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engineering

Demolition and Construction Traffic Management Plan

3 Brookvale Avenue, Brookvale NSW 2100

February 2023

traffic engineering and planning

Type of Report: Demolition and Construction Traffic Management Plan

Site Location: 3 Brookvale Avenue, Brookvale NSW 2100

Prepared for: Primo Design Pty Ltd

Prepared by: Fernway Engineering

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Version	Author	Date Released
1.0	Gerard O'Neill PWZTMP # 0052318112 Exp. 19/03/23	February 2023

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1. INTRODUCTION

This Demolition and Construction Traffic Management Plan (D&CTMP) has been prepared to accompany the demolition, excavation and construction work associated with the proposed multi-unit residential development at 3 Brookvale Avenue, Brookvale NSW 2100 ('subject site').

1.1 PURPOSE

The purpose of this D&CTMP is to outline traffic management measures to be undertaken throughout the demolition, excavation and construction stages in order to achieve the following objectives:

- Maintain the safety of all road users in the public domain, including vehicular traffic, pedestrians, cyclists, and employees.
- Minimise disturbances to the local road network operations.
- Maintain access to all adjacent properties.
- Maintain appropriate communications with relevant stakeholders, and ensure all relevant permits and permissions are obtained for activities as required.
- Monitor and manage the conditions of traffic generated by the site works.
- Ensure traffic is managed in compliance with relevant clauses of AS1742.3.

1.2 APPLICATION AND DOCUMENT CONTROL

The management measures outlined in this CTMP shall be applied to all traffic associated with the demolition, excavation, and construction activities at the subject site, in accordance with any Council or Principal Certifying Authority (PCA) conditions. Where there is any deviation between this CTMP and the conditions of CTMP approval, Council/PCA conditions shall supersede this document. The modification of this document is not permitted unless otherwise approved by Council and other approval authorities. Fernway Engineering Pty Ltd does not accept liability for the modification or implementation of this plan by other parties. All modifications and implementation must comply with the requirements of AS1742.3.

2. PROJECT DETAILS

2.1 SITE CONTEXT

The subject site is located at 3 Brookvale Avenue in Brookvale, within a predominantly residential area (zoned R3: Medium Density Residential under the Warringah Local Environmental Plan 2011). Brookvale Avenue is a local access road (no through road) with a cul-de-sac end approximately 200m to the west of the subject site. At the site frontage, Brookvale Avenue includes a carriageway that is approx. 8m wide with no kerbside parking permitted.

Figure 1 highlights the site location from an aerial perspective.

Figure 2 illustrates Brookvale Avenue as seen at the site frontage.

Figure 1 - Location of the subject site (Source: Nearmaps)

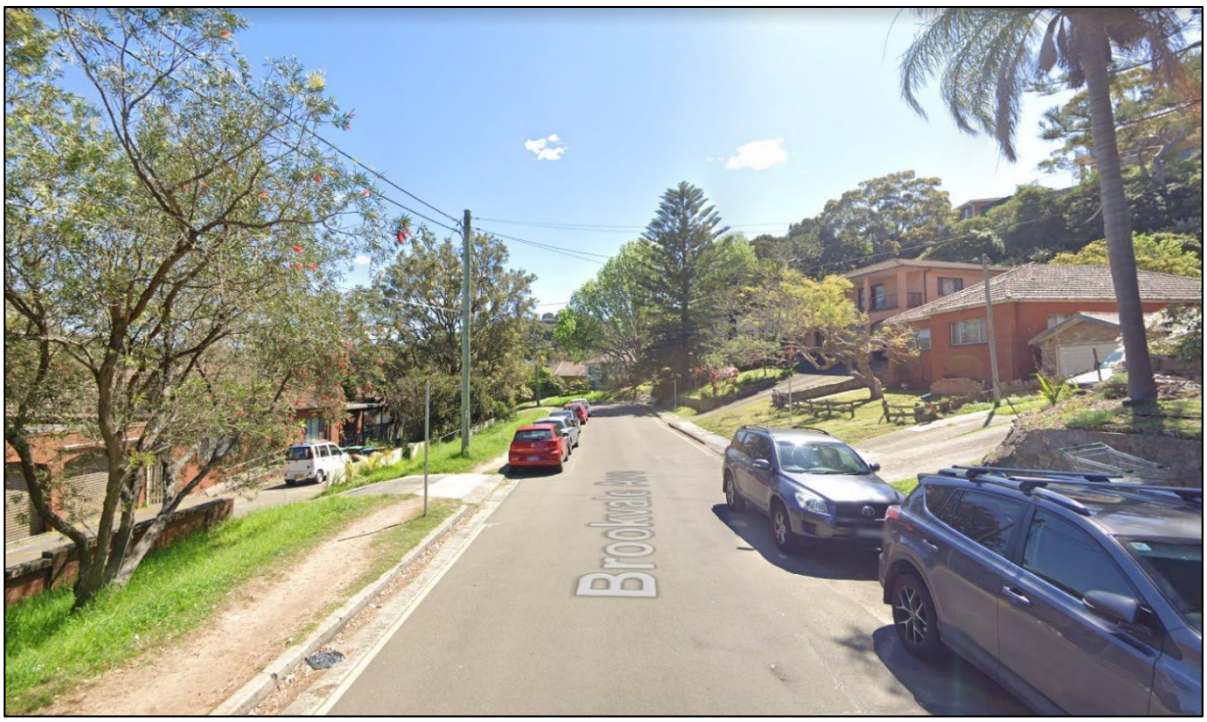


Figure 2 - Brookvale Avenue as seen at the site frontage (Source: Google streetview)

The broader road network around the site mainly includes local roads (including Brookvale Avenue) with Beacon Hill Road and the section of Old Pittwater Road between Beacon Hill Road and Pittwater Road classified as regional roads. Pittwater Road is a state road under the authority of Transport for NSW (TfNSW). **Figure 3** illustrates the hierarchy of the roads around the broader area of the site.

