



Deicorp Projects (Tallawong Station) Pty Ltd

Construction Management Plan

Proposed Mixed Use Development

Tallawong Station Precinct South

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1 Introduction

This Construction Management Plan (CMP) has been prepared in accordance with the requirements of Planning Secretary's Environmental Assessment Requirements in support of a State Significant Development application for the mixed-use development at Tallawong Station Precinct South.

This CMP outlines the excavation and building process for the proposed development and how the builder and contractors will manage potential impacts caused by the demolition, excavation and building works.

This CMP is to be adjusted as required by the builder/contractor during the progress of works. Where this plan conflicts with the requirements of the builder/contractors Safe Work Method Statements (SWMS) or Work Health and Safety (WHS) Policy then the SWMS's and WHS and their safety and environmental obligations of the builder/contractors shall override this CMP.

The CMP includes a description of the project, outlines the process and addresses mitigation measures relating to the potential impacts of construction on the environment and the public, including noise and vibration, air pollution, water pollution, waste and recycling measures and traffic management.

1.1 CMP Implementation

This CMP is to be read in conjunction with the following documents attached in the Appendices:

- Construction Waste Management Plan;
- Construction Traffic Management Plan; and

This CMP outlines the excavation and building process for the proposed development and how the builder and contractors will manage potential impacts caused by the excavation and building works.

This CMP is to be adjusted as required by the builder/contractor prior to the commencement of works on site, based on the additional reports / plans recommended, conditions of development consent and other site specific conditions during the progress of works.

Where this plan conflicts with the requirements of the builder/contractors Safe Work Method Statements (SWMS) or Work Health and Safety (WHS) Policy then the SWMS's and WHS and their safety and environmental obligations of the builder/contractors shall override this CMP.

1.2 Limitations

This CMP has been prepared to provide a general understanding of generic construction activities for delivering buildings and infrastructure, based on the development plans and site assessments provided by the client.

Following Development Approval and availability of the Development Approval conditions, the CMP may be reviewed and revised to incorporate the detailed design, including appropriate arrangements for detailed Construction, Environmental and Construction Management Plans by the contractors.

2 Project Overview

2.1 Existing Development

The site is currently undeveloped with existing vegetation cleared.

2.2 Proposed Development

A State Significant Development (SSD) application is being considered by the NSW Department of Planning, Industry and Environment for the excavation and construction of a mixed-use precinct comprising the development outlined in the table below.

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

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

3 Project Staging and Program

3.1 Project Staging

This CMP covers the excavation, shoring and the construction of the new buildings.

It is proposed to construct the works in four stages including excavation through to the construction of a mixed-use precinct comprising of residential apartments, commercial and retail space, basement parking spaces and associated facilities.

3.2 Project Program

The project duration for the excavation and building works are outlined below. Staging plans are provided in **Appendix F**.

STAGE	ESTIMATED DURATION
Stage 1 Excavation	6 - 8 months
Stage 1 Building Works	16 - 24 months
Stage 2 Excavation	4 - 6 months
Stage 2 Building Works	14 - 20 months
Stage 3 Excavation	4 - 6 months
Stage 3 Building Works	14 - 24 months
Stage 4 Excavation	6 - 8 months
Stage 4 Building Works	14 - 24 months

Following project completion, Stage 4 will also include dedication of public roads and footpaths.

3.3 Building and Construction Works

All excavation and building works are to be undertaken in accordance with the conditions of development consent once it is issued.

The following items summarise the aspects of the excavation and building works that need to be considered in relation to the application of this Construction Management Plan;

- All construction vehicles enter and exit the site via site entry gates, as shown in the site management plan in **Appendix A**.
- Construction Traffic is managed to minimise the impact on the local residents in the vicinity of the site.
- The proposed crane, hoist and landing platform locations are shown on the Site Management Plan in **Appendix A**.
- A combination of Heavy Rigid Vehicles (HRV) and Truck and Dog (Articulated) will be used to export approximately 380,000m³ of excavated material from the site, with a combined length of 12.5m - 17m. The swept paths are shown in the Construction Pedestrian and Traffic Management Plan in **Appendix E**.
- Cranes and other machines will be floated on HRV's, which are approximately 12.5m in length.
- The cranes are to be located as shown on the Crane Location Plan at **Appendix B**.
- The estimated maximum heavy vehicle movements (at peak time) is approximately 50 per day.
- Waste materials are to be removed off site and recycled where possible to approved facilities.
- The Deicorp building team will have approximately 5 crew members onsite during each excavation stage and up to 10 crew members during the building works at any one time.

- There will be approximately 20 personnel onsite during excavation. There will be approximately 1 principal building contractor onsite at any one time to undertake the building works. Daily averages will be in the vicinity of approximately 250 people during the building works.
- It is anticipated that stockpile sites are not required as the material will be progressively loaded and removed from site on a daily basis.
- One shaker pad for each site will be constructed at both site egress points in Conferta Avenue for erosion sediment control.
- Waste and recycling containers are to be located within storage area shown on the Site Management Plans in **Appendix A**.
- The majority of concrete pumping is to be from within the site at the locations shown on the site plan at **Appendix A**.
- All excavation and building works are to be undertaken in accordance with the conditions of development consent once it is issued.
- The estimated time frame to complete the excavation works is 6 - 8 months per stage (refer to page 7).
- The estimated time frame to complete the building works is 14 - 24 months (refer to page 7) months.
- All construction vehicles enter and exit the site via Conferta Avenue, as shown in the site management plan in **Appendix A**.
- Construction traffic is managed to minimise the impact on the users of the existing Tallawong Station car parks in the vicinity of the site.
- The proposed crane, hoist and landing platform locations are shown on the Site Management Plan in **Appendix A** and the Crane Location Plan at **Appendix B**.

