

Deicorp Projects (Tallawong Station) Pty Ltd

Construction Pedestrian and Traffic Management Plan

Tallawong Station Precinct South – Site 2

28 May 2022

ENGINEERING PLANNING SURVEYING CERTIFICATION

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Planning Secretary's Environmental Assessment Requirements Section 4.12(8) of the *Environmental Planning and Assessment Act 1979* Schedule 2 of the Environmental Planning and Assessment Regulation 2000

Application Number	SSD-10425
Project Name	Site 2 – Detailed Development Application - Tallawong Station Precinct South
Location	1-15 and 2-12 Conferta Avenue, Rouse Hill within Blacktown City Council
Applicant	Deicorp Projects (Tallawong Station) Pty Ltd
Date of Issue	17/05/2022

Requirement	Relevant Report Section
Construction Pedestrian and Management Plan (including construct The EIS shall include a Construction Pedestrian and Management Pla consultation with TfNSW, providing:	
Identification of construction traffic-related impacts and development of mitigation measures.	Section 3
Haulage movement numbers and transport routes between the site and the major road network.	Section 3.6 and Appendix B.
An assessment of road safety at key intersections and locations subject to pedestrian / vehicle / bicycle conflicts.	Road Safety Audit (construction stage) Appendix D.
Detailed travel management strategy for construction staff to minimise their commuter trips.	A Green Travel Plan has been prepared and submitted under separate cover.
Construction car parking strategy.	Section 3.4
Pedestrian and cyclist links / routes being maintained.	Refer to Section 3.6 Table 2
Independent road safety audits on construction-related traffic measures.	Road Safety Audit (construction stage) Appendix D.
Measures to account for any cumulative activities / work zones operating simultaneously.	Refer to Table 3.4
Independent road safety audits undertaken for all stages of further design development. Any issues identified by the audits will need to be closed out to the satisfaction of the relevant road authorities.	Road Safety Audit (construction stage) Appendix D.

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Appendix A – Site Management Plans

Appendix B - Vehicle Movement Plan (VMP)

Appendix C – Traffic Control Plan (TCP)

Appendix D – Swept Path Analysis

Appendix E – Road Safety Audit (Construction stage)

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1 Introduction

Barker Ryan Stewart has been engaged by Deicorp Projects (Tallawong Station) Pty Ltd to prepare a Construction Pedestrian and Traffic Management Plan (CPTMP) to detail traffic management procedures and systems for the Site 2 for the proposed mixed-use development at Tallawong Station Precinct South in accordance with the requirements of:

- North-West Growth Centre Development Control Plan;
- TfNSW "Traffic Control at Worksites Manual 2018"; and
- AS1742.3 2009 "Manual of uniform traffic control devices"

The purpose of this plan is to ensure the safe and controlled movement of traffic at the site during the demolition, excavation and building works to address potential traffic, access, car parking and pedestrian issues generated by the works.

In preparing this CPTMP the following items have been considered/undertaken:

- An inspection of the site and surrounding road network to determine any constraints that may impact on the safe and controlled movement of traffic during demolition, excavation and building works.
- Determination of appropriate traffic/haul routes,
- Provision of a swept path analysis to ensure safe access/egress from the site,
- Traffic control plan (TCP) and Vehicle Movement Plan (VMP),
- A brief outline of the excavation and building works in relation to traffic management, and
- A Road Safety Audit for the construction stage was undertaken for Site 1 and 2 works previously. Recommendations of that audit have also been incorporated into this CPTMP.

2 **Project Overview**

2.1 **Proposed Development**

The NSW Department of Planning, Industry and Environment has issued conditions of consent for a State Significant Development (SSD - 10425) for the construction of a mixed-use development at 1-15 and 2-12 Conferta Avenue, Rouse Hill (Tallawong Station South precinct) comprising three levels of basement carparks, 5 residential towers and ground floor retail space as outlined in Table 2.1 below.

The proposal also includes construction of new roads and public open space elements as provided in the Architectural Plans submitted with the EIS.

Table 2.1: Proposed Development

Land Use		Yield
Residential	1 Bedroom	252 units
	2 Bedroom	682 units
	3 Bedroom	53 units
	Total	987 units
Retail		6,000m ²
Commercial		3,000 m ²

The location of the site is shown below in Figure 2.1.



Figure 2.1: Locality Plan Showing the Site of the Full Development

2.2 **Overall Building and Construction Works**

The overall development includes the excavation of the site and construction of the new buildings and can be broken into the following components.

- Excavation;
- Shoring of the excavation;

- Piling; and
- The construction of the mixed-use development, car parking (and waste collection area), landscaping and associated facilities.

Approved construction hours are as follows:

Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:

- (a) between 7am and 6pm, Mondays to Fridays inclusive; and
- (b) between 8am and 1pm, Saturdays.

No work may be carried out on Sundays or public holidays.

Activities may be undertaken outside of these hours if required:

(a) by the Police or a public authority for the delivery of vehicles, plant or materials; or

(b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm.

Notification of such activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:

- (a) 9am to 12pm, Monday to Friday;
- (b) 2pm to 5pm Monday to Friday; and
- (c) 9am to 12pm, Saturday.

2.3 Overall Project Program

The construction of Site 2 will be split into four stages, beginning from Stage 2 (Stage 1 relates to Site 1 of the development).

Stage 2 involves the construction and dedication of public roads and footpaths

Stage 3 includes the construction of Site 2A, the north-west tower.

Stage 4 includes the construction of Site 2D, the south-west tower.

Stage 5 is the concurrent construction of Site 2B, C and E, the remaining towers.

These stages are outlined in Figure 2.2 below.

Tallawong Station Precinct South – Site 2 Construction Pedestrian and Traffic Management Plan

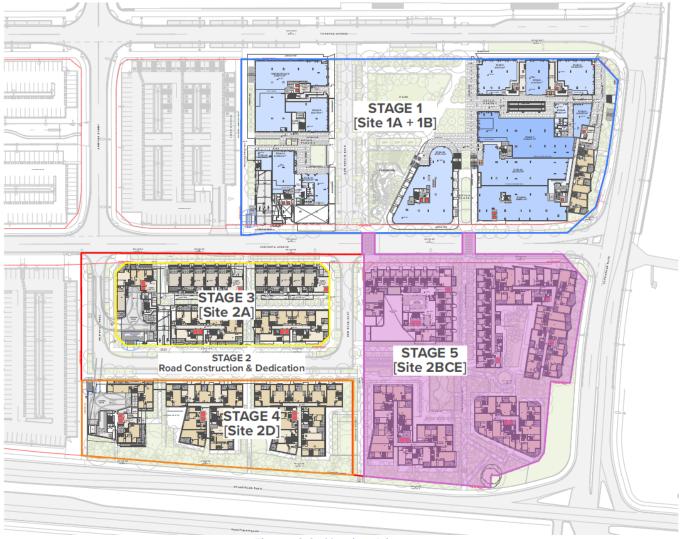


Figure 2.2: Staging Diagram

The project duration for the excavation and building works are outlined below.

STAGE	ESTIMATED START DATE	ESTIMATED END DATE	ESTIMATED DURATION	Estimated Construction Traffic Volumes
Stage 2 Road construction works	09/05/2023	17/06/2023	1 - 2 months	Average 10 truck movements per day; and Maximum 35 car movements per day (1.5 persons per vehicle)
Stage 3 Excavation	30/07/2022	08/02/2023	6 - 7 months	Average 20 truck movements per day; and Maximum 35 car movements per day (1.5 persons per vehicle)
Stage 3 Building Works	25/01/2023	15/04/2024	15 - 16 months	Average 20 truck movements per day; and Maximum 125 car movements per day (1.5 persons per vehicle)
Stage 4 Excavation	06/10/2022	09/05/2023	7 months	Average 20 truck movements per day; and Maximum 35 car movements per day (1.5 persons per vehicle)
Stage 4 Building Works	21/04/2023	13/ 07/ 2024	15 - 16 months	Average 20 truck movements per day; and Maximum 125 car movements per day (1.5 persons per vehicle)
Stage 5 Excavation	30/07/2022	09/05/2023	6 - 7 months	Average 20 truck movements per day; and Maximum 35 car movements per day (1.5 persons per vehicle)
Stage 5 Building Works	25/01/2023	15/04/2024	15 - 16 months	Average 20 truck movements per day; and Maximum 125 car movements per day (1.5 persons per vehicle)

It is noted that the estimations of traffic and truck generation includes the concurrence and overlap occurring.

2.4 Site 2 – Works

This CPTMP addresses the/ traffic and pedestrian management issues associated with the Stages 2, 3, 4 and 5 works as shown in the Site Management Plan provided at **Appendix A**.

2.5 Other Developments

A review of current approved and existing developments along Tallawong Road and Cudgegong Road within the vicinity of the subject site has identified the following:

- The Sydney Metro Trains Facility at the corner of Schofields Road and Tallawong Road. This work • involves the expansion of the current facility to accommodate additional trains to meet the operational and maintenance requirements of Sydney Metro City and Southwest.
- Grassland Street, Rouse Hill. Two residential flat buildings comprising 215 apartments. •
- 172 Tallawong Road, Rouse Hill. Four residential flat buildings comprising 82 apartments. •
- 122 Cudgegong Road, Rouse Hill. Two-storey Place of Worship with capacity for 400 people. •
- 116 Cudgegong Road, Rouse Hill. 51 lot residential subdivision. •

3 Existing Road Network

Schofields Road

Schofields Road is an urban arterial road that provides a major connection between Rouse Hill town centre to the east and Schofields suburb to the west. It generally consists of two lanes in each direction (3.1m wide) separated by a central concrete median with additional turning lanes at intersections to increase turning capacity. Shared pedestrian / cyclist paths are provided on each side of the road. The posted speed limit is 70km/hr. Intermittent bus lanes are included within intersections.

Two-way peak hour traffic volumes on Schofields Road are currently in the range of 1,900 to 2,000 vehicles per hour and is operating at LoS A.

Cudgegong Road

Cudgegong Road is a local road that provides access from Schofields Road at the southern end to Guntawong Road at the northern end of the road. It generally has one 3.2m wide lane in each direction and it connects with Schofields Road at a major three-way signalised intersection. A shared pedestrian / cyclist path is provided along the western side of the road. The posted speed limit on Cudgegong Road is 50km/hr.

Two-way peak hour traffic volumes on Cudgegong Road are currently in the range of 400 to 500 vehicles per hour and is operating at LoS B.

Tallawong Road

Tallawong Road is a local road that provides a connection between Schofields Road at the south and Guntawong Road to the north. Generally, it has a single 3.1m wide lane of traffic in each direction and forms a signalised intersection with Schofields Road. Shared pedestrian / cyclist paths are provided on each side of the road. The posted speed limit is 50km/hr.

Two-way peak hour traffic volumes on Tallawong Road are currently in the range of 600 to 700 vehicles per hour and is operating at LoS B.

Conferta Avenue

Conferta Avenue is a local road running parallel with Schofields Road along the northern edge of Lot 293 and the southern edge of Lot 294. It connects Cudgegong Road to the east and Tallawong Road to the west and also provides access to the southern section of the commuter carpark. It has a single 3.2m wide lane of traffic in each direction. Each carriageway has a parking lane delineated by an edge line and the posted speed limit is 50km/hr.

Themeda Avenue

Themeda Avenue is a two-way local road consisting of 3.8m wide single lanes with 2.3m on-street parking on both sides of the road. The on-street parking has a 2-Hour time limit outside of morning and afternoon peak periods. It is adjacent to Tallawong metro Station and connects Cudgegong Road to the east and Tallawong Road to the west. Shared pedestrian / cyclist paths are provided on each side of the road. The posted speed limit is 50km/hr.

Aristida Street

Aristida Street is a two-way local road consisting of 3.8m wide lanes. It connects Implexa Parade to the north and Conferta Avenue to the south. It is subject to a speed limit of 50km/hr.

4 Traffic Management

4.1 General

Traffic management for the site shall be configured to ensure that workers can undertake, excavation and building works safely at all times by separating workers and public road users. Contractors are responsible for the excavation work and the Construction Manager is responsible for construction management. The Construction Manager shall establish and maintain the Construction Pedestrian and Traffic Management Plan for this project and shall be responsible for its ongoing effectiveness, including the control of all quality, environmental and safety aspects that may apply to traffic control measures.

The TCP for this project shall be implemented by appropriately qualified and authorised traffic controllers only. Traffic controllers must have completed TfNSW accredited courses for traffic controllers and must wear yellow vest with the words "Authorised Traffic Controller". Reflective white overalls with reflective bands must be worn at night.

All signs and devices shall be placed in accordance with the TCP prior to works starting and in clear view of public road users to inform and guide road users to pass the site. All devices and signs shall then be removed upon the completion of the works.

The road reserves bordering the site must not be obstructed by any materials, vehicles, refuse, skips or the like without prior approval of the consent authority.

4.2 Potential Traffic Impacts

A summary of potential traffic impacts for the site are listed below:

- The existing surrounding residential dwellings;
- Potential impact on local commercial and residential road users including those using Tallawong Station and the associated public car parking areas;
- Other construction sites within the vicinity of the site;
- Duration of the project;
- Short term activities such as floating machinery to the site;
- Access, egress and parking in and near the worksite by employees and visitors;
- Pedestrian movements;
- Heavy vehicles parking in and around worksite;
- Vehicles depositing spoil on public roads;
- Loading and unloading, including construction zones;
- Truck/vehicle turning movements;
- Disruption of established traffic movements or patterns;
- Traffic interference in peak times (morning and afternoon);
- Interference to public transport services;
- Existing traffic volumes on the surrounding road network.

4.3 Vehicle Movement Plan

The new road to be constructed will form the entry/exit for construction vehicles for the Site 2 works (Stages 2, 3, 4 and 5). It is not proposed to have a works zone within Conferta Avenue for the Site 2 works.

The Vehicle Movement Plan at **Appendix B** shows that heavy vehicles will access the site from the east and west using Schofields Road, Cudgegong Road and Conferta Avenue.

Heavy vehicles will exit the site via Conferta Avenue and travel westward towards Tallawong Road, then turn left or right into Schofields Road.

These routes for heavy vehicles will minimise the use of local streets by construction traffic.

Note: Construction vehicles will not be permitted to use Themeda Avenue due to the potential conflicts with vehicles and pedestrians accessing Tallawong Station.

A swept path analysis was undertaken for a 19 metre Articulated Vehicle (AV) and a 12.5 metre Heavy Rigid vehicle (HRV) to check that these vehicles can safely manoeuvre to and from the site through the road network and enter the construction site via Conferta Avenue and leave the site via Conferta Avenue.

The swept path analysis is contained within **Appendix D** of this report.

4.4 Traffic Control Plan

The Traffic Control Plan (TCP) within **Appendix C** shows the proposed traffic control measures to be implemented in the road network including the arrangements for warning and guiding traffic and pedestrians around and/or past the worksite.

In the implementation of the TCP, the following steps should be undertaken:

- 1. Place all signs, devices and control measures;
- 2. Complete a Location Risk Assessment (as per Traffic Control at Work Sites Manual) and identify any modifications that may be required;
- 3. Drive through and around the site to make sure the TCP is effective;
- 4. Record implementation, risk assessment and any modifications; and
- 5. Monitor conditions and record observations.

Where required the TCP may be changed/updated as necessary to reflect changes in traffic flow or work practices by an appropriately qualified traffic control designer only.

Minor modifications to the TCP which have been identified in a Location Risk Assessment can be made by a person with a current Prepare Work Zone TMP qualification. Should the TCP be changed, all relevant permits and details are to be forwarded to the PCA/Council as required.

Note that the TCP does not relate to works within the road reserves. These TCP's will be prepared once the Public Infrastructure Engineering Design plans have been approved by the Road Authorities.

4.5 Traffic Management Strategy

Excavation and Building works

Construction vehicles will access the site from Schofields Road, Cudgegong Road and Conferta Avenue. Construction vehicles exiting the site will travel westward along Conferta Avenue and turn left into Tallawong Road for access back onto Schofields Road.

No construction vehicles will be permitted to utilise Themeda Avenue for access to or egress from the site.

The Site Management Plan at **Appendix A** shows the locations for the entry and exit of construction vehicles from and back into Conferta Avenue.

The proposed new road will act as access for all these vehicle movements to service the site. As a result there is no proposed work zones in Conferta Avenue. See Traffic Control Plan in **Appendix C.**

It is estimated that the excavation and building works will generate an average of 20 truck movements per day and a maximum of 35 car movements per day during the excavation and 125 car movements per day during the works (based on an average of 1.5 persons per vehicle). These daily volumes equate approximately 15 to 20 vehicle trips per hour during AM and PM peak periods.

Heavy vehicle movements are to be minimised during the commuter peak periods where possible to minimise potential conflicts with commuter traffic and pedestrian movements to and from the commuter car parks.

In addition, it is recommended that Traffic Controllers stop pedestrian movements briefly across Conferta Avenue between Aristada Street and Tallawong Road while heavy vehicles are exiting the site along Conferta Avenue.

<u>Risk Management</u>

Table 4.1 on the following page summarises the identified potential traffic impacts for this worksite and describes the control measures to be implemented to address each impact.

The local community, road users and other stakeholders shall be kept informed of changed traffic conditions where required by Council.

Notification must be provided to affected property owners prior to the implementation of any temporary traffic control measures.

4.6 Impact of Construction Traffic

The volume of construction traffic that will be generated by building works has been estimated at 15 to 20 vehicles per hour during AM and PM peak periods.

The other developments in the vicinity of the site that will be at various stages of construction during the Site 2 works will generate additional traffic to the road network, particularly Tallawong Road and Cudgegong Road. However, these roads are operating at a high level of service (Los B) with ample spare capacity to cater for additional construction traffic.

These roads would be capable of carrying an additional 500 to 600 vehicles per hour which is well above the cumulative construction traffic volumes that will be generated by the developments in the area.

4.7 Construction Parking Strategy

On-site parking will be provided for construction staff and Deicorp employees as shown on the Site Management Plan at **Appendix A.** Construction staff will also be encouraged to use public transport (Sydney Metro and Buses) to reduce the number of vehicles accessing the site.

Staff and contractor parking will not be permitted within the Tallawong Station commuter car parks or the residential areas to the south of Schofields Road.

4.8 Road Safety Audit (Construction stage)

A Road Safety Audit has been conducted in accordance with the procedures set out in the Austroads Guide to Road Safety Part 6A: Implementing Road Safety Audits (2019) for Site 1 and Site 2 works. A site inspection was conducted on Tuesday 31 March 2020 and the details contained within the Construction Pedestrian and Traffic Management Plan for the project reviewed to identify issues that may affect road user safety and other relevant issues.

The recommendations of the Road safety Audit have been carried over into this CTPMP. The Road Safety Audit (Construction stage) is attached at **Appendix E** for reference.

Tallawong Station Precinct South – Site 2

Construction Pedestrian and Traffic Management Plan

Potential Impact	Impact Assessment	Control Measure
Impacts on the commercial, retail and residential developments in the vicinity of the site.	Heavy vehicle traffic movement through the following local streets: • Tallawong Road • Conferta Avenue	Heavy Vehicle Movements inbound to the site from Cudgegong Road and Conferta Avenue. All outbound heavy vehicles will exit via Conferta Avenue and Tallawong Road. TCP's will be provided informing road users of heavy vehicles entering the site.
Duration of project	Cudgegong Road Schofields Road	It is proposed to close the section of Conferta Avenue across the frontage of the site to reduce conflicts between construction vehicles and private vehicles.
Floating machinery to the site	In/out of the site.	Swept path analysis shows turning movements at critical intersections are satisfactory (See Appendix D). All loading and unloading will be done within the designated area on site.
Construction Parking Strategy.	Possible impact on Tallawong Train Station and the associated public car parks and residents and visitors in the vicinity of the site.	Construction workers will park on-site and use Metro Train services and/ or other local public transport options. Staff and contractor parking is not to occur within the commuter car parks or the residential areas to the south of Schofields Road.
Travel Management Strategy	Reduce the impact on construction parking by minimising commuter trips.	Where possible, workers will be encouraged to use nearby Metro Station services and/or other local public transport services.
Vehicles leaving the site	Depositing spoil on roadways	Truck shaker grids will be installed at the Conferta Avenue entry/exit point for erosion sediment control and all loads are to be covered. Where sediment is tracked onto the road it is to be swept up immediately.
Pedestrian management	Pedestrians walking around construction zone	It is proposed to close the section of Conferta Avenue across the frontage of the site to reduce conflicts between construction vehicles and pedestrians. Pedestrians will also be protected by temporary construction fencing and barriers as required.
Disruption of established traffic movements or patterns, Traffic interference in peak times (morning and afternoon)	Heavy vehicle traffic through the following local streets, particularly in morning and afternoon peaks with residents entering and exiting: • Tallawong Road • Conferta Avenue • Cudgegong Road • Schofields Road	Truck movements will be kept to a minimum during local peak traffic AM/PM periods to ensure that existing traffic flows are not disrupted.
Interference to public transport services,	Traffic movements blocking bus routes	Access to and from the site is off Conferta Avenue and will have traffic control devices and controllers in place to minimise disruption to bus routes during the Site 2 works.

Table 4.1: Traffic Management Strategy

5 Monitoring and Performance

5.1 General

Regular monitoring of the performance of the Construction Pedestrian and Traffic Management Plan (CPTMP) to confirm the effectiveness of methods, equipment and controls shall be undertaken. This shall also include review of location and effectiveness of traffic management and TCP signposting. Observations shall be recorded by the supervisor/contractor's and opportunities for improvement recommended to the Project Manager.

5.2 Consultation and Records

The following records shall be kept as evidence of the design, implementation, and performance of the CPTMP:

1. Qualifications

- RMS accredited Traffic Control Plan designers
- RMS accredited Traffic Controllers

2. Principal Contractor's meetings minutes with Principal Contractor(s) from adjoining sites if required.

- 3. TCP approval
- 4. Temporary speed zone approval (if applicable)
- 5. Community consultation

The community would be notified in advance of proposed road and pedestrian network changes through appropriate forms of community notification.

A number of communications tools will be used to notify the community of any upcoming changes to traffic conditions that have the potential to impact them, including:

- Monthly and specific notifications;
- Traffic alert emails;
- Variable Message Signs;
- Static signage; and
- Advertisements.
- 6. Location Risk assessment and any modifications
- 7. Confirmation of implementation and start of works
- 8. Monitoring reports
- 9. Incident reports and corrective action

6 Conclusion

This Construction Pedestrian and Traffic Management Plan details traffic management procedures and systems for the for the Site 2 works for the proposed mixed-use development at 1-15 and 2-12 Conferta Avenue, Rouse Hill.

Potential traffic impacts have been identified locally with control measures specified to address these impacts.

The recommendations of the Road Safety Audit (Construction stage) have been incorporated into the Traffic Control Plans.

A Traffic Control Plan (TCP) has been prepared showing appropriate traffic control devices to be implemented for the duration of the proposed works.

A Vehicle Movement Plan (VMP) has been prepared showing the proposed truck haulage and delivery routes to and from the site.

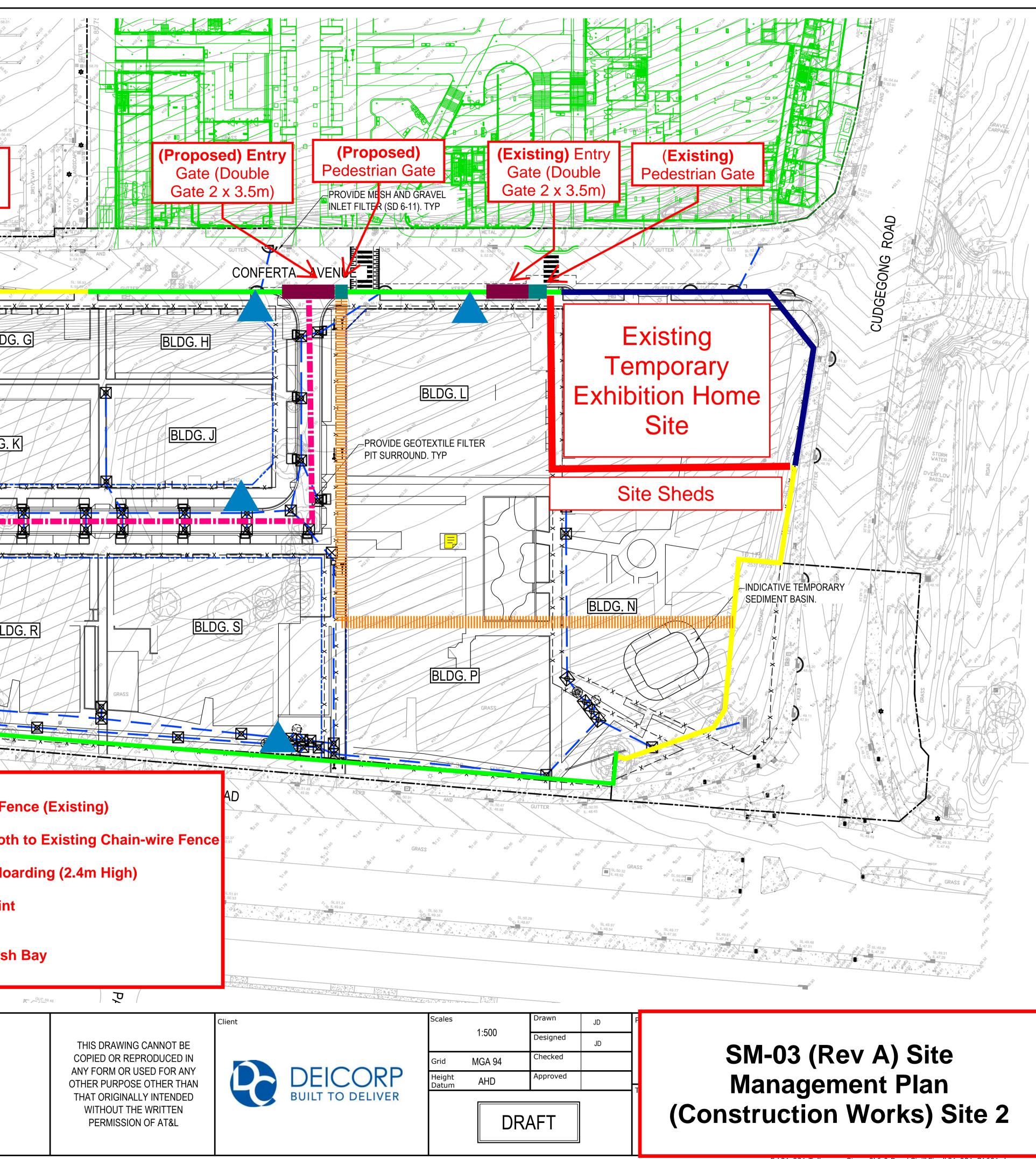
A swept path analysis has been undertaken for the site and shows that articulated vehicles (AV) and Heavy Rigid Vehicles (HRV) can safely manoeuvre in and out of the site to/from Conferta Avenue.

This Construction Pedestrian and Traffic Management Plan has been prepared so as to mitigate the potential negative impacts of the proposed Site 2 works on the surrounding road network, public transport infrastructure and pedestrian movements.

Appendix A Site Management Plan

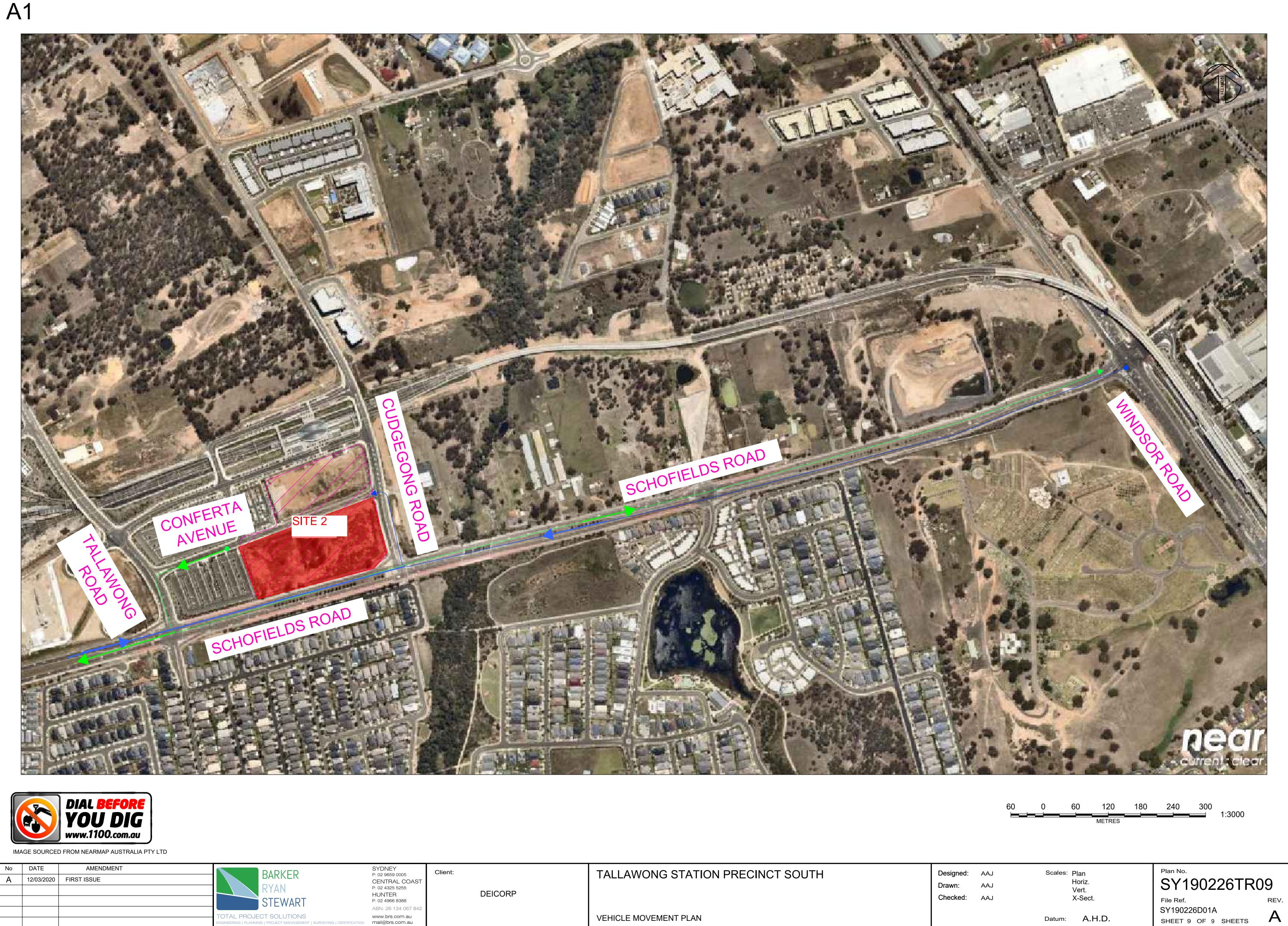
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Appendix B Vehicle Movement Plan





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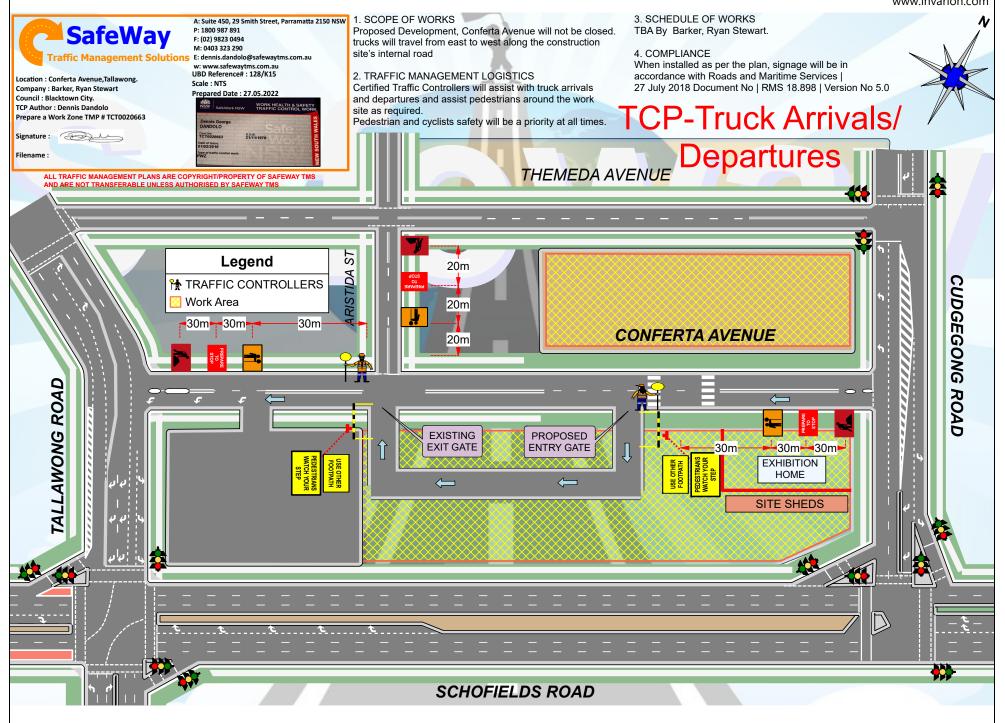


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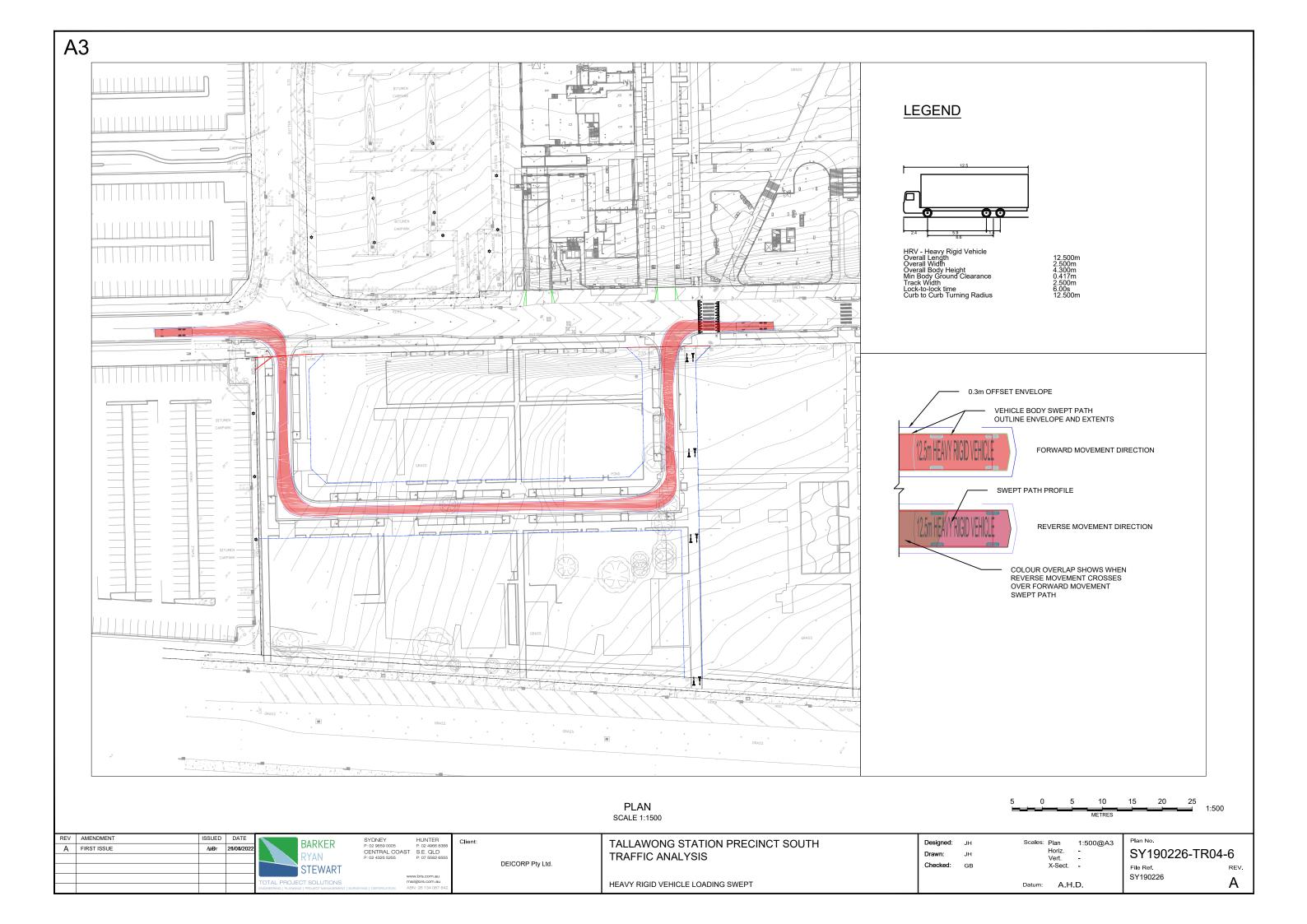
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	VEHICLE MOVEMENT PLAN		

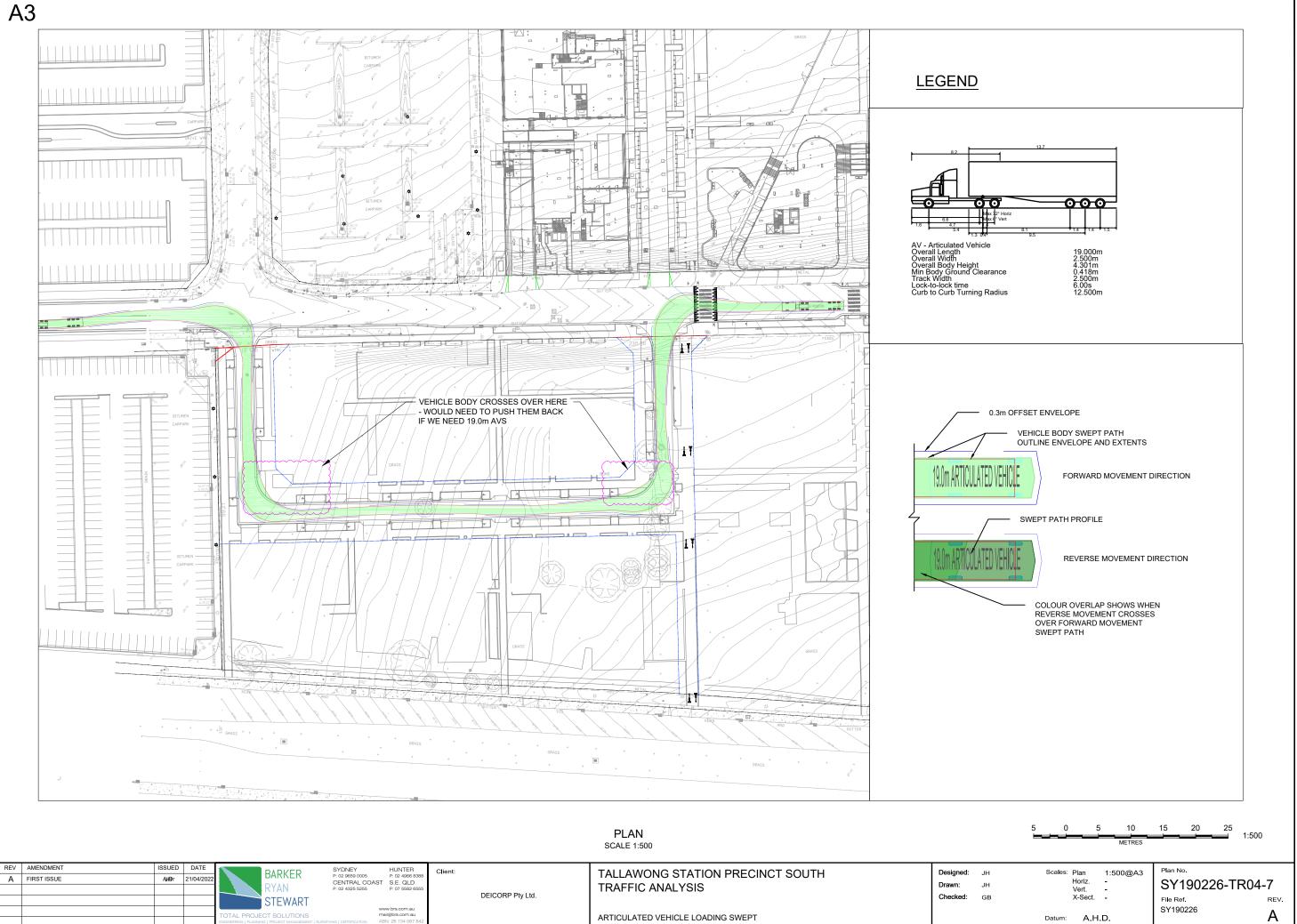
Appendix C Traffic Control Plans

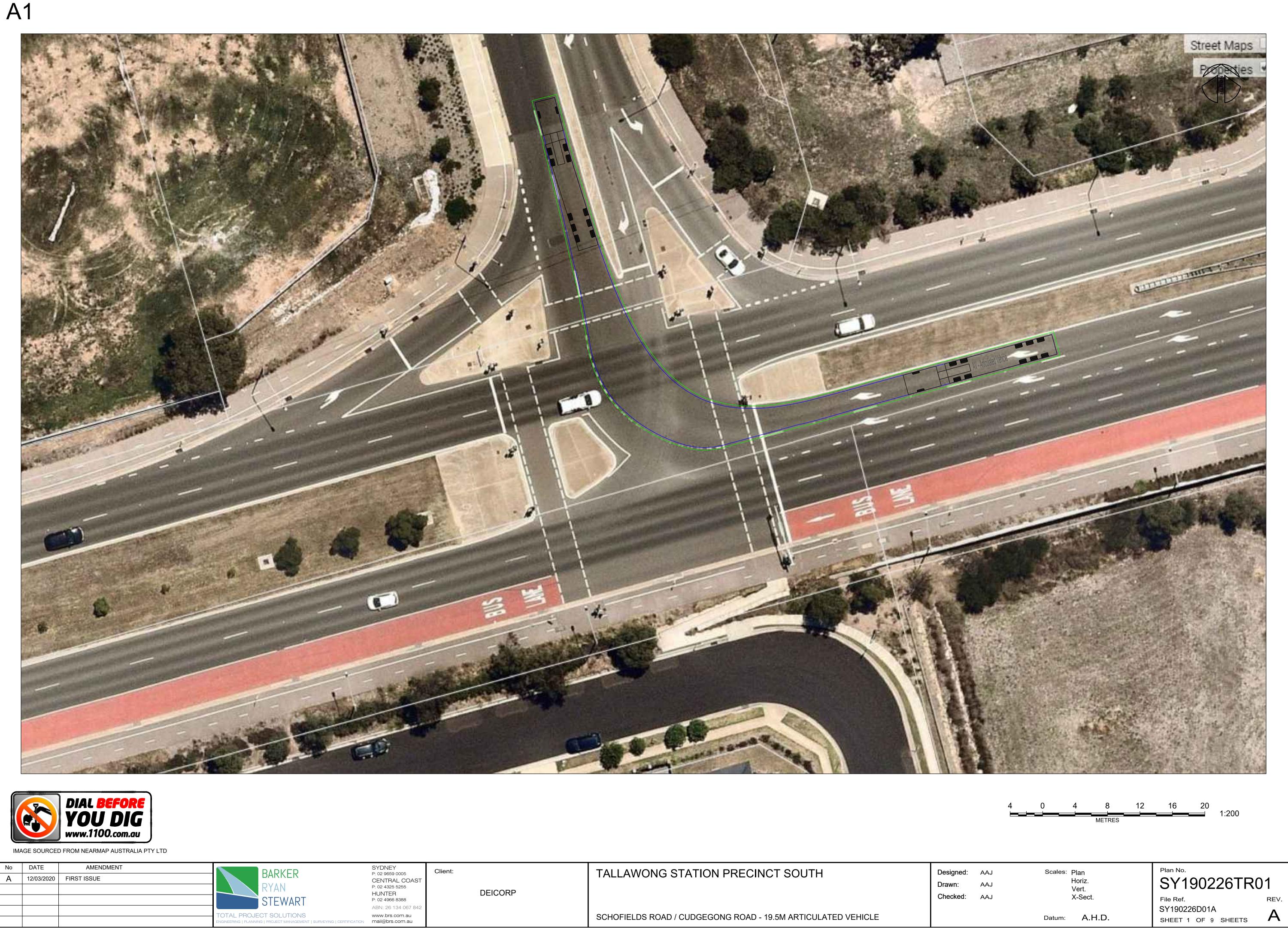
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Appendix D Swept Path Analysis









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	TALLAWONG STATION PRECINCT SOUTH			
DEICORP		Checked:	AAJ	
	SCHOFIELDS ROAD / CUDGEGONG ROAD - 19.5M ARTICULATED VEHICLE			





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DEICORP	TALLAWONG STATION PRECINCT SOUTH		AAJ AAJ AAJ
	CUDGEGONG ROAD / CONFERTA AVENUE - 19.5M ARTICULATED VEHICLE		



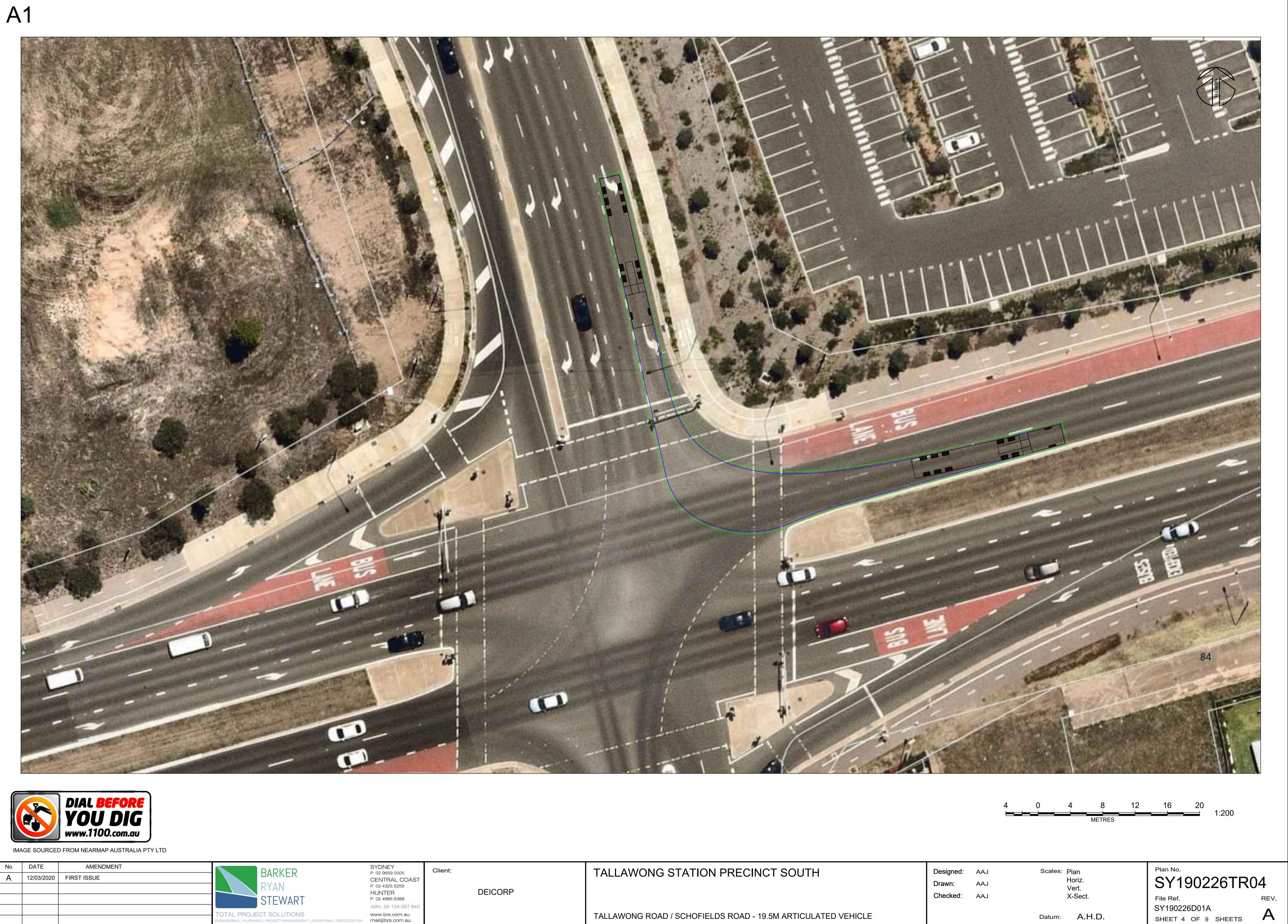


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	CONFERTA AVENUE / TALLAWONG ROAD - 19.5M ARTICULATED VEHICLE		



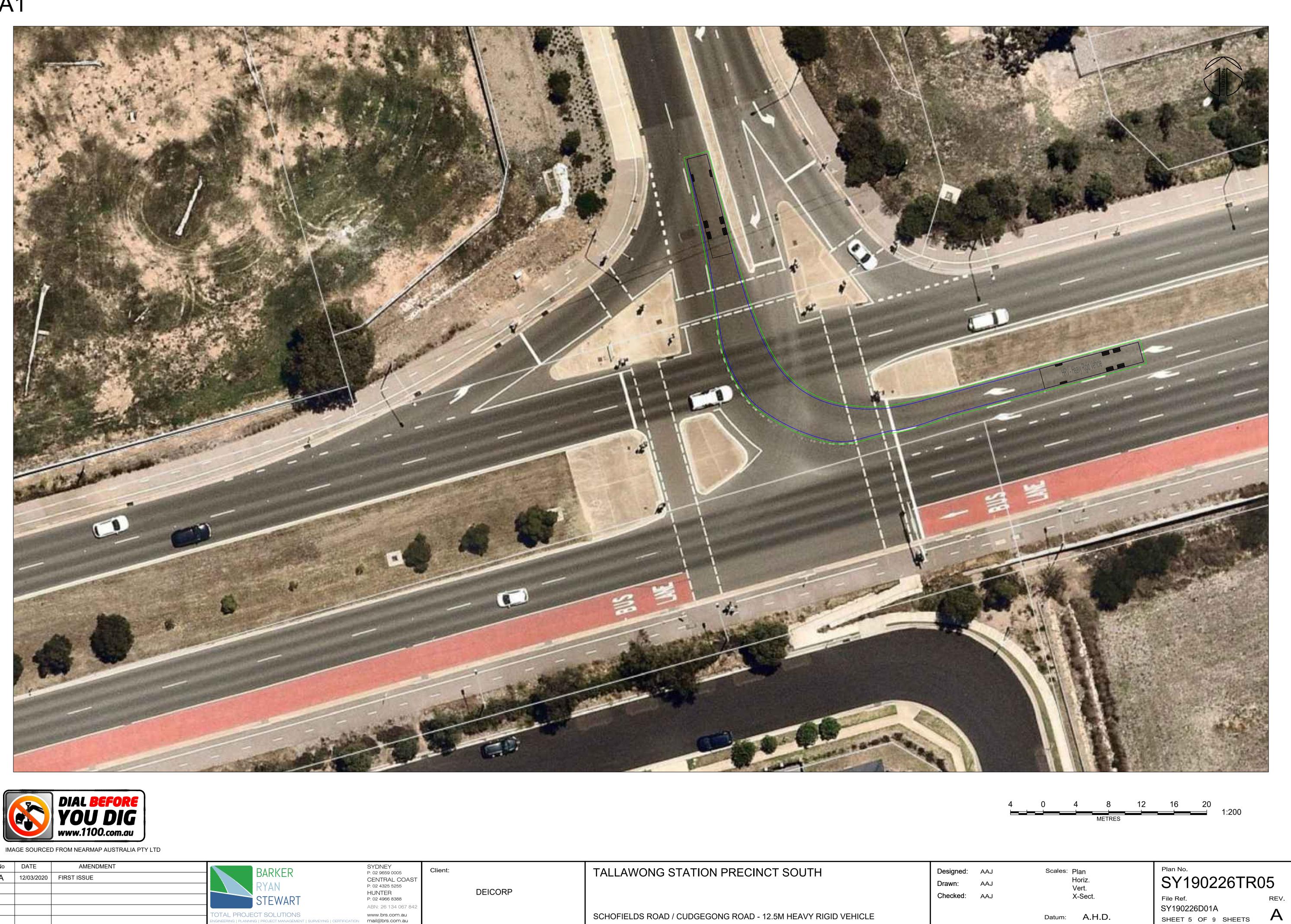


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	TALLAWONG ROAD / SCHOFIELDS ROAD - 19.5M ARTICULATED VEHICLE		

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DEICORP	TALLAWONG STATION PRECINCT SOUTH	Designed: Drawn: Checked:	AAJ AAJ AAJ
	SCHOFIELDS ROAD / CUDGEGONG ROAD - 12.5M HEAVY RIGID VEHICLE		

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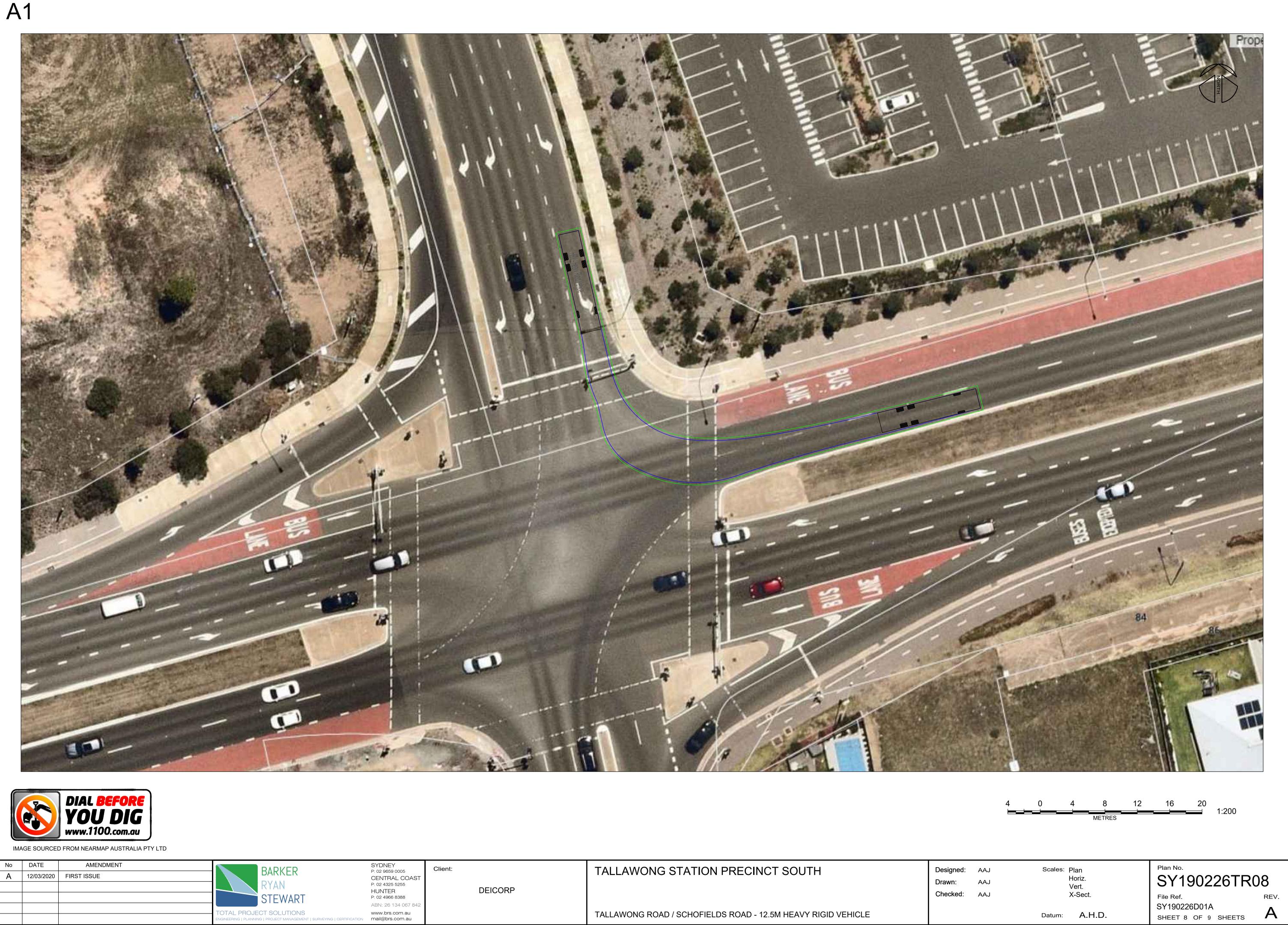


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	TALLAWONG ROAD / CONFERTA AVENUE - 12.5M HEAVY RIGID VEHICLE		





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	TALLAWONG ROAD / SCHOFIELDS ROAD - 12.5M HEAVY RIGID VEHICLE		

Appendix E Road Safety Audit (Construction stage)



PLANNING PROJECT MANAGEMENT ENGINEERING CERTIFICATION



Deicorp Projects (Tallawong Station) Pty Ltd

Road Safety Audit Report Construction Stage

Tallawong Station Precinct South

May 2020

barkerryanstewart.com.au



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Project No.	SY190226
Author	RD
Checked	GB
Approved	RD

Rev No.	Status	Date	Comments
1	Draft	2/04/2020	
2	Final Draft	7/04/2020	
3	Final	7/05/2020	Updated to include additional safety issues raised by Landcom

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4	Audit Findings	.7
5	Conclusion	.9

Appendix A – traffic Control Plan Appendix B – Site Photos

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1 Introduction

Barker Ryan Stewart has been engaged by Deicorp Projects (Tallawong Station) Pty Ltd to prepare a concept design road safety audit report for the management of construction traffic for a proposed mixed-use development comprised of residential apartments, retail and commercial space at 1-15 and 2-12 Conferta Avenue, Rouse Hill.

The two sites are currently unoccupied and have been cleared of vegetation. The sites are bisected by Conferta Avenue and bounded by Themeda Avenue and Tallawong Metro Station to the north, Cudgegong Road to the east, Schofields Road to the south, and the Tallawong Station commuter car park to the west.

The site is shown in Figure 1.1 below.

The purpose of this report is to assess the proposed traffic management measures that will be undertaken during the construction phase of the development and to identify any elements of these measures or the road environment that may present a risk to the safety of road users.



Figure 1.1: Aerial Photo of Site (Source: NSW Government Six Maps)

A road safety audit is a term used internationally to describe an independent review of a road project or existing road to identify any safety or performance concerns. The audit team considers the safety of all road users and qualitatively reports on road safety issues or opportunities for safety improvement. The team also considers other factors that are relevant to the existing site.

A road safety audit is therefore a formal examination of a road project, or any type of project which affects road users (including cyclists, pedestrians, mobility impaired etc.) or an existing road or trafficable area, carried out by an independent competent team who identify and document road safety concerns.

A road safety audit is intended to help deliver a safe road system and is not a review of compliance with standards.

2 Background

A Construction Traffic Management Plan (CTMP) has been prepared for the project that includes a Vehicle Management Plan (VMP) and a Traffic Control Plan (TCP).

The CTMP provides details of the types of construction vehicles that will access the site and the routes they will use to access the site from the main road network. It indicates that the largest vehicles that will access the site are 19 metre articulated vehicles and 12.5 metre heavy rigid vehicles entering the site from Schofields Road, Cudgegong Road and Conferta Avenue and exiting the site via Conferta Avenue, Tallawong Road and Schofields Road.

The TCP prepared as part of the CTMP prescribes "Trucks" warning signs to be installed on all roads surrounding the site to provide advance warning for road users of construction vehicles accessing the site.

2.1 Assessment Process

This road safety audit has been conducted in accordance with the procedures set out in the Austroads Guide to Road Safety Part 6A: Implementing Road Safety Audits (2019). A site inspection was conducted on Tuesday 31 March 2020 and the details contained within the Construction Traffic Management Plan for the project reviewed to identify issues that may affect road user safety and other relevant issues.

Road safety audits are a formal process and the client's responses to the audit findings should be documented by the client in writing. A client is under no obligation to accept all the audit findings, however, the reasons for non-acceptance should be included within the written responses. Any corrective actions in response to the audit should be considered in conjunction with all other project considerations. It is not the role of the audit team to approve the client's responses to the audit.

The findings of the audit are outlined below in Table 4.

3 Risk Assessment

A risk rating based on the **likelihood** of a crash occurring as a result of the deficiency together with the potential **consequence** of that crash.

The risk ratings adopted are:

- \Rightarrow Intolerable
- \Rightarrow High
- \Rightarrow Medium
- \Rightarrow Low

Tables 1 to 3 below show the risk rating process.

Frequency	Description
Frequent	Once or more per week
Probable	Once or more per year (but less than once a week)
Occasional	Once every five to ten years
Improbable	Less often than once every ten years

Table 1: How often is the problem likely to lead to a crash? (Austroads, 2019)

Consequence	Description	Examples				
Catastrophic Likely multiple deaths		 High speed, multi-vehicle crash on a freeway Car runs into crowded bus stop Bus and petrol tanker collide Collapse of a bridge or tunnel 				
Serious	Likely deaths or serious injury	 High or medium speed vehicle/vehicle collision High or medium speed collision with a fixed roadside object Pedestrian or cyclists struck by a car 				
Minor	Likely minor injury	 Some low speed vehicle collisions Cyclist falls from bicycle at low speed Left-turn rear-end crash in a slip lane 				
Limited Likely trivial injury or property damage only		 Some low speed vehicle collisions Pedestrian walks into object (no head injury) 				

Table 2: What is the likely severity of the resulting crash type? (Austroads, 2009)

	Frequent	equent Probable Occasional			
Catastrophic	Intolerable	Intolerable	Intolerable	High	
Serious	Intolerable	Intolerable	High	Medium	
Minor	Intolerable	High	Medium	Low	
Limited	High	Medium	Low	Low	

Table 3: The resulting level of risk (Austroads, 2019)

4 Audit Findings

Table 4: Audit findings

					Responsible Officer	
Audit Findings		Suggested Treatments	Risk	Accept Y/N	Comments	
 The increase in the volume frequency of heavy vehicle movements increases the r crashes with light vehicles, at the Schofields Road / Cu Road intersection where he vehicles will turn right across traffic. 	e isk of particularly udgegong eavy	Appropriate warning signs should be installed on the northern side of Schofields Road on the eastbound approach to Cudgegong Road to raise driver awareness of heavy vehicle turning movements.	Occasional / Serious = HIGH	Y	Warning signs added as suggested	
 Heavy vehicles exiting the Conferta Avenue towards Road creates a risk of crast vehicles accessing the sour portion of the commuter control The likely low travel speed in the reduce the severity of potentic 	Tallawong nes with thern arpark. is area will	Appropriate warning signs should be installed in Conferta Avenue and Aristada Street to raise driver awareness of heavy vehicle movements.	Occasional / Minor = MEDIUM	Y	Warning signs added as suggested	
3. Heavy vehicle movements Cudegong Road / Confert intersection, the Tallawong Conferta Avenue intersect along Conferta Avenue wi the risk to pedestrians cross Conferta Avenue at these	a Avenue Road / ion and I increase ing	Appropriate warning signs should be installed on all roads surrounding the site to raise the awareness of pedestrians about heavy vehicle movements. In addition, it is recommended that traffic controllers stop pedestrian movements across Conferta Avenue between Aristada Street and Tallawong Road while heavy vehicles are exiting the site along Conferta Avenue. Note: All existing shared paths surrounding the site are required to remain accessible	Occasional / Serious = HIGH	Y	Warning signs added as suggested Note regarding pedestrian control added	

			Responsible Officer	
Audit Findings	Audit Findings Suggested Treatments Risk		Accept Y/N	Comments
	to pedestrians and cyclists at all times during the construction period.			
4. Construction vehicles using Themeda Avenue to enter and exit the site will create risks for pedestrians crossing Themeda Avenue to access the metro station and bus stops in Implexc Parade.	Construction contractors should be provided with clear and concise instructions identifying that entry to and exit from the site will only be permitted via Conferta Avenue. In addition, the construction site entry at the Cudgegong Road / Conferta Avenue intersection should be clearly signposted.	Occasional / Serious = HIGH	Y	Noted
 Construction vehicles, particularly concrete trucks waiting to access the site may obstruct traffic flow and / or restrict sight lines in Cudgegong Road, thereby increasing the risk of crashes. The likely low travel speeds in this area will reduce the severity of potential crashes. 	The Construction Management Plan for the site should include procedures and processes to safely and efficiently manage the arrival and departure of construction vehicles during concrete pours.	Occasional / Minor = MEDIUM	Y	Not required during early works

5 Conclusion

The proposed traffic management measures that will be undertaken during the construction phase of the development have been audited as per the appropriate road safety audit guidelines. The audit findings have been produced for the consideration of all interested parties, including the client, Deicorp Projects (Tallawong Station) Pty Ltd, Transport for NSW and Blacktown City Council.

The audit findings should be responded to by the client for this project including any corrective actions that need to be addressed in the Construction Pedestrian and Traffic Management Plan. It is not the role of the audit team to approve the client's responses to the audit.

Although every endeavour has been made to identify road safety risks associated with the construction stage of the project, the auditors cannot guarantee that every issue that affects road user safety has been identified.

Auditors:

66

Robert Day Auditor Level 3 (RSA-02-0368)

Appendix A Traffic Control Plan

Appendix B Site Photos



Photo 1 – Schofields Road / Cudgegong Road Intersection



Photo 2 – Cudgegong Road / Conferta Avenue Intersection



Photo 3 – Tallawong Road / Conferta Avenue Intersection