The subject site lies within comfortable walking distance to many bus routes that are serviced at bus stops on Pittwater Road (500m from the subject site, a 6-minute walk). **Figure 4** illustrates the public transport map for the subject site area, outlining the coverage of the local bus services.

Figure 3 – Surrounding road network (Source: TfNSW)

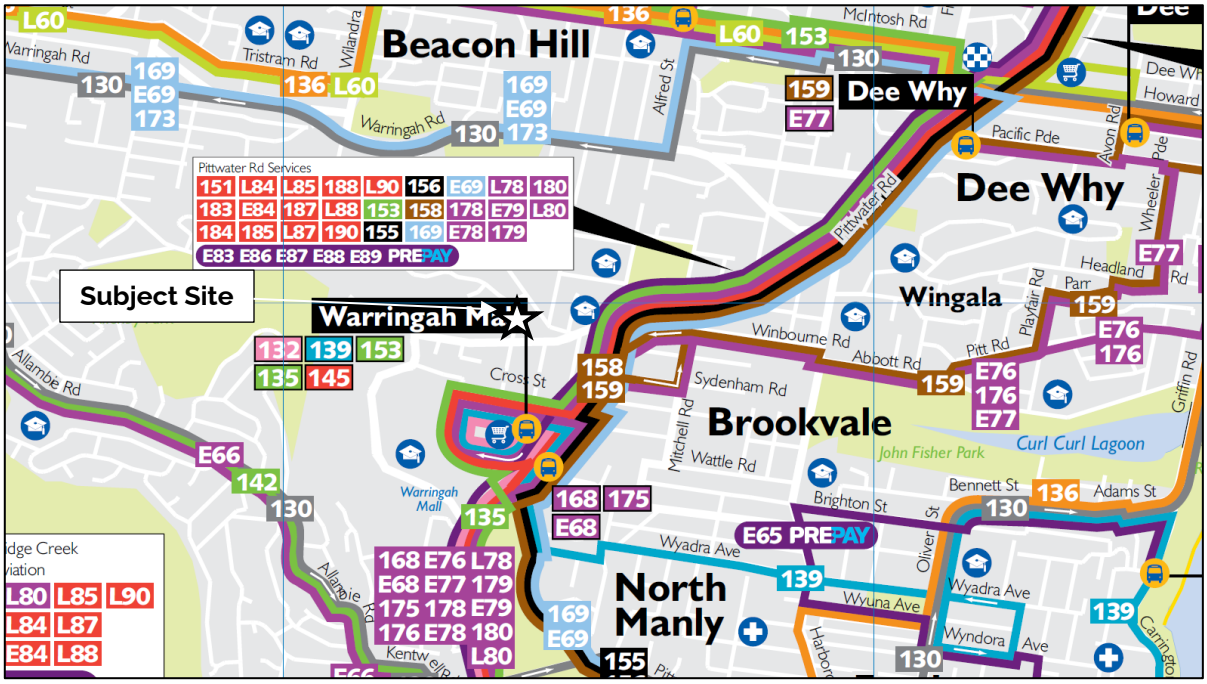


Figure 4 - Public transport map for the site locality (Source: TfNSW)

2.2 PROPOSED WORKS

The subject proposal involves the demolition of the existing residential dwelling and the construction of a 4 residential unit (all 3-bedroom) building within the subject site. It will provide 9 on-site car parking spaces within the basement level with access off Brookvale Avenue.

2.3 STAGING PLAN

It is estimated that works of this scale can be completed within **~10 - 12** months. An approximate staging plan has been developed based on the scale and complexity of the proposed works. This is shown in **Table 1**.

Table 1 - Construction staging plan (estimates only)

Stage	Estimated Timeframe
Demolition	1 week
Excavation (including installation of soldier piles) and site establishment	4 weeks
Construction (including fit-out)	~40-50 weeks

2.4 HOURS OF WORK

Hours of work shall comply with the approved conditions of consent (under da2021/1341, dated 23 June 2022), being:

Unless authorised by Council, building construction and delivery of material hours are restricted to:

- 7.00 am to 5.00 pm inclusive Monday to Friday.
- 8.00 am to 1.00 pm inclusive on Saturday.
- No work on Sundays and Public Holidays.

Demolition and excavation works are restricted to:

- 8.00 am to 5.00 pm Monday to Friday only.

2.5 WORKFORCE

The anticipated workforce on-site shall vary over the course of demolition/excavation and construction stages but will tend to fall within the range of 10-12 persons at any one time.

3. CONSTRUCTION TRAFFIC MANAGEMENT

3.1 DEMOLITION PLAN

The demolition stage will see the removal of the existing structures and vegetation on-site. All waste material arising from demolition shall be classified following the Department of Environment Waste Classification Guidelines before disposal to an approved waste management facility and reported to the Principal Certifying Authority.

Figure 5 shows the proposed demolition plan.

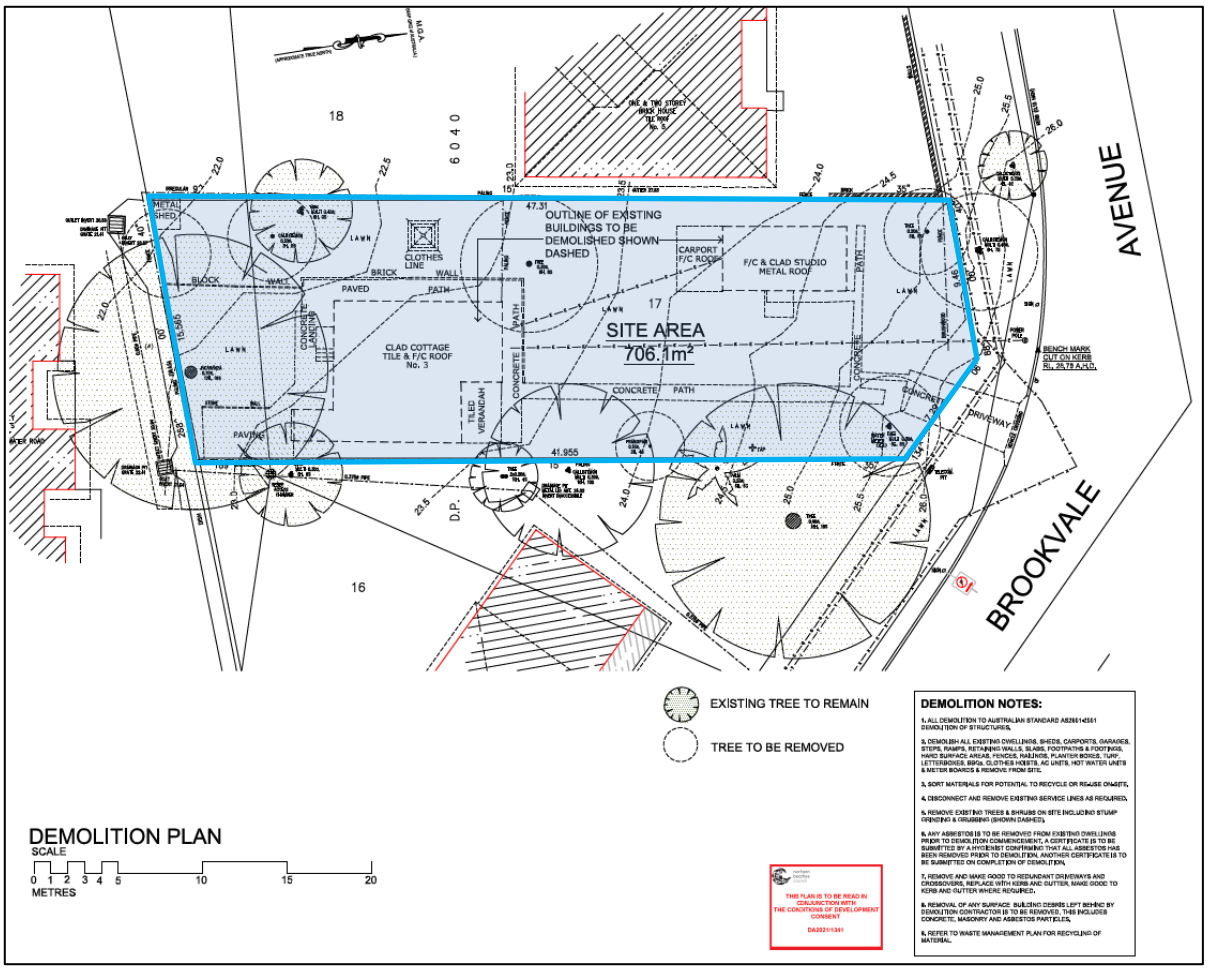


Figure 5 – Proposed demolition plan (Source: Barry Rush and Associates)

3.2 SITE COMPOUND, ACCESS, AND WORKS ZONE

The site compound, construction vehicle access and the proposed works zone location plan are shown in **Figure 6**. The approved ground-level plan of the site is shown in **Figure 7** for reference.

Table 2 provides the details of the proposed site access for each stage of construction.