4 Construction staff, amenities and machinery

The demolition, excavation and building sites require detailed management of staff, facilities and services. It is important to understand the number and type of staff on site to ensure appropriate facilities, services, parking and training is provided.

The follow table outlines potential issues and the measures adopted by the builders, contractors and construction workers to ensure an adequate and safe working environment for staff.

4.1 Construction staff and amenities

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Staff numbers	Staff - Stages 1 - 4 Early Works <ul style="list-style-type: none"> Approximately 2 Deicorp staff will be onsite during each stage of demolition and excavation works. Approximately 4 building contractor's staff will be onsite during each stage of demolition and excavation works Staff - Stages 1 - 4 Building Works <ul style="list-style-type: none"> Approximately 7 Deicorp staff will be onsite during each stage of building works. Approximately 120 -250 building contractor's staff will be onsite during each stage of building works. 	Ongoing	Supervisor
Provide sufficient amenities for both male and female staff	Staff Amenities - Stages 1 - 4 <ul style="list-style-type: none"> Each stage will be provided with suitable on-site staff amenities (refer to the Site Management Plan at Appendix A). The staff amenities block will include the main office, meeting rooms, induction room, office toilet amenities, first aid facilities and a lunch room. 	Ongoing	Supervisor
Construction Car Parking Strategy	Staff parking – Stages 1 - 4 <ul style="list-style-type: none"> Where possible construction workers will park in areas located on site and/or in designated offsite areas in accordance with the Construction Pedestrian and Traffic Management Plan at Appendix E. 	Ongoing	Supervisor
Ongoing supervision	Measurement and Monitoring <ul style="list-style-type: none"> Monitoring of the staff amenities cleanliness, security, etc to ensure their effectiveness, safety and compliance is to be carried out by the Supervisor and recorded in the weekly Inspection. 	Ongoing	Supervisor

4.2 Construction machinery

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Location, operation and security of cranes	Crane location <ul style="list-style-type: none"> The crane location is to be contained within the site as shown on the Crane location Plan at Appendix B. The crane hoist location is shown on the Site Management Plan at Appendix A. The tower crane and hoist area is to be secured with fencing. All crane operators are to have undertaken training with appropriate accreditation in the use of the cranes. 	Ongoing	Supervisor
Use of machinery resulting in a negative impact on neighbouring properties	Machinery <ul style="list-style-type: none"> Unloading of machinery to occur within the site accessed from the designated loading area as shown on the Site Management Plan at Appendix A. The machinery will be secured during non-operating times. All staff are to have undertaken training with appropriate accreditation in the use of the machinery. When using cranes or mobile lifting equipment, the following steps are to be taken to prevent disruption to public areas: <ul style="list-style-type: none"> Ensure equipment does not restrict public thoroughfares and pedestrian access or, where restricted access is unavoidable, use gantries or other overhead protection Determine lifting zones for medium to long term use of the equipment Protect pavements and streets and conduct dilapidation surveys before and after works have taken place Implement procedures and lifting techniques to ensure safety on adjoining streets and footpaths Use traffic management controls and signage. 	Ongoing	Supervisor
Concrete pumping location	Concrete pumping <ul style="list-style-type: none"> Concrete pumping for the works will be commonly pumped from on site or the construction/work zone. 	Ongoing	Supervisor
Ongoing supervision	Measurement and Monitoring <ul style="list-style-type: none"> Monitoring of the crane, hoist and concrete pouring facilities to ensure their effectiveness, safety and compliance is to be carried out by the Supervisor and recorded in the daily and weekly Inspection. 	Ongoing	Supervisor

5 Construction Pedestrian and Traffic Management

Appropriate access to and from the site by staff, contractors, deliveries and the general public is to be managed through the implementation of a Construction Pedestrian and Traffic Management Plan (see Appendix E).

The follow table summarises the potential issues and how they are to be controlled.

IMPACT	CONTROL MEASURES	TIMING	OFFICER
Increased traffic congestion	Construction Pedestrian and Traffic Management Plan <ul style="list-style-type: none"> Refer to Construction Pedestrian and Traffic Management Plan at Appendix E for measures to address increase traffic in the local road network. 	Ongoing	Supervisor
Construction Car Parking Strategy	Staff/Contractors Car Parking <ul style="list-style-type: none"> 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. 	Ongoing	Supervisor
Altered traffic conditions	Control Measures <ul style="list-style-type: none"> A range of traffic control measures will be implemented to provide safe movement of traffic. Public road use by vehicles is to be maintained with minimal disruptions. Pedestrian and cyclist routes are to be maintained at all times unless otherwise approved by Council/ Authorities. Truck control on the site and surrounding streets will be signed to control operation. RMS accredited traffic controllers are to manage the traffic in accordance with the requirements of the Traffic Control Plans at Appendix E. 	Ongoing	Supervisor and RMS accredited traffic controllers
Vehicular queueing at entrances	Access <ul style="list-style-type: none"> RMS accredited traffic controllers are to manage the traffic in accordance with the requirements of the Traffic Control Plans at Appendix E. Access into and out of the site will be via the designated entrance, refer to Appendix E, Construction Pedestrian and Traffic Management Plan. Adjacent public roads will be maintained free of construction material. Loaded trucks leaving the site will have tray covers and tailgates closed to prevent dust during transport. 	Ongoing	Supervisor and RMS accredited traffic controllers
Limited access and parking impacting on pedestrian and vehicle traffic on the local road network and Tallawong Station car parks	General Public <ul style="list-style-type: none"> No general admission will be provided during the works. Appropriate fencing and gates will be provided to restrict access. Pedestrians will be protected by construction fencing (or similar) in the locations shown on the site management plans in Appendix A. 	Ongoing	Supervisor
Reduced safety due to altered traffic conditions and increased rates of heavy vehicles	Safety <ul style="list-style-type: none"> RMS accredited traffic controllers are to manage the traffic in accordance with the requirements of the Traffic Control Plan. Loading and unloading is to be undertaken on site or within the construction/loading zone. 	Ongoing	Supervisor and RMS accredited traffic controllers

IMPACT	CONTROL MEASURES	TIMING	OFFICER
	<ul style="list-style-type: none"> The use of mobile phones will be banned on site whilst operating machinery. 		
Dispersal of dust from site	Cleanliness <ul style="list-style-type: none"> Shaker pad on exit will be maintained to ensure wheel cleanliness. The roads surrounding the site shall be regularly swept to ensure pavements are kept clean and safe. 	Ongoing	Supervisor
Staff movements impact traffic and parking on the local road network	Construction workers parking <ul style="list-style-type: none"> 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. 	Ongoing	Supervisor
Regular deliveries impacting traffic and safety on the local road network.	Delivery of goods and materials <ul style="list-style-type: none"> Construction vehicles will enter the site via Conferta Avenue (See Appendix A). Loading and unloading will occur on site in the hoist location shown on the Site Management Plan (See Appendix A). 	Ongoing	Supervisor
Increased traffic congestion impacting movements into and out of the neighbouring properties	Adjacent properties <ul style="list-style-type: none"> Appropriate traffic management procedures will be in place to minimise the impact of increased traffic and queueing vehicles on neighbouring properties. Traffic movements are to be minimised where possible during the morning and evening peak periods. Special attention is to be given to not detrimentally impacting on the operation of the Tallawong Station across the road in Themeda Avenue. Refer to the Construction Pedestrian and Traffic Management Plan at Appendix E. 	Ongoing	Supervisor
	Crane and Hoist Locations NOTE: outlined in other sections		
Ongoing supervision	Measurement and Monitoring Monitoring of the traffic control measures to ensure their effectiveness and compliance with TMP's is to be carried out by the Supervisor and recorded in the daily and weekly Inspection	Ongoing	Supervisor

6 Public Safety, Amenity and Site Security

The demolition, excavation and building works raises a number of concerns and potential risks. These risks include damage to neighbouring properties, injury to local residents, a decrease in amenity for locals and site security for the builders and contractors.

The following table outlines potential impacts and mitigation measures adopted by the builders, sub-contractors and construction workers to ensure a safe and secure working site for the community and workers.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Restricting public access to the site.	Hoarding/Fencing <ul style="list-style-type: none"> The site will be secured by construction fencing or A and B class hoardings as required around the entire perimeter. Gates will be secured after work hours to prevent unauthorised entry. The demolition, excavation and building site will be fenced to prevent entry. All fencing and hoardings will screen public view of the site to minimise any impact on pedestrian traffic flow. 	Ongoing	Supervisor
Impacts of Piling	Piling <ul style="list-style-type: none"> The Impacts of piling are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement prepared by the contractors that will undertake the demolition and building works. 	Ongoing	Supervisor
Impacts of Demolition	Demolition <ul style="list-style-type: none"> The Impacts of demolition are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement and Management Plan prepared by the contractors that will undertake the demolition and building works. 	Ongoing	Supervisor
Impacts of Excavation	Excavation <ul style="list-style-type: none"> The Impacts of excavation are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement and Management Plan prepared by the contractors that will undertake the demolition and building works. 	Ongoing	Supervisor
Reduced way finding and unauthorised access to the site	Safety & Security <ul style="list-style-type: none"> Lighting will be provided across the site at night. The site will be fully secured outside of working hours. Security measures will include fencing, locks, surveillance systems, security lighting and motion detectors. Site equipment and materials will be fully secured at night. Site materials and equipment will be located away from neighbouring properties to limit the potential use as climbing aids. All chemicals will be securely stored away from emergency exits and stormwater pits. 	Ongoing	Supervisor

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Security signage	Signage <ul style="list-style-type: none"> Contact and procedural details will be provided, at entrances and exits, in case of an emergency or security breach. Safety, traffic control and restricted access signage will be located on fencing and at entrances to the site. 	Ongoing	Supervisor
Damage to public areas	Public Areas <ul style="list-style-type: none"> Any damage to public areas and assets will be rectified. The construction team will ensure there are no trip hazards from the hoarding or fencing on adjacent footpaths. Any utilities or services that cross the path will be covered in accordance with the relevant standards. Public areas will be protected from construction activities including vehicle loading and unloading. All bins will be stored on site in secure areas away from public access. All materials and machinery will be stored onsite, away from public areas. 	Ongoing	Supervisor
Use of street and pathway	Street Space Occupation <ul style="list-style-type: none"> All necessary permits will be obtained from the Council permitting occupation of the public footpath. 	Ongoing	Supervisor
Reduced visual amenity and outlook for neighbouring properties	Prevent Unightly Premises <ul style="list-style-type: none"> Trucks will be washed down to prevent soil, dust or debris falling on the adjacent road way and footpaths. Hoardings must be designed to reduce the potential for posters and graffiti through the use of wire mesh guards, signage and/or public art. Graffiti and posters will be removed on a regular basis. 	Ongoing	Supervisor
General Site Management	General Management <ul style="list-style-type: none"> The Principal Contractor will provide written notice prior to commencement of works in accordance with the Conditions of Consent. Existing pedestrian and traffic signs will be retained. Additional safety signage will be in accordance with requirements. 	Ongoing	Supervisor
Ongoing supervision	Measurement and Monitoring Monitoring of public safety, amenity and site security to ensure their effectiveness and compliance is to be carried out by the Supervisor.	Ongoing	Supervisor

7 Operating Hours, Noise and Vibration Controls

The follow table outlines operating hours and the noise and vibration controls and mitigation measures to be adopted by the builders, sub-contractors and construction workers to meet the compliance requirements of the consent authority or Council and the relevant Australian Standards.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Noise impacts on neighbouring residents and businesses	Hours of Operation <ul style="list-style-type: none"> Hours of onsite work operation will be limited to 7am to 6pm, Monday to Friday and 7am to 5pm on Saturdays. Note COVID-19 work hours may apply which will allow onsite work operations to be undertaken 24 hours a day 7 days a week including, Saturdays, Sundays and public holidays. Any proposed onsite work outside of these hours will be required to be approved by the consent authority or the private certifier. 	Ongoing	Supervisor
Noise nuisance Noise pollution caused by loud noise from site disturbing workers	Noise - Plant and equipment <ul style="list-style-type: none"> All practical precautions are to be taken to minimise the impact of noise emissions from the site. Equipment and machinery will be selected to meet the noise emissions requirements outlined in the Noise and Vibration Assessment report. Where practical equipment will be fitted with silencers. Regular monitoring of equipment will be undertaken to ensure all equipment meets requirements. Vehicles and machinery will be turned off when not in use. 	Ongoing	Supervisor
Vibration damage to structures and potential impacts to nearby business, residents and public infrastructure	Vibration – Plant and equipment <ul style="list-style-type: none"> The major sources of vibration caused by the project during demolition and construction will include the use of excavators with rock breakers (or grinding heads attached), bulldozers and vibratory rollers. From the Noise and Vibration Assessment the following vibration mitigation measures will be adopted during site project activities: <ul style="list-style-type: none"> Staging of site works to maximise use of the existing site features/facilities as barriers where possible. All site personnel must adhere to the site WHS requirements in relation to use of appropriate personal protective equipment (PPE) when operating, or in the vicinity of noise/vibration generating plant/equipment. Noise and vibration awareness training for all site staff including subcontractors as part of general site induction and tool-box talk activities. Strict adherence to approved works times. In the event that out of hours delivery activities are required, the approval process will be completed via consultation with the Project Managers office. Regular and effective plant/equipment maintenance will be completed and documented throughout the project period and documentation will be maintained on site demonstrating 	Ongoing	Supervisor

	<p>completion of maintenance logs and associated checklists in order to ensure all machinery is in good working order and use does not generate excess noise/vibration.</p> <ul style="list-style-type: none"> Plant, equipment and vehicles will not be operated in the event that excessive noise/vibration is produced at start up as a result of maintenance being required. Care will be taken by site personnel to ensure materials will not be dropped from a height either onto or from vehicles or from the roof, overhead bridge or other raised location. Power drills, saws, planers, nail guns etc will be used inside where possible to achieve acoustic muffling or where possible, to the south of buildings to provide shielding between the user and sensitive receptors. 		
Construction noise impacting the amenity of neighbouring properties	<p>Neighbours</p> <ul style="list-style-type: none"> Activities which may impact on the amenity of neighbouring properties will only be conducted for short durations and these neighbours will be notified prior to the works. 	Ongoing	Supervisor
Ongoing supervision	<p>Measurement and Monitoring</p> <p>Noise effects shall be observed and recorded on the daily inspection report in accordance with the requirements of the Noise and Vibration Assessment Report.</p>	Ongoing	Supervisor

8 Environmental Management

8.1 Detailed Site Investigations

A Detailed Site Investigation Report was prepared by EI Australia. The objectives of the investigation was to evaluate the potential for site contamination, to investigate the degree of any potential contamination and where site contamination is confirmed to make recommendations for the appropriate management of any contaminated soils and/or groundwater.

All contamination concentration were found below the adopted human health criteria, some of the findings included a small amount of asbestos, some heavy metals were detected in the ground water and TRHs found in a few test sites.

The following table outlines the recommendations of the report that would need to be considered during the construction.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Management and testing of Waste and Contaminants on site	Remediation Action Plan Where required remediation works are to be undertaken in accordance with the Remediation Action Plan prepared by EI Australia and will be implemented in the following stages: <ul style="list-style-type: none"> • Preliminaries/Site Establishment (Weeks 1-3) • Additional Assessment (Weeks 3-5) • Waste Management (Weeks 5-6) • Excavation (Weeks 6-7) • Validation (Weeks 7-13) 	Ongoing	Supervisor / Geotechnical consultant
Ground Water Investigation and Surveying	Geotechnical Engineering requirements <ul style="list-style-type: none"> • Additional groundwater investigation in the vicinity of BH2M (referenced in Detailed Site Investigation Report). • Surveying of onsite ground water wells. 	Ongoing	Supervisor / Geotechnical consultant
Asbestos	<ul style="list-style-type: none"> • Management of asbestos in accordance with EPA (2014) Waste Classification Guidelines. 	Ongoing	Supervisor / Geotechnical consultant
Soil Classifications of soils to be disposed	<ul style="list-style-type: none"> • Classification of soils to be disposed off site in accordance with EPA (2014) Waste Classification Guidelines. 	Ongoing	Supervisor / Geotechnical consultant
Ongoing Supervision	Measurement and Monitoring <ul style="list-style-type: none"> • Measuring and monitoring is to be undertaken in accordance of the requirements of the Remediation Action Plan. 	Ongoing	Supervisor / Geotechnical consultant

8.2 Geotechnical Considerations

A Geotechnical investigation was prepared by EI Australia for the following purpose:

- Assess the subsurface conditions over the site,
- Site classification to AS2870,
- Groundwater within the depth of excavation
- Provide recommendations regarding the appropriate foundation system for the site including design parameters,
- Provide parameters for the temporary and permanent support of the excavation,
- Provide recommendations regarding vibration control during rock excavation and,
- Comment on the impact of the development in the vicinity of the rail corridor.

The excavation and construction works should be undertaken in accordance with the recommendations of the Geotechnical Investigation Report.

The following table summarises the recommendations of the Geotechnical Investigation.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Geotechnical requirements and excavation support	Geotechnical requirements <ul style="list-style-type: none"> Prior to excavations reference is to be made to Safe Work Australia Excavation Work Code of Practice dated August 2019. The excavation and construction is to be undertaken in accordance with the Geotechnical Investigation report's recommendations. During construction, should the subsurface conditions vary from those inferred in the Geotechnical Investigation Report, then the Geotechnical Consultant should be contacted to determine if any changes should be made to their recommendations. Monitoring of deflections of retaining structures and surface settlements should be undertaken. Management of groundwater in accordance with the recommendations of the report. Retaining wall design parameters in accordance with the recommendations of the report. Foundations and base slab design in accordance with the recommendations of the report. The exposed bearing surfaces for footings should be inspected by the Geotechnical Consultant. 	Ongoing	Supervisor / Geotechnical consultant
Road Authorities	Road Authority requirements <ul style="list-style-type: none"> Prior to excavation and construction a detailed dilapidation survey is to be carried out on all structures and infrastructure surrounding the site. Pavement Design in accordance with the recommendations of the Geotechnical Consultant. Any Geotechnical requirements of the road authority should be addressed where required. 	Ongoing	Supervisor / Geotechnical consultant
Ongoing supervision	Measurement and Monitoring <ul style="list-style-type: none"> Measuring and monitoring is to be undertaken in accordance of the requirements of any Geotechnical Report. 	Ongoing	Supervisor / Geotechnical consultant

8.3 Contamination Management

The following table outlines the contamination management items that are to be considered.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Pollution of soils on the site and pollution of ground waters by chemical, organic or physical contamination	General <ul style="list-style-type: none"> All staff to be made aware of proper handling procedures and appropriate measures will be taken to minimise the potential for contamination. Chemical spillage kits will be kept on site, staff will be made aware of the appropriate use of kits. 	Ongoing	Supervisor
Contamination from machinery	Machinery <ul style="list-style-type: none"> High risk activities, including refuelling and servicing, will be undertaken allocated areas, controlled to reduce environmental impact. Fuel and oil storage areas will be bunded. Machinery will be inspected on a regular basis for leaks. Repairs will be undertaken immediately. 	Ongoing	Supervisor
Contamination from chemicals/materials	Chemicals/materials <ul style="list-style-type: none"> All contaminants shall be handled in a manner so as to confine the material completely and prevent any fugitive emission. Material will be kept on segregated, covered, bunded areas and then disposed of by removal to a registered waste depot. Paint and slurry will not be discharged into the stormwater. A designated paint brush and roller washing area will be located near each building to prevent contaminating the stormwater. Construction materials and chemical will be stored appropriately to prevent leakages into surrounding water ways. 	Ongoing	Supervisor
Ongoing supervision	Measurement and Monitoring <ul style="list-style-type: none"> Waste product will be assessed and categorised as contaminated or non-contaminated and disposed of accordingly If contaminated material is encountered, then it will be monitored for each type of material and the method of disposal recorded in the Contaminated Material Register. All hazardous materials will be removed from site and correctly disposed on completion of the works. 	Ongoing	Supervisor

8.4 Air and Dust Management

An Air Quality Review was prepared by AECOM. The Review confirmed the following:

In conclusion, as current air quality meets relevant EPA criteria, in combination with the lack of any complex meteorology, terrain or major sources of pollution, there are no air quality issues requiring consideration in regard to the development within the Study Area.

Notwithstanding the above, the following table outlines the air and dust management items that are to be considered during the excavation and construction phase of the proposal.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Generating dust pollution	Dust <ul style="list-style-type: none"> Fencing will be designed to minimise the impact of dust on neighbouring sites. Soil and other materials stored onsite will be covered to prevent dust. 	Ongoing	Supervisor
Dust pollution generated by machinery	Machinery <ul style="list-style-type: none"> Equipment used on site shall not emit visible exhaust fumes for no more than 10 seconds after power has been applied. 	Ongoing	Supervisor
Dust pollution generated by machinery	Excavation <ul style="list-style-type: none"> Exposed or excavated soils will be regularly rehabilitated where possible to minimise dust. Exposed areas will be watered down to prevent dust, especially on windy days and in close proximity to dwellings and public areas. 	Ongoing	Supervisor
Dust pollution generated due to vehicular movements into and out of the site	Traffic/Vehicular Movement <ul style="list-style-type: none"> Loaded trucks leaving the site will have tray covers to prevent dust during transport. A shaker pad will be located at exits to remove soil from vehicle tyres. Internal driveway near the boundaries will be watered down to minimise airborne particles. Construction traffic will be confined to one entry/exit in Conferta Avenue. 	Ongoing	Supervisor
Impacts of Piling	Piling <ul style="list-style-type: none"> The Impacts of piling are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement prepared by the contractors that will undertake the demolition and building works. 	Ongoing	Supervisor
Impacts of Excavation	Excavation <ul style="list-style-type: none"> The impacts of excavation are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement and Management Plan prepared by the contractors that will undertake the demolition and building works. 	Ongoing	Supervisor
	Other <ul style="list-style-type: none"> No burning will be undertaken on site. Waste and scrap materials will be stored to prevent dust emissions. 	Ongoing	Supervisor
Ongoing supervision	Measurement and Monitoring Continual visual monitoring by the Supervisor. Any evidence of dust shall be recorded.	Ongoing	Supervisor

9 Soil and Water Management

During construction activities the soil and water management procedures are to be implemented so as to ensure all runoff and discharge from the site is done so without environmental impact. A Soil and Water Management Plan has been prepared and is attached at Appendix C.

The following table outlines potential impacts as well as appropriate erosion and sediment control and stormwater measures to control sediment and reduce runoff generally.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Erosion and sediment control	Erosion Sediment Control Measures <ul style="list-style-type: none"> All control measures will be installed prior to commencing works in accordance with the Soil and Water Management Plan, refer to Appendix C. Works will be appropriately staged where possible to minimise potential for erosion and sedimentation during the project. Silt fencing will be erected along batter slopes, stockpiles, and any disturbed surfaces that may drain into any adjacent water bodies and stormwater systems. Sandbags and other sediment controls shall be installed around stormwater inlets and outlets to prevent dirty discharge from works area entering stormwater systems. Soil and waste stores will be located in designated areas to prevent run off into drains. On project completion, the site will be left protected by temporary measures as required. Once permanent measures (i.e. revegetation) have been established the temporary measures may be removed. All sediment basins and traps will be managed in accordance with the requirements of the Soil and Water Management Plan at Appendix C. 	Ongoing	Supervisor
Stockpile locations	Stockpiles <ul style="list-style-type: none"> Stockpiles for loose materials such as soil, sand and gravel are to be located in areas clear of overland flow paths. Sediment barriers are required around the stockpiles. 	Ongoing	Supervisor
Reduced water quality	Water Quality <ul style="list-style-type: none"> The site is not identified as having Acid Sulfate Soil issues. Temporary diversion drains will be installed to divert clean run-off around the works area. Drainage system outlets will be directed to temporary or permanent retention basins. 	Ongoing	Supervisor
Sediment runoff due to excavation	Excavation <ul style="list-style-type: none"> Disturbance onsite will be minimised by clearly marking boundaries and designating areas for construction activities and traffic movements. Exposed surfaces will be stabilised as soon as possible by hydro mulching or other means. 	Ongoing	Supervisor

Sediment washed into the stormwater network	Stormwater <ul style="list-style-type: none"> Stormwater measures will be put in place during construction. The entrances/exit be stabilised with rock. Shaker pads will be installed to collect mud from exiting vehicles. Shaker pads will be cleaned on a daily basis and link to the designated stormwater outlets. 	Ongoing	Supervisor
Dispersal of sediments during the transportation of material	Traffic <ul style="list-style-type: none"> Trucks transporting materials will be inspected before leaving or entering the site to prevent spillage of soil and other materials on roads and footpaths. The wash down area is identified in the Soil and Water Management plan at Appendix C. 	Ongoing	Supervisor
Excessive use of water during construction	Water Saving Measures <ul style="list-style-type: none"> All hoses will be in good condition and fitted with a trigger nozzle. Any wash down areas will utilise high pressure water nozzles. 	Ongoing	Supervisor
Ongoing Supervision	Measurement and Monitoring <ul style="list-style-type: none"> Ensure the soil erosion and sediment control devices are installed and maintained accordance with the Soil and Water Management Plan (See Appendix C) Weekly site inspections by the Supervisor with appropriate corrective actions taken immediately. Additional inspections after each rain event by the Supervisor Maintenance of control measures: <ul style="list-style-type: none"> Repair damaged or blocked sections Remove silt from fencing where built up Records shall be kept of all ESC device installations, inspections and maintenance activities The quality and quantity of water released from site must be recorded 	Ongoing	Supervisor

10 Waste & Material Reuse Management

During excavation and building works there are numerous opportunities to reduce, reuse and recycle waste through the implementation of a Construction Waste Management Plan (WMP), see attached in Appendix D.

The following table outlines potential impacts as well as appropriate waste management measures reduce, reuse and recycle waste, as well as education and training for staff. At least 95% of waste generation is to be diverted from landfill in accordance with Landcom requirements.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
General Site Management	Site management <ul style="list-style-type: none"> The construction site will be kept free of rubbish, waste material and debris. Waste will be disposed of in accordance with the WMP at Appendix D. 	Ongoing	Supervisor
Waste storage and removal	Waste Management Plan <ul style="list-style-type: none"> Chemical waste will be removed from site and disposed of at licenced facilities. Procedures for removal of other hazardous or dangerous materials from the site in accordance with State and Federal legislation including WorkSafe requirements. Waste collection shall only occur during permitted hours. Litter and debris 'trapped' against site fencing must be regularly cleaned Removal of waste (materials that cannot be reused or recycled) from the site Demolished concrete will be reused on site for temporary construction driveways where possible or sent to a concrete recycling plant. General waste will be stored in the designated bin/skip and removed by the waste contractor on a regular basis. Recyclable waste will be stored in a designated bin/skip and removed by the waste contractor on a regular basis. The waste bins will be stored in the designated areas, refer to the Site Management Plan at Appendix A. 	Ongoing	Supervisor
Excess waste	Reduce <ul style="list-style-type: none"> Efforts to minimise waste on site by avoiding over-estimation of purchasing requirements, minimizing packaging materials, and buying environmentally approved and recycled content products Minimise use of packaging materials and recycle packaging products where possible Utilise quantity surveyor estimates to order materials, to prevent wasted materials. 	Ongoing	Supervisor
Not re-using material on-site	Reuse <ul style="list-style-type: none"> Native vegetation will be mulched and reused onsite. Weeds and contaminated mulch will be disposed of separately. The office will utilise recycle waste paper bins. The re-use of timber, glass and other materials 	Ongoing	Supervisor

	<ul style="list-style-type: none"> The type and quantity of materials that are to be re-used are to be detailed in the WMP at Appendix D. 		
Not separating recycle material from general waste	Recycle <ul style="list-style-type: none"> Procedures are to be put in place for the collection and sorting of recyclable construction materials Training will be provided to all staff outlining the appropriate recycling procedures. Recycled waste bins will be appropriately sign posted. The type and quantity of materials that are to be recycled are to be detailed in the WMP at Appendix D. 	Ongoing	Supervisor
Construction staff and contractors waste	Staff waste <ul style="list-style-type: none"> Provision of containers for recyclable materials including cardboard, glass, metal, and plastic and green waste Provisions for collection of daily rubbish from workers. 	Ongoing	Supervisor
Ongoing supervision	Measurement and Monitoring Waste monitoring will be recorded on the daily and weekly Inspection report.	Ongoing	Supervisor

11 Management Responsibility

11.1 Accountabilities

11.1.1 Project Manager

The Project Manager is responsible for construction management and shall establish and maintain the Company's policies for this project and shall be responsible for their effectiveness.

The Project Manager ensures that the Project Team understands and implements the requirements of the Construction Management Plan for the course of the project.

11.1.2 Supervisor

The Project Supervisor is responsible to the Project Manager for the day to day co-ordination and site control of direct labour, plant, subcontractors and suppliers for construction works.

The Project Supervisor is responsible for the correct implementation of the controls and their on-going monitoring and maintenance and correction of non-conformances.

11.1.3 QA Manager

The QA Manager reports to the Project Manager and is responsible for the preparation and implementation of the management system for a project. The QA Manager shall ensure that all work be carried out in accordance with the Management System procedures.

The QA Manager shall establish audit schedules in consultation with the Project Manager and assign personnel to carry out planned audits. Any deviation from the Management System will be reported to the Project Manager for rectification. Trends and cumulative effects from all projects shall be assessed and corrective actions determined.

11.1.4 Geotechnical Consultant

The Geotechnical consultant is engaged by the client to manage Geotechnical Engineering issues onsite. The Geotechnical consultant is to liaise with the site supervisor to ensure that all excavation, stabilisation and shoring is undertaken in accordance with the requirements of the Geotechnical Report.

11.2 Subcontractors

The Project Manager shall clearly define the scope of subcontracted work including the subcontractor's duties for:

- Planning, installation and monitoring of the controls outlined in the Construction Management Plan
- Record keeping

The subcontractor may only enter the site from the designated access points shown on the relevant Construction Traffic Management Plan.

The subcontractor may only enter the site from the designated access points shown on the relevant Construction Traffic Management Plan.

The subcontractor cannot proceed without the approval of the Project Manager.

11.3 Principal Contractor's Responsibility

The Principal Contractor's Project Manager shall review the proposed controls outlined in the Construction Management Plan.

Subcontractor's personnel will be given the Principal Contractor's site induction before starting work.

The Principal Contractor's Project Supervisor will monitor the subcontractor's compliance with the approved environmental controls and report any deficiency or non-conformance to the Project Manager

11.4 Communication Protocols

Both formal and informal communication systems are in place on this project to ensure that information regarding the Construction Management Plan is circulated effectively to relevant personnel both internal and external to the project. Also, that information is distributed to other the Principal Contractor workplaces that might benefit from system improvements.

Subcontractors shall be included in communications to ensure the compatibility and effectiveness of their systems.

Communication with the community shall be done through the Project Manager. The Project Manager is responsible for the timing and effectiveness of all communications.

The Principal Contractor is to promote the following initiatives for communication and encourages all personnel to participate enthusiastically:

- Induction
- Tool box talk
- Risk assessment
- Pre-start briefing
- Site inspection and reporting
- Incident reporting and corrective action
- Complaint Procedure
- Incident Procedure

11.5 Work Site Monitoring and Inspection

The Principal Contract's contact person with regard to implementation of the Construction Management Plan on this project is the Project Manager.

The Supervisor shall carry out regular inspections of all work areas to ensure that the following standards and processes are being maintained. All controls of the site shall be monitored at least weekly by the Project Supervisor and the results recorded.

After each rain event site soil erosion and sediment controls shall be inspected by the Supervisor and any necessary maintenance done as soon as practicable. A record of the inspection and maintenance shall be kept on site.

The Project Supervisor has authority to initiate emergency response procedures. If a potentially environmentally hazardous situation is identified and cannot be rectified immediately, a Non-Conformance Report shall be made and, if needed, work in the area shall cease until the situation is rectified.

The Project Manager shall determine appropriate corrective action to address the immediate consequences of the non-conformance including containment, clean up and restoration work.

The Project Manager shall regularly review reports to confirm that clean up, restoration and corrective actions have been completed and are effective. The Project Manager shall review all non-conformances and report significant findings to monthly management review meetings.

Any damage to areas outside the work site shall be immediately reported to the Supervisor who may advise on the nature of appropriate corrective action.

11.6 Training

A Project Management Plan should be prepared to outline the expected qualifications and training requirements for project personnel. It shall be kept current with any additional training that may become necessary during the course of the work. Records of training done on site shall be kept in the project file system including dates, personnel attending and trainer details.

All site staff and workers undergo a site-specific site induction or other training which includes:

- Environmental aspects relevant to their working on site
- Description of control measures used, their construction & maintenance
- The potential impacts from ineffective controls
- Monitoring and reporting procedures
- Emergency and incident response

Any alteration to the CMP relevant to site personnel shall be immediately communicated via updated inductions and tool box talks.

Subcontractors shall be inducted into the Principal Contractor system, and if their works require such, they shall be required to submit relevant work method statements with associated environmental protection measures.

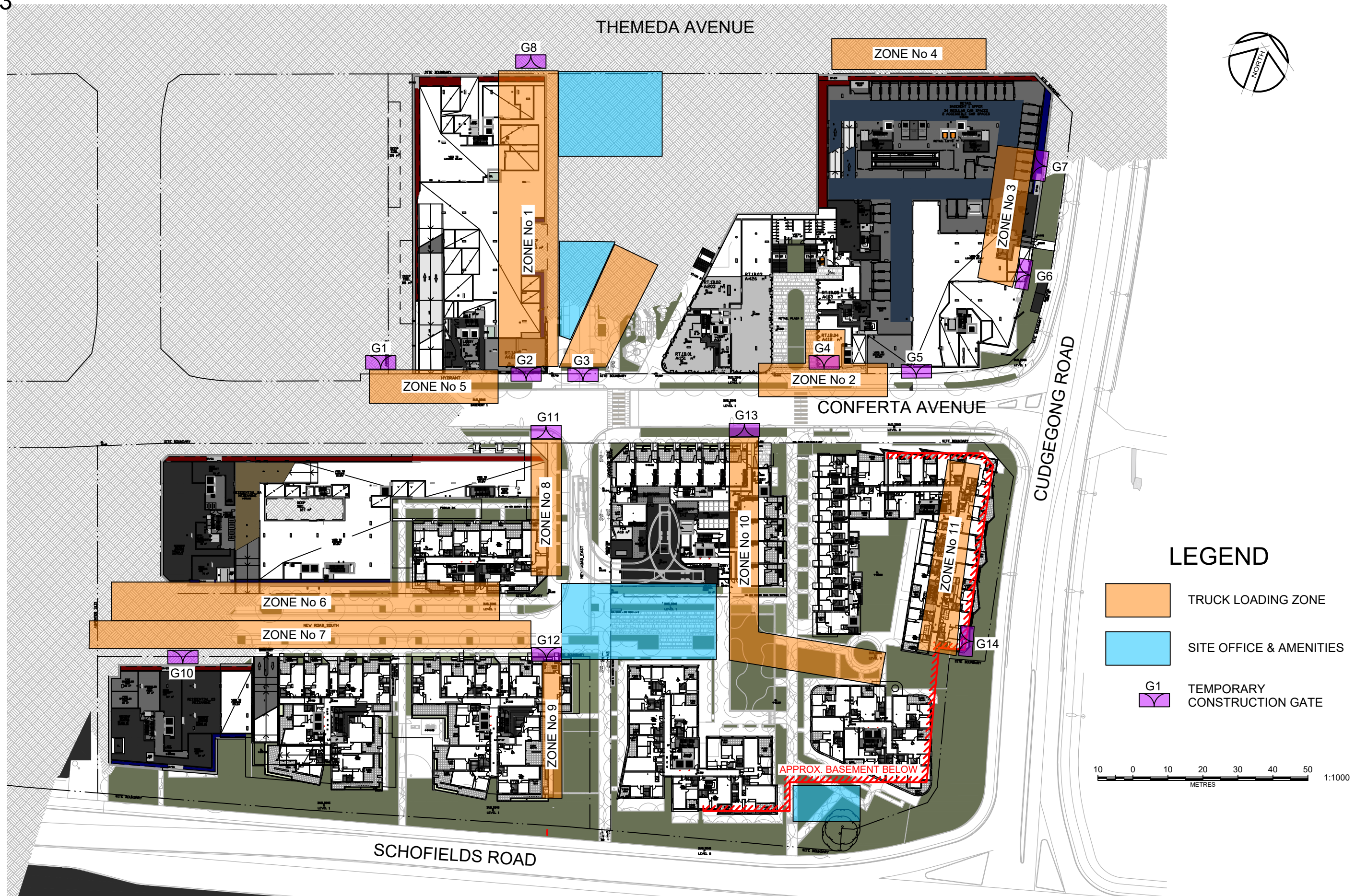
Additional Supplychain Sustainability School training shall be provided free of charge to contractors and management. Resources can encourage and guide staff in the development of sustainable supply chain management through identification of social, environmental and economic sustainability measures in construction.

11.7 Specific Emergency Responses, Contact Details, Emergency Preparedness

Any specific Emergency Response procedures required to be implemented are to be outlined by the Project Manager/Site supervisor.

The Contact detailed of the emergency services are to be located on site at a location that is easily accessible to all.

**Appendix A
Site Management Plan**



REV	AMENDMENT	ISSUED	DATE
D	NEW LOADING DOCK ADDED	JB	16/11/2020
E	B99 PATHS TO BASEMENT PARKING	JB	20/11/2020
F	B85 & B99 PATHS TO BASEMENT PARKING	JB	24/11/2020
G	LOADING DOCK TURNING PATH	JB	25/11/2020
H	SITE BOUNDARY & BASEMENT	JB	7/12/2020

**BARKER
RYAN
STEWART**

TOTAL PROJECT SOLUTIONS

CONCEPTS | PLANNING | PROJECT MANAGEMENT | SURVEYING | CERTIFICATION

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Client:
DEICORP Pty Ltd

**TALLAWONG STATION PRECINