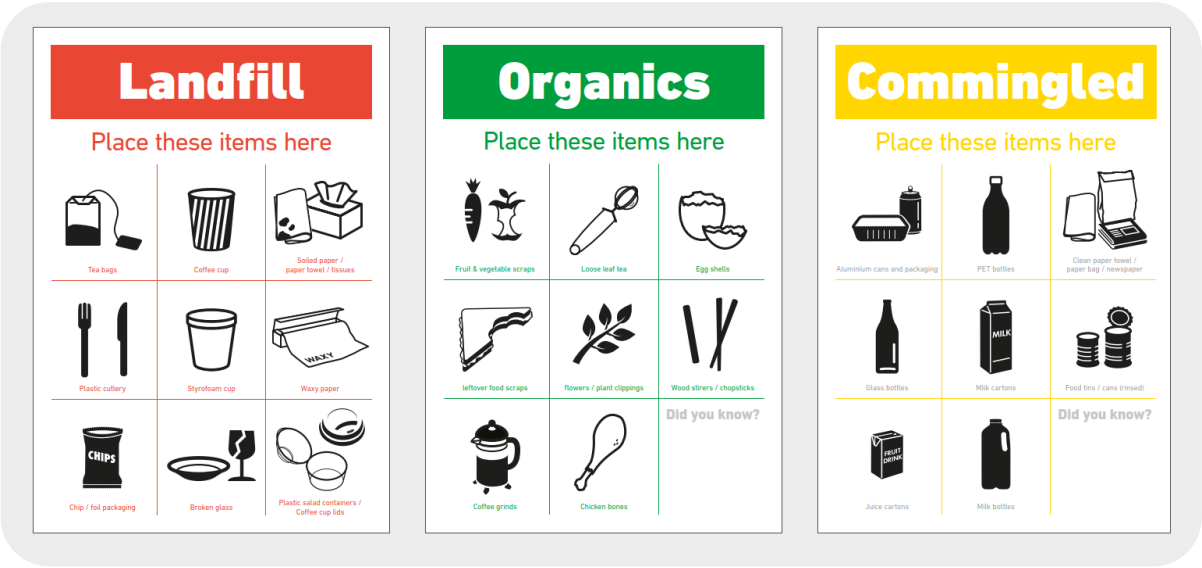

Figure 6 Example Waste Signage

6.10 Information for Occupants

The School shall publish / distribute education materials to staff (and students / parents where applicable) to:

- Staff, parents and students about the waste management system and the use / location of the associated equipment;
- Detail on how to dispose of other (less common) waste streams;
- Improve facility management results (lessen equipment damage, reduce littering, and achieve cleanliness etc); and
- Advise users to sort and recycle waste with care to reduce cross contamination.

6.11 Contact Information

6.11.1 Council

City of Melton	Local Council	ph 03 9747 7200

6.11.2 Suppliers / Contractors

Suez Environmental:	Private Waste Contractor	ph 13 13 35
Veolia	Private Waste Contractor	ph 13 29 55
Cleanaway	Private Waste Contractor	ph 13 13 39
Sulo MGB Australia	Bin supplier	ph 1300 364 388
The Bin Butlers	Bin Washing Service	ph 1300 788 123
Carlcorp Services	Bin Washing Service	Ph: 1800 225 267

6.11.3 Other Useful Contacts

Safety Australia	OH & S Consultant	ph 1300 585 128
FJP Safety Advisors Pty Ltd	OH & S Consultant	ph 03 9255 3660
Sustainability Victoria		ph 1300 363 744 Online www.sustainability.vic.gov.au

7 Limitations

This Waste Management Plan is intended to inform and accompany a town planning application.

The waste generation data presented in this report are estimates only. Actual waste generation characteristics can vary for each development.

Accordingly, it is our expectation and recommendation that the school monitor and adjust the recommended strategy to respond to actual operational conditions based on operating experience. These adjustments could include, but are not limited to increasing the number of bins and or increasing the collection frequency - Subject to Council Approval.

To this end, Subject to 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 school 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 sizes / quantity / collection frequency etc.);
- Re-education of users as required;
- Revision of the services provided by the waste collector(s); and
- Any necessary statutory approval(s).

APPENDIX A
Swept Path Analysis

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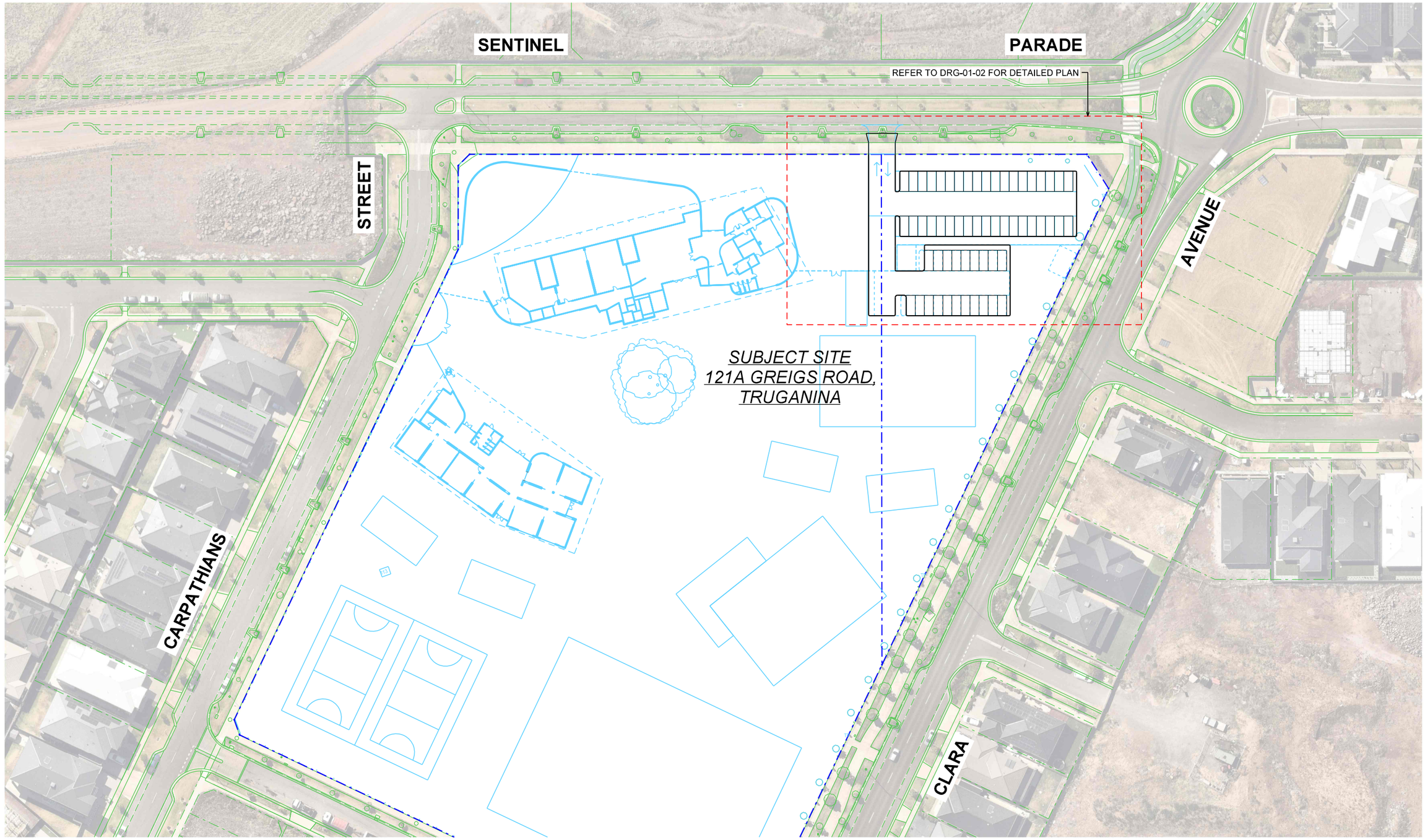
Design Vehicle: 6.4m iDump Mini Waste Vehicle



GENERAL NOTES:
1. ALL DIMENSIONS ARE TO FACE OF KERB AND CHANNEL UNLESS NOTED OTHERWISE.
2. LOCAL ROADS - SENTINEL PARADE (SPEED ZONE 50KM/H).
   - CLARA AVENUE (SPEED ZONE 50KM/H).
   - CARPATHIANS STREET (SPEED ZONE 50KM/H).
3. BASE INFORMATION FROM NEARMAP AERIAL PHOTOGRAPHY DATED 17.03.2024 AND LAW ARCHITECT DRAWING NO. CAD_A100 [ ] PROPOSED SITE PLAN.dwg DATED 30.04.2024

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Client
MACS

Date **2024-05-06**
Drawn / Approved **WH / HM**

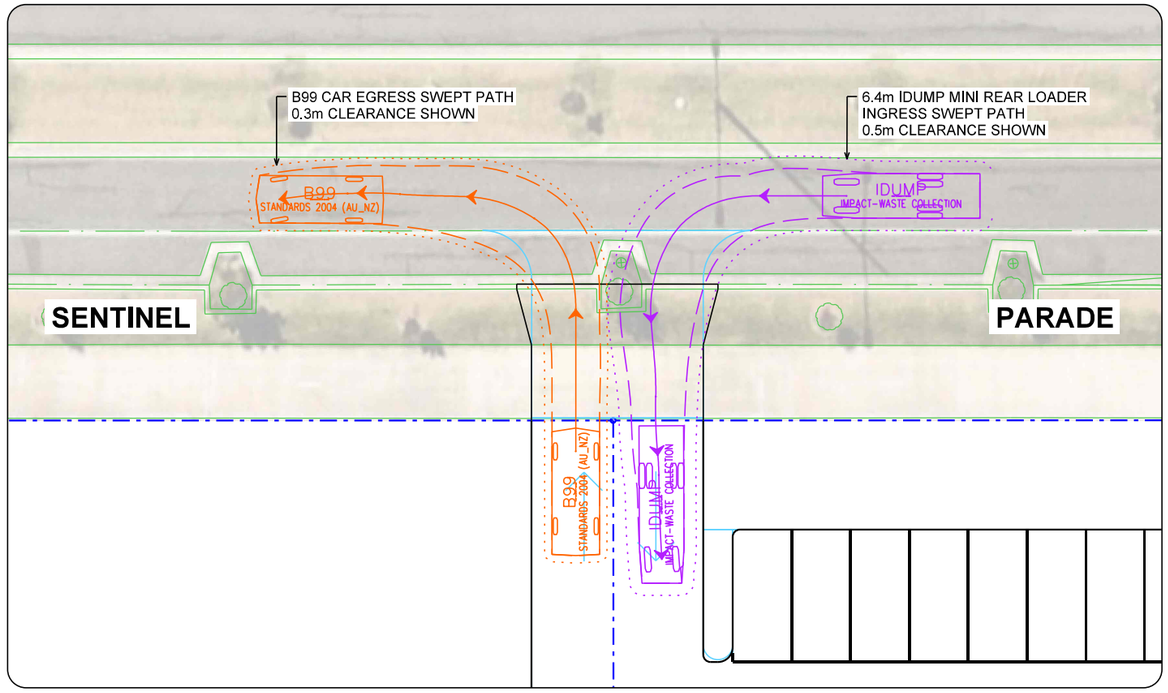
Project
PROPOSED ELC FACILITY
121A GREIGS ROAD, TRUGANINA
CITY OF MELTON

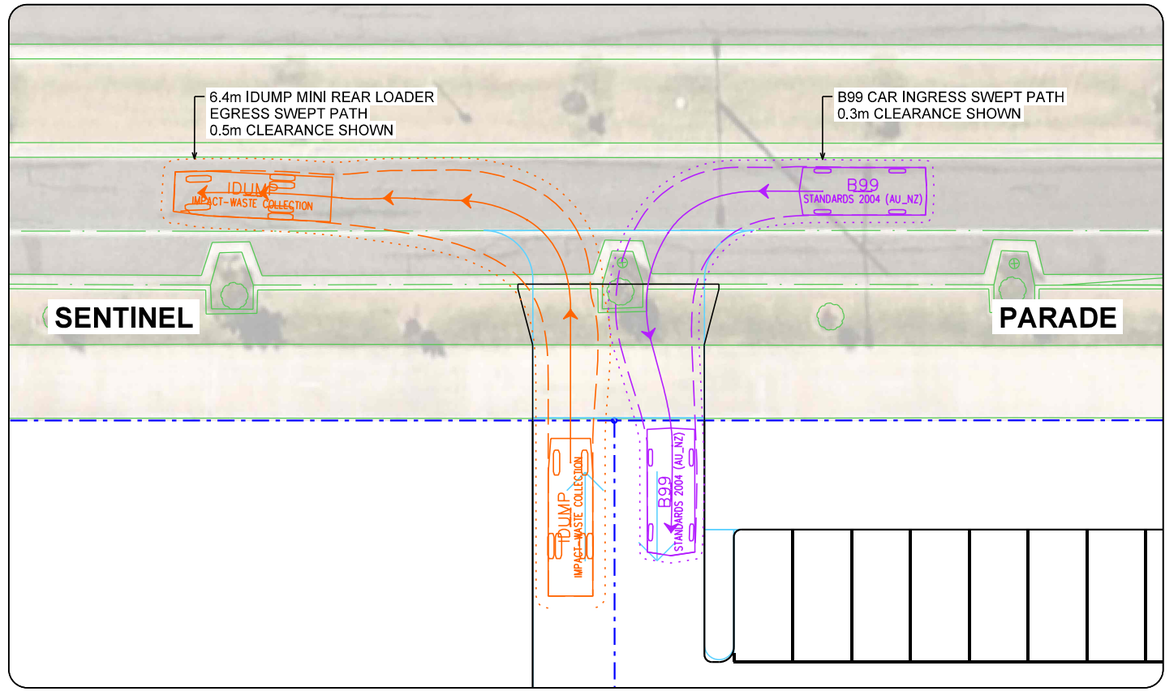
Title
TRAFFIC AND TRANSPORT ASSESSMENT
OVERALL SITE LAYOUT PLAN

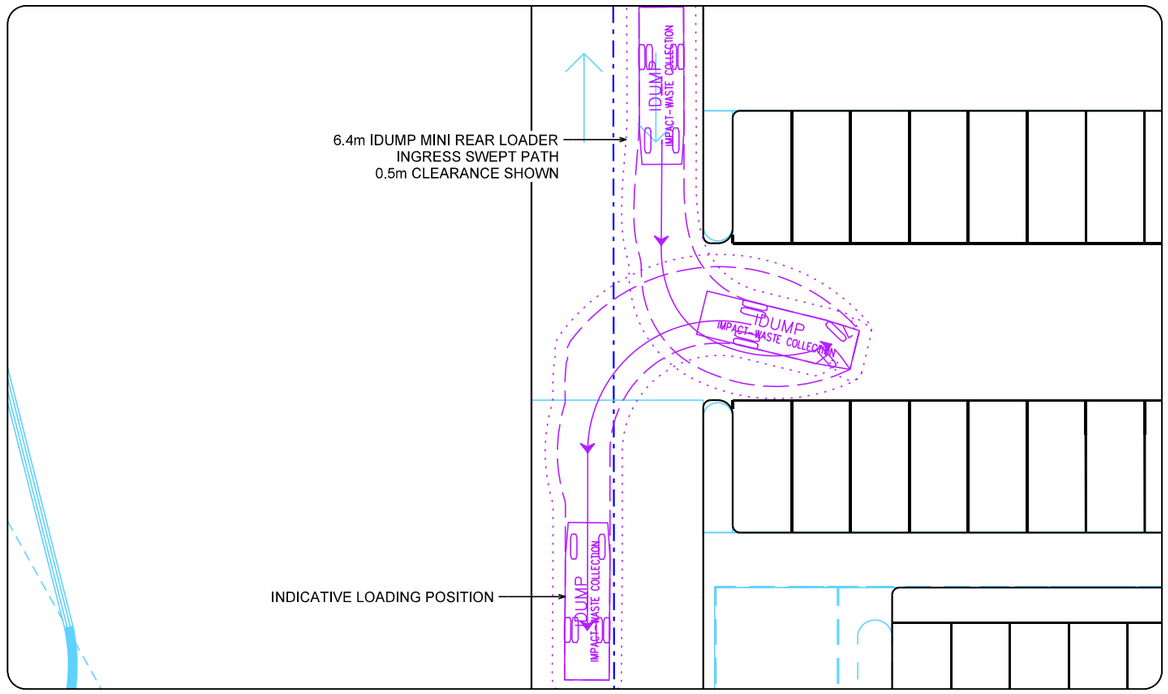
Status
PRELIMINARY

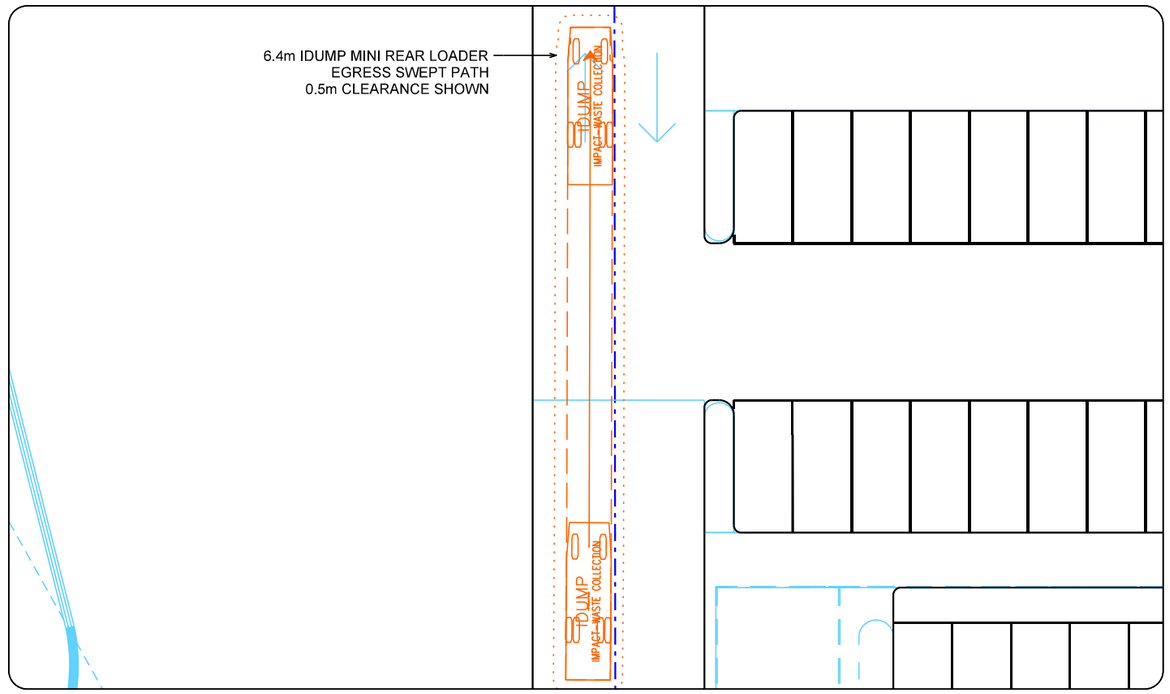
Drawing Number
IMP2401040 - DRG-01-01

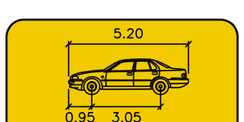
Revision
A











B99 CAR

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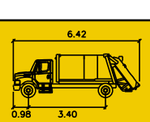
WIDTH	: 1.94
TRACK	: 1.84
LOCK TO LOCK TIME	: 6.0
STEERING ANGLE	: 33.9



6.4m IDUMP MINI REAR LOADER

	METERS
WIDTH	: 1.82
TRACK	: 1.85
LOCK TO LOCK TIME	: 6.0
STEERING ANGLE	: 36.9

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Client
MACS

Date **2024-05-06**
Drawn / Approved **WH / HM**

Project
PROPOSED ELC FACILITY
121A GREIGS ROAD, TRUGANINA
CITY OF MELTON

Title
TRAFFIC AND TRANSPORT ASSESSMENT
SWEPT PATH ANALYSIS
B99 CAR AND 6.4m IDUMP - DESIGN VEHICLES

Status
PRELIMINARY

Drawing Number
IMP2401040 - DRG-01-04

Revision
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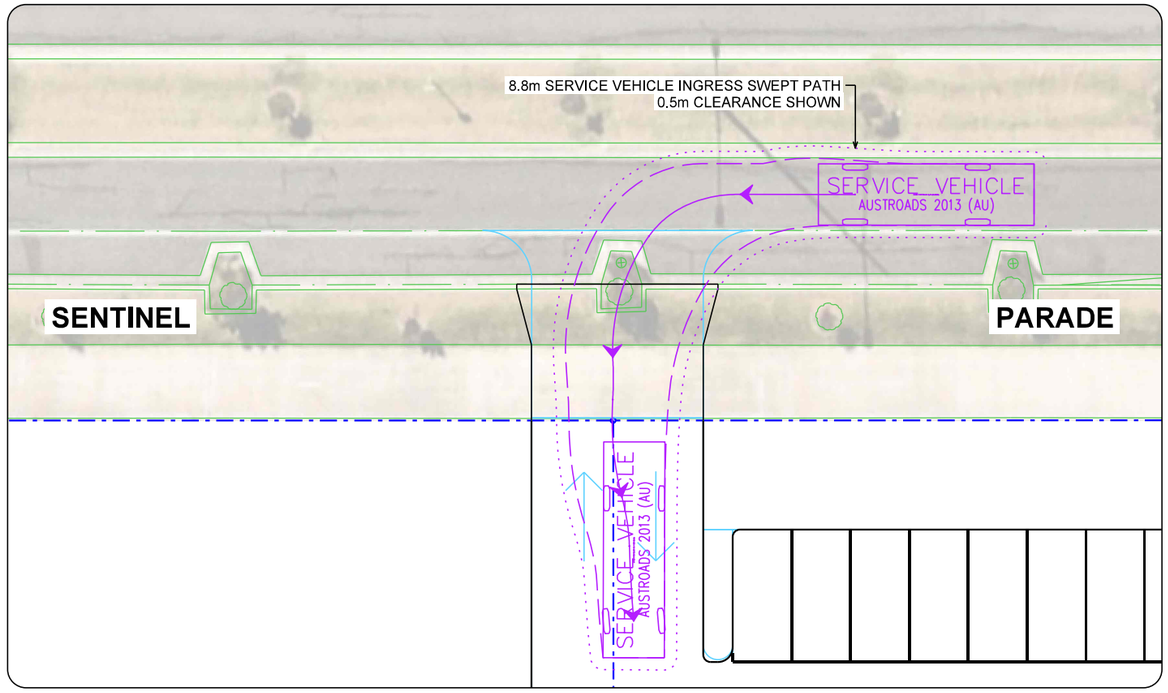

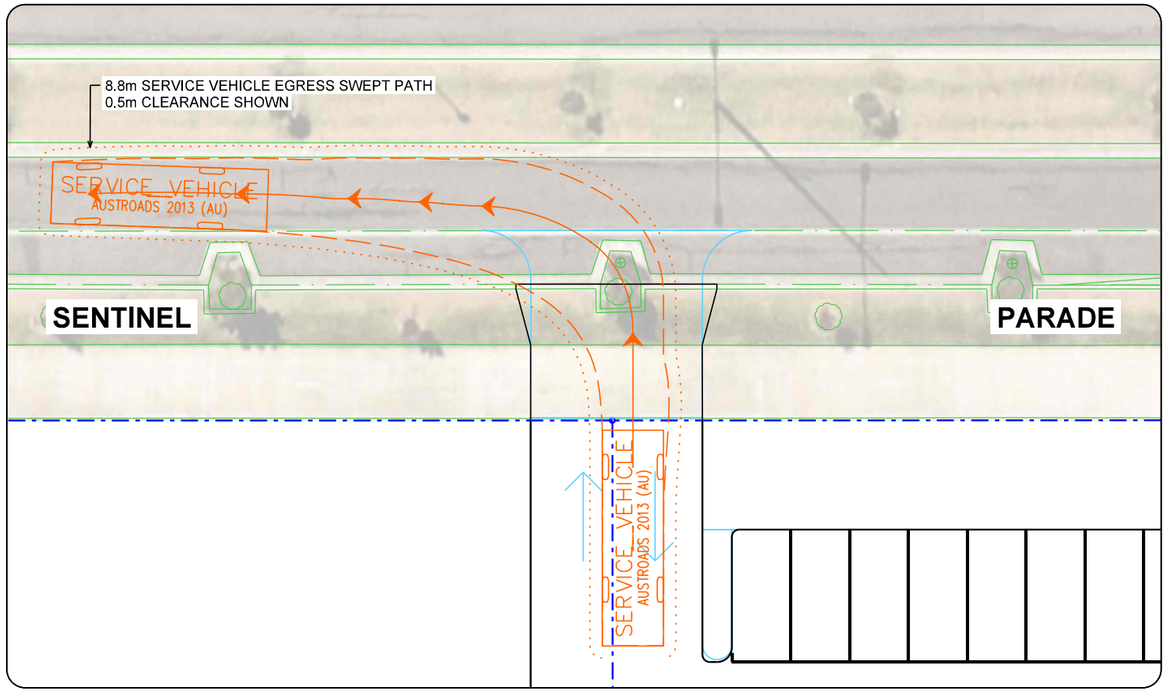

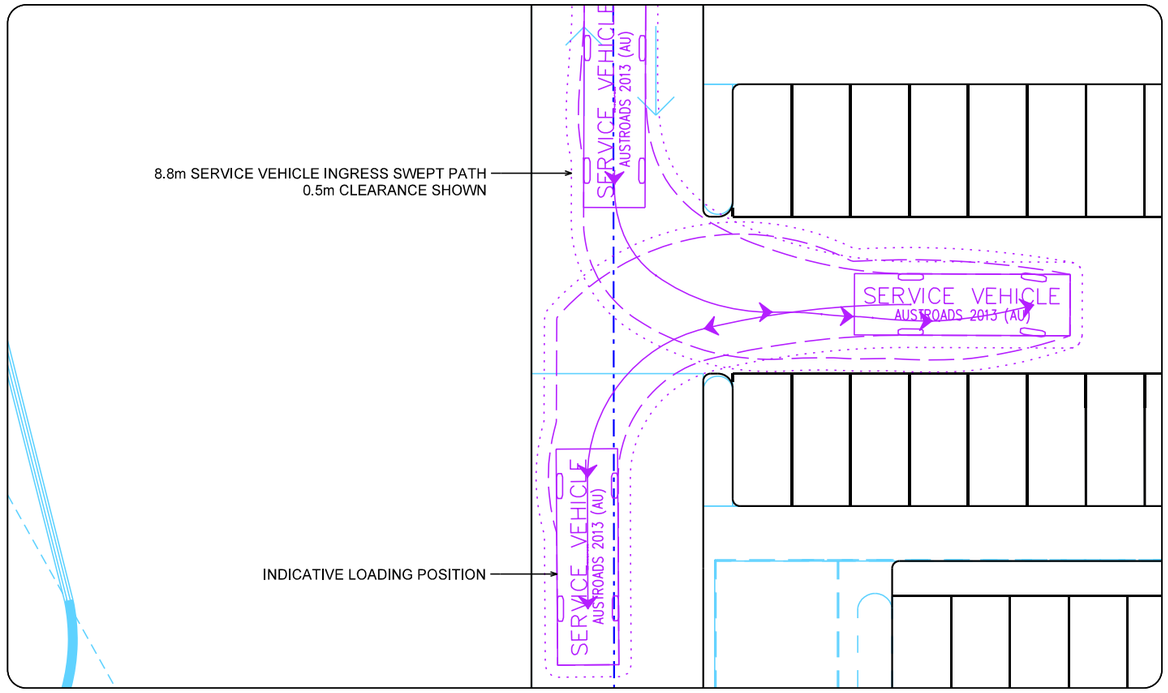

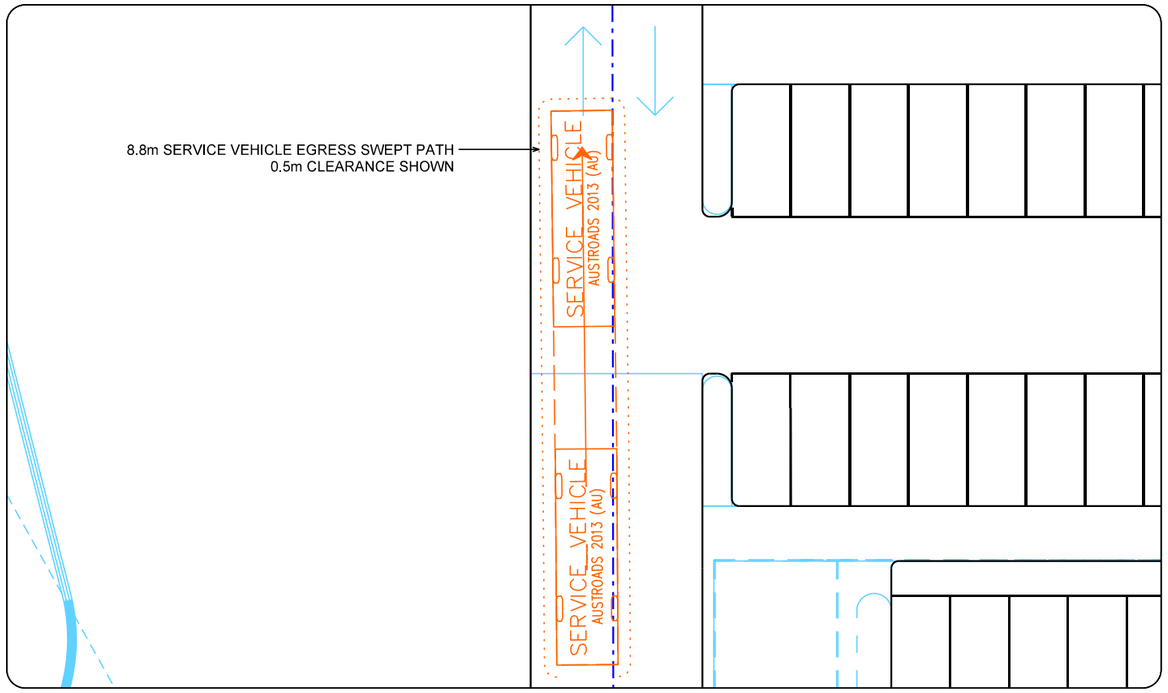

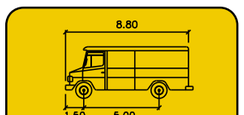

8.8m SERVICE VEHICLE

	METERS
WIDTH	: 2.50
TRACK	: 2.50
LOCK TO LOCK TIME	: 6.0
STEERING ANGLE	: 38.7

Melbourne Archdiocese Catholic Schools

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Project
PROPOSED ELC FACILITY
121A GREIGS ROAD, TRUGANINA
CITY OF MELTON

Title
TRAFFIC AND TRANSPORT ASSESSMENT
SWEPT PATH ANALYSIS
8.8m SERVICE VEHICLE - CHECK VEHICLE

Status
PRELIMINARY

Drawing Number
IMP2401040 - DRG-01-05

Revision
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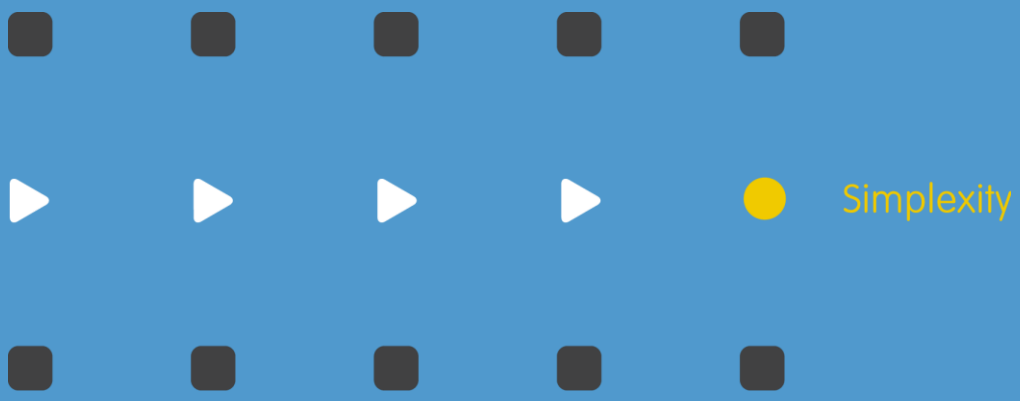
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