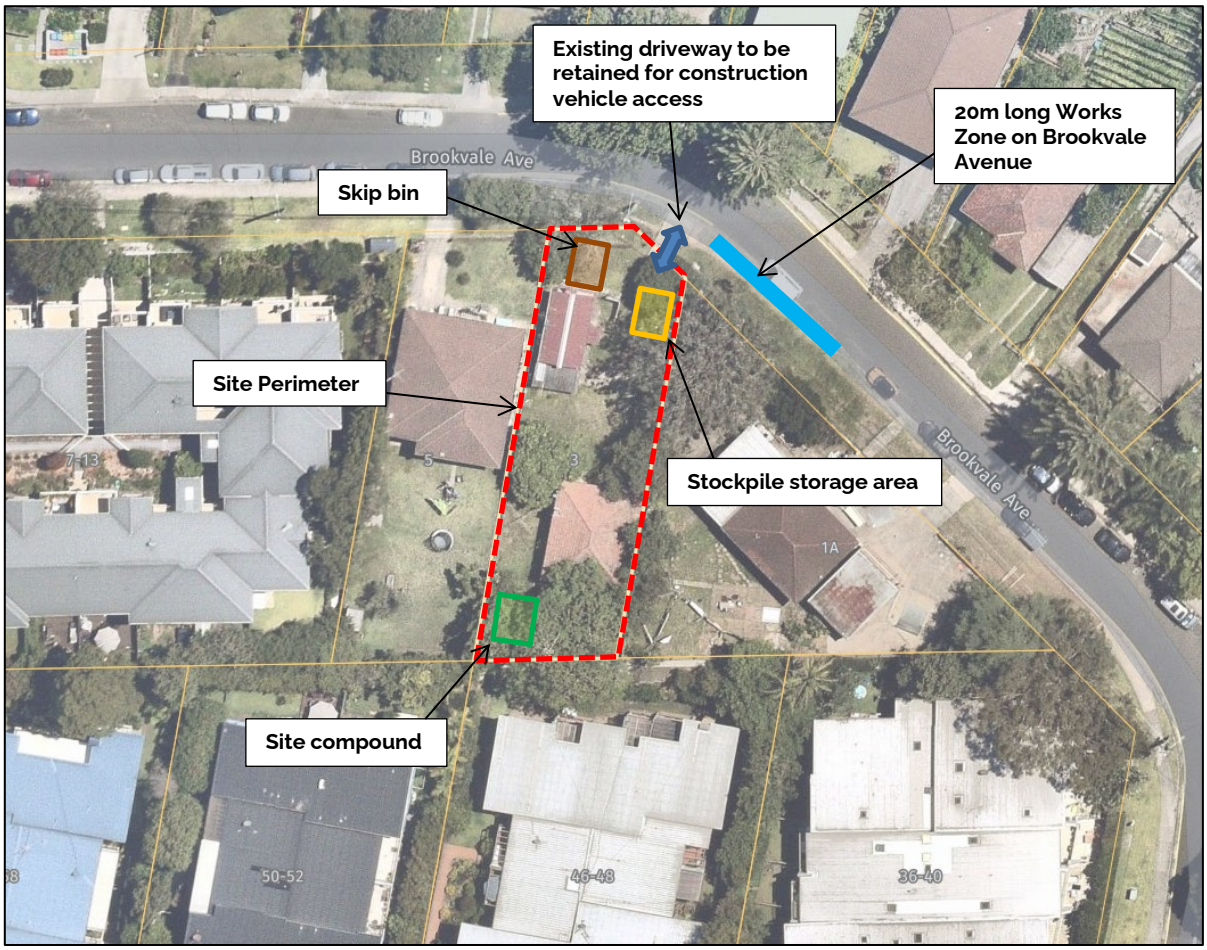


Figure 6 – Site compound, construction vehicle access and works zone plan (Source: Nearmap)

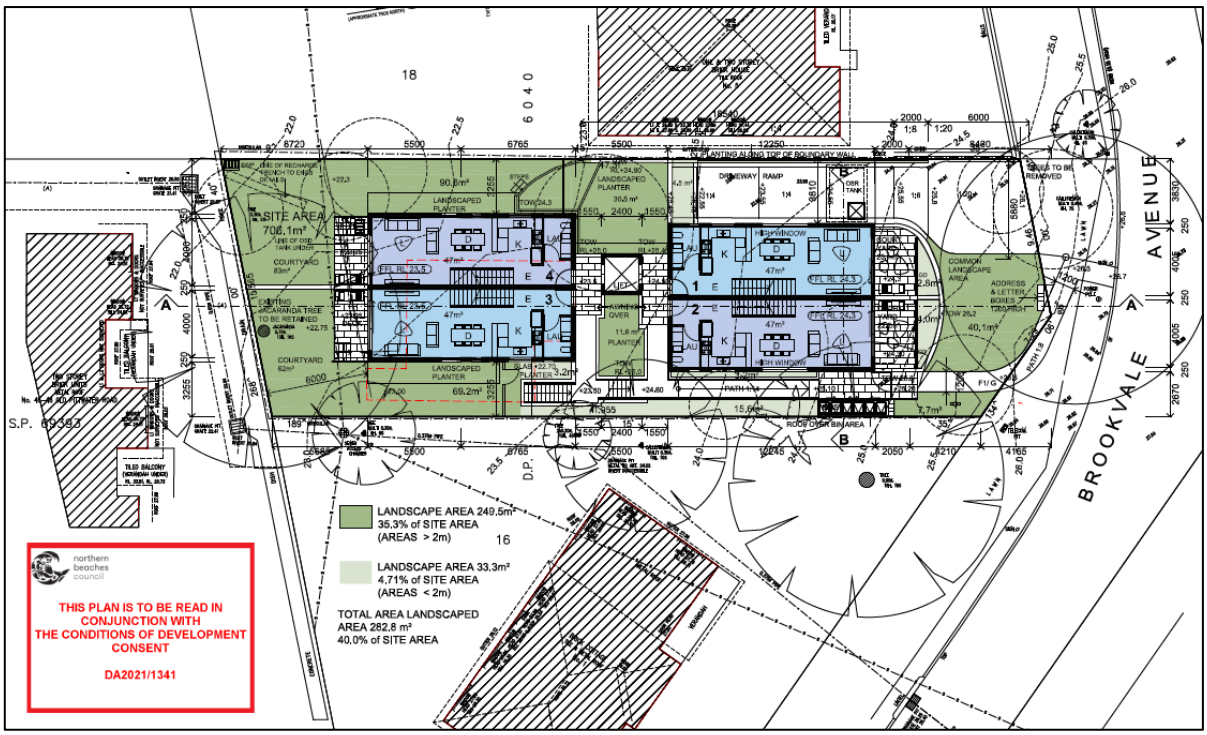


Figure 7 - Approved ground-level plan of the site (Source: Barry Rush and Associates)

Table 2 - Site access

Stage	Purpose	Expected Vehicles[1]
Demolition	The demolition stage shall predominately only require the placement of a skip at the on-site location nominated in **Figure 6**. The skip shall stand wholly within the site. The majority of the vehicles expected are light vehicles and Small Rigid Vehicles (SRVs) and can access the site through the existing driveway off Brookvale Avenue.	Waste Skip, Utes (B99) and SRV (6.4m).
Excavation	Excavators will access the site through the existing driveway off Brookvale Avenue. The fleet of vehicles will vary from SRVs to Medium Rigid Vehicles (MRVs). **Figure 8** shows the swept	SRV (6.4m) and MRV (8.8m)

[1] Heavy vehicles classes are based on AS 2890.2 specifications

	path of an MRV into and out of the site during the initial excavation stages. During the initial demolition/excavation stages, all vehicles can be accommodated wholly on-site. Exceptions to on-site loading will be at the conclusion of the excavation stage when there will be limited space within the site. During this stage, the builder shall apply for a kerbside works zone permit from Council. The nominated kerbside works zone area is shown in **Figure 6** (it includes a length of 20m, outside the 'No Stopping' zone identified through the yellow line marking on the carriageway of Brookvale Avenue).	
Construction (including fit-out)	Delivery of materials for construction can occur on-site via SRVs at the initial stages (as shown in **Figure 9**). Any vehicle larger than an SRV will be required to use the kerbside works zone. The crane will be operated from within the site, and it will be placed on the lift core of the proposed building. At the final stages, all vehicles with the exception of small vehicles such as utes and vans, will be parked within the kerbside works zone. These off-site activities would be undertaken under traffic control and pedestrian management, in accordance with AS1742.3. A Traffic Guidance Scheme (TGS) has been provided in **Attachment A**.	HRV (12.5m), MRV (8.8m) and SRV (6.4m)

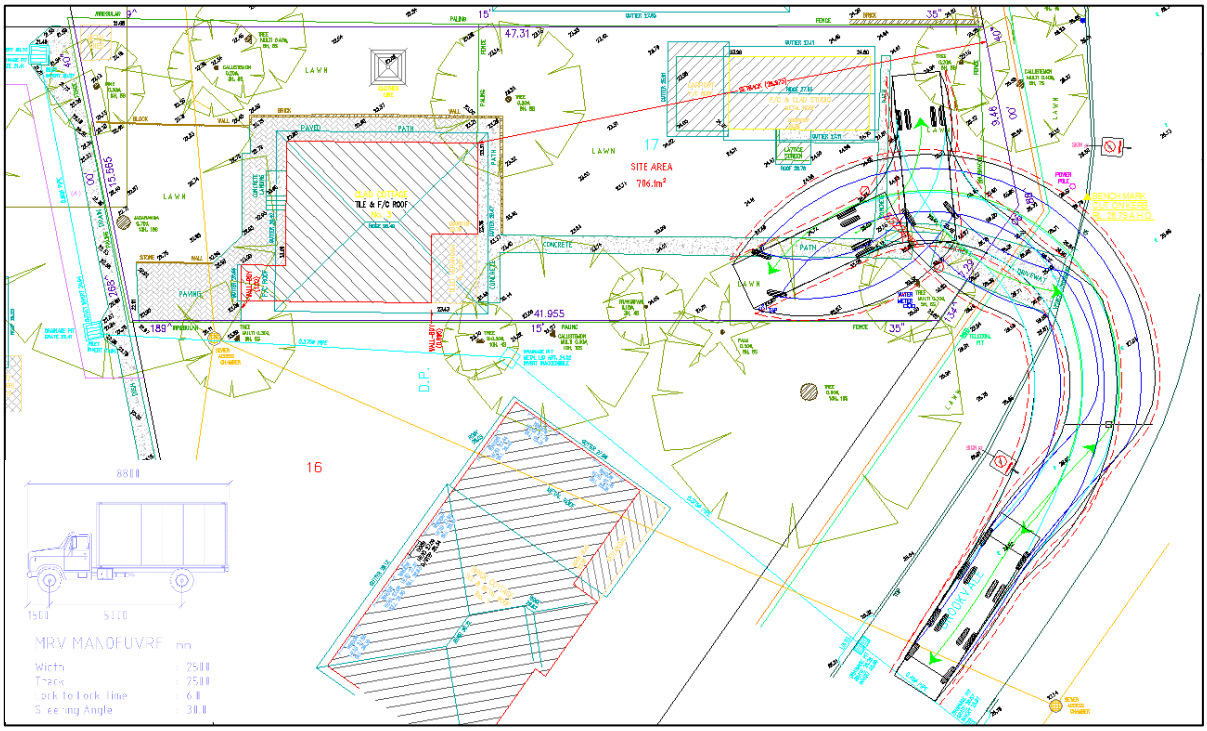


Figure 8 – Swept path of an MRV into and out of the site

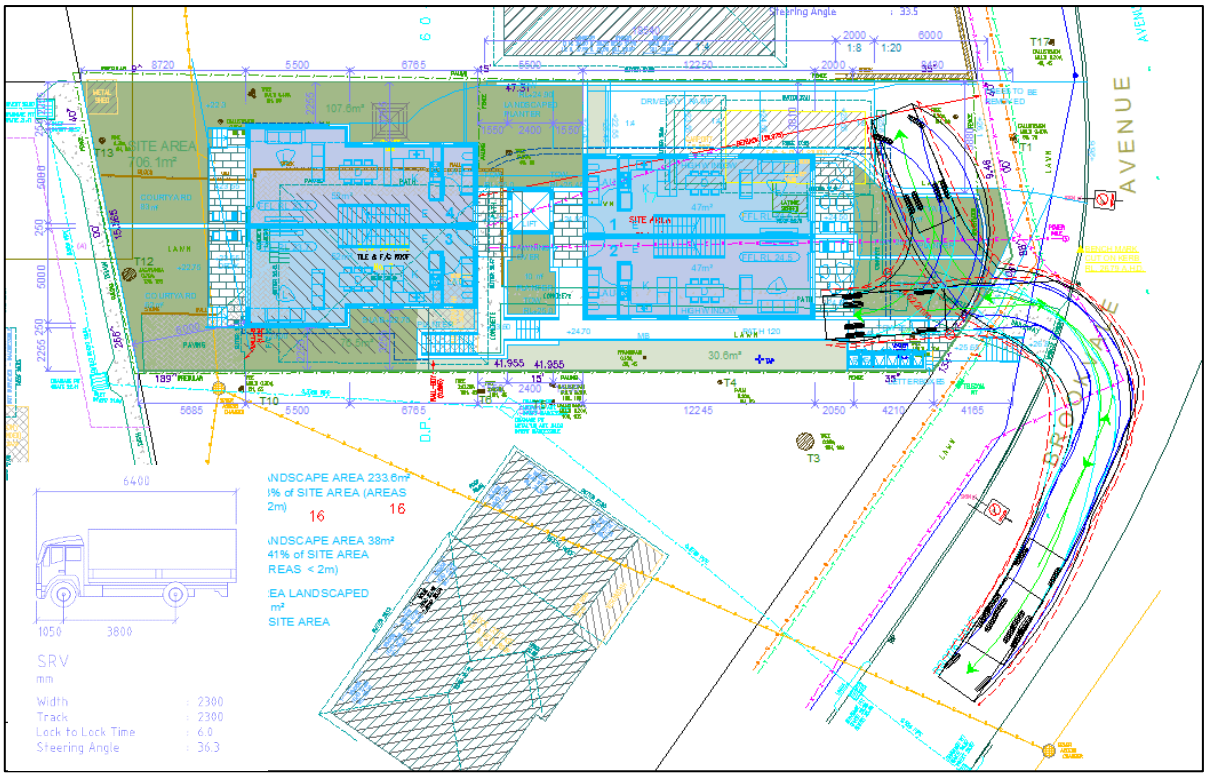


Figure 9 – Swept path of an SRV into and out of the site

3.3 ROAD & FOOTPATH CLOSURES

No road or footpath closures are required during the demolition, excavation, or construction stages.

3.4 CONSTRUCTION VEHICLE MANAGEMENT

Table 3 summarises the anticipated traffic generation levels (for each vehicle type) during various stages of construction. These are estimates only.

Table 3 - Construction vehicle generation summary

Stage	Largest Anticipated Construction Vehicle[2]	Peak Construction Vehicle Volumes
Demolition	Waste Skip/ B99/ SRV	10-20 cars and/or trucks /day
Excavation	SRV / MRV	20-30 trucks /day
Construction (including fit-out)	SRV / MRV (concrete pump) / HRV	20-30 cars or trucks /day

3.5 CONSTRUCTION VEHICLE HAULAGE ROUTES

The routes for transport to and from the site shall generally be via the shortest possible route to the nearest arterial road. **Figure 10** outlines the nominated haulage routes to/from the site to the external road network. All construction vehicles will use Pittwater Road and Old Pittwater Road to access the site/work zone at Brookvale Avenue.

3.6 CONSTRUCTION VEHICLE MOVEMENT TIMES

Figure 10 shows the sections of the haulage route to which a school zone applies between 8-9.30am and 2.30-4pm on weekdays (speed limit of 40 km/h). As such, construction vehicle movements should be avoided (by way of scheduling them ahead of time) during these times.

[2] Heavy vehicles classes are based on AS 2890.2 specifications

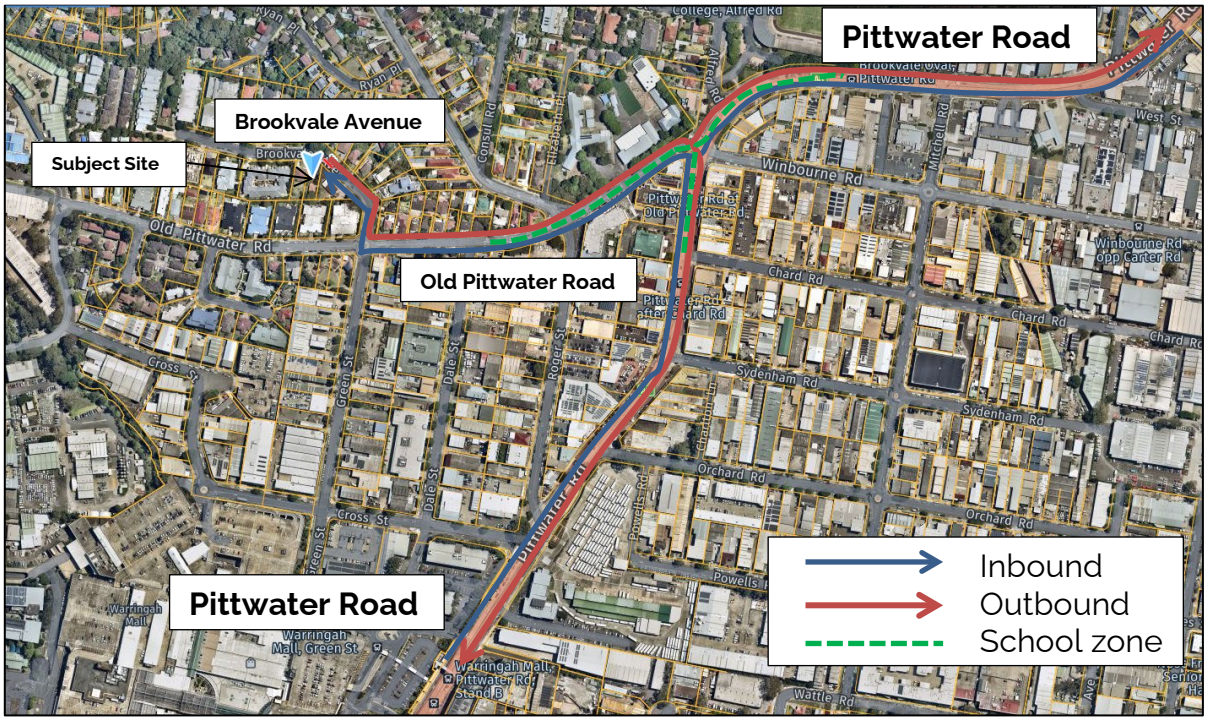


Figure 9 – Nominated haulage routes.

3.7 BUILDER PARKING

There is no formal off-street parking for contractors at the initial stages. To minimise local disruptions, the Builder shall encourage employees and sub-contractors to:

- If using kerbside public parking on Brookvale Avenue, park safely and considerately (i.e., with attention to the relevant time restrictions, away from driveways and close to the kerb).
- Adopt parking reduction measures, such as:
    - Using public transport and active transport (plenty of bus services operate within easy walking distance of the site as outlined in **Section 2.1**.
    - Allocation of securable overnight equipment and personal storage within the site.
    - Encouragement of carpooling.
- All measures adopted by the Builder to encourage reduced private vehicle usage shall be communicated regularly during toolbox talks and site inductions.

Once the basement level of the building has been constructed, the car spaces can be used by the contractors for parking their vehicles.

3.8 SITE INDUCTIONS

Site inductions are to be held:

- On a weekly basis for all builder employees.
- Prior to any new employee or sub-contractor commencing work
- As needed to address any arising matters

These inductions are to include:

- Car reduction measures as described in **Section 3.7**
- Truck haulage routes and times as described in Section 3.5 and **Section 3.6**
- Site access requirements as described in **Section 3.2**
- All general safety and operational measures as outlined in this CTMP.

3.9 CONSTRUCTION SAFETY MEASURES

3.9.1 SITE SECURITY

The site shall be secured with builders' fencing, which shall sit within the property boundary. During operational hours, site security shall be constantly monitored by the Site Manager. Outside operational hours, all access points shall be securely locked to prevent unauthorised access.

3.9.2 PEDESTRIAN SAFETY

As construction activities will be largely contained on-site, risks to pedestrians shall be minimal, and manageable through operational measures. Such measures include:

- Any heavy vehicles entering and exiting the site shall be done under the supervision of a traffic controller or spotter, to ensure that the area is clear of pedestrians,
- The public land around the construction site shall be kept in a safe and tidy state, clear of debris or construction materials,
- Pedestrian footpaths shall always remain unobstructed. Where any lifting of goods must occur in public (i.e., concrete pours, steel delivery), traffic controls shall be in place to manage pedestrians in accordance with AS1742.3.

- Relevant permits shall be obtained for the operation of the plant on Council land, or the placement of equipment such as skips, and all relevant conditions of those permits shall be complied with.

3.9.3 SAFE WORK METHOD STATEMENT

Safe Work Method Statements shall be prepared by the nominated builder in accordance with WHS Legislation for all high-risk activities to be conducted in the workplace.

3.9.4 REVERSING HEAVY VEHICLES

Any reverse manoeuvres performed by heavy vehicles in public shall be supervised by a spotter and/or a qualified traffic controller if stopping traffic. Construction vehicles shall be held to enable pedestrians, cyclists, and vehicles to pass safely.

3.9.5 OPERATION OF PLANT IN PUBLIC

The use of any plant in public shall be subject to obtaining a permit from Council and shall be supervised by a dedicated spotter at all times. Where pedestrians are present, the plant shall be held until they are safely past the site. Whilst not anticipated, pedestrians may be held for brief periods if there is an immediate safety hazard present.

3.9.6 STORAGE OF MATERIALS AND EQUIPMENT

Materials and equipment shall be stored on-site. No materials and equipment shall be stored on public land without the relevant occupation permits from Council.

Further, temporary truck standing/ queuing locations in a public roadway/ domain in the vicinity of the site are not permitted unless approved by Council prior.

3.9.7 TRAFFIC MANAGEMENT AND TRAFFIC CONTROL PLANS

The Builder shall ensure all traffic management is implemented in accordance with AS1742.3:2019, in addition to any relevant conditions imposed by Council. **Appendix A** provides an indicative Traffic Guidance Scheme that can be implemented by the Builder.

3.9.8 SITE VISITORS

Visitors may be allowed on-site, subject to holding a White Card, and are equipped with all essential PPE gear. All site visitors shall be inducted into the site's safety procedures prior to entering the site.

3.9.9 AIR & DUST

To control dust and other particular matter in the air, the nominated builder shall take the following steps throughout the construction works:

- Ensure any loose material stockpiles are securely covered,
- Install dust screens around the perimeter of the site,
- Regularly water spray/hose down any exposed earthworks,
- Construction vehicles that have been exposed to mud/dust shall be hosed down prior to leaving the construction site.

To minimise diesel emissions, the builder shall endeavour to utilise construction vehicles equipped with catalytic converters and exhaust filters where applicable, and ensure vehicles are properly maintained. The nominated builder shall be bound by all relevant Environmental Protection Agency (EPA) standards in this regard.

3.9.10 NOISE AND VIBRATION

The nominated builder shall abide by the guidelines outlined in EPA's 'Interim Construction Noise Guidelines' as far as is practicable.

3.9.11 STORMWATER

The nominated builder shall provide details of stormwater management and sediment controls to the Council prior to commencing works. These details must be to Council's satisfaction.

3.9.12 SANITARY AMENITIES

Sanitary amenities shall be made available on-site at all times for the use of employees, builders and site visitors, including toilets and washing stations.

3.9.13 FIREFIGHTING MEASURES

The nominated builder shall provide detailed firefighting measures to Council prior to commencing works. These details must be to Council's satisfaction.

3.9.14 EXTERNAL LIGHTING AND SECURITY ALARMS

No external lighting and security alarms are proposed at this time.

3.10 ROADWAY ASSET MANAGEMENT

The roadway (including the footpath) must be kept in a serviceable condition for the duration of construction. If required, at the direction of the Council, the builder shall undertake remedial treatments such as patching at no cost to Council.

3.11 EMERGENCY VEHICLES

The site shall be clearly posted with emergency contact details, and the owners of adjacent developments have a notification with contact numbers available twenty-four hours.

Road and property access shall always remain accessible to Emergency Services.

3.12 STAKEHOLDER COMMUNICATIONS

The Builder shall notify the Principal and other Certifying Authorities, including NSW Police and Local Council, as required, and provide notice to the neighbouring properties (by way of a memo placed in the letterbox outlining the works), emergency services (via email), and Council (via email or in-person), before the commencement of works.

The notice to adjoining property owners should include timeframes for the completion of each phase of the development/construction process. It must also specify that a minimum of fourteen (14) days notice must be provided to adjoining property owners prior to the implementation of any temporary traffic control measure.

Any objections or concerns received by the builder shall be managed by the nominated Site Manager in the first instance. Where reasonably able to do so, the Site Manager will address such concerns in goodwill.

Authorities such as Police and Council shall be contacted for any matters relevant to their respective areas of care.

Attachment A – Traffic Guidance Scheme

GENERAL NOTES

1. This drawing is not to scale
2. This drawing is to be read in conjunction with AS 1742.3 & TCAWS 2022
3. Non applicable existing signage shall be covered
4. All signage distance shall comply with AS 1742.3 & TCAWS 2022.
5. In accordance with TCAWS 2022 traffic controllers are to assist pedestrians with movement through or around the worksite as required
6. Signage shall be placed on the side of the road adjacent to the traffic flow
7. Removal of the delineation, tapers & signs should be undertaken in the reverse order of erection progressing outwards from the work area

DIMENSION "D"

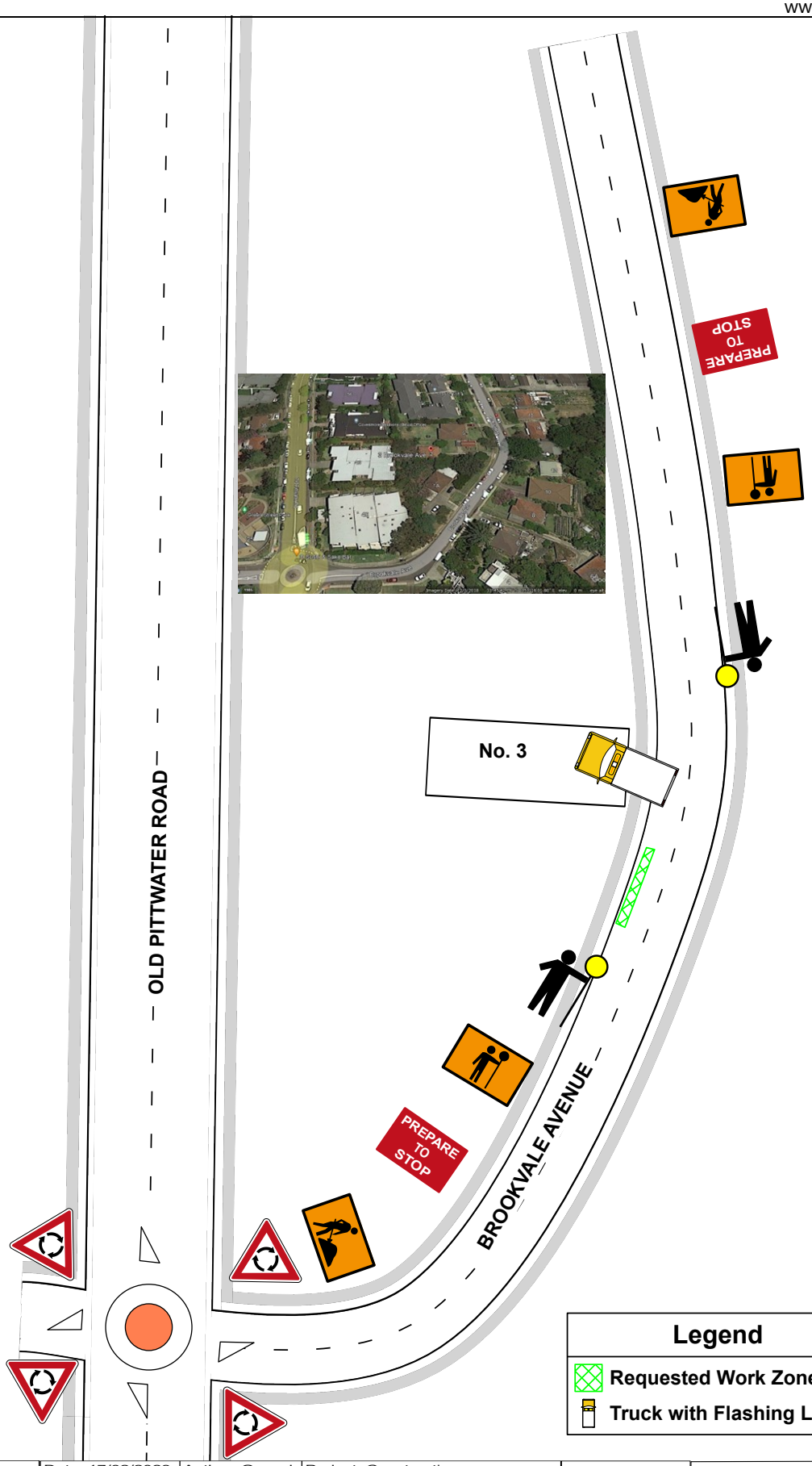
SPEED OF TRAFFIC KM/H	DIMENSION "D" M
45 or Less	15-40
46-55	15-60
56-65	45-70
GREATER THAN 65KM/H	EQUAL TO POSTED SPEED

TOLERANCES

POSITIONING OF SIGNS. MIN 10% LESS THAN THE DISTANCE OR LENGTHS GIVEN. MAXIMUM 25% MORE THAN THE DISTANCE OR LENGTHS GIVEN. SPACING OF DELINEATING DEVICES MAXIMUM 10% MORE THAN THE SPACING GIVEN. NO MINIMUM

RECOMMENDED TAPER LENGTH

APPROXIMATE SPEED OF TRAFFIC KM/H	TRAFFIC CONTROL AT BEGINNING OF TAPER	LATERAL SHIFT TAPER	MERGE TAPER
45 OR LESS	15	0	15
46-55	30	15	30
56-65	N/A	30	60
66-75	N/A	70	115
76-85	N/A	80	130
86-95	N/A	90	145
96-105	N/A	100	160
>105	N/A	110	180



Legend

- Requested Work Zone
- Truck with Flashing Lights

REVISIONS	REV	DATE	DESCRIPTION

Date: 17/02/2023	Author: Gerard	Project: Construction	
CLIENT:	Fernway Engineers	OPERATION:	Stop/Slow TC
ROAD NAME:	3 Brookvale Avenue	AUTHOURITY:	Council
SUBURB:	Brookvale	SPEED REDUCTION:	N/A
WORK TERM:	Short	NC STREET:	Old Pittwater Rd
ROAD TYPE:	2 Lane 2 Way	PLAN No:	FE001
POSTED SPEED:	50km/h	Author No. 0052318112 Exp.19/03/2023	

EA Traffic Solutions Pty Ltd take NO responsibility for this TCP when implemented by others.

PLAN NOT TO SCALE

N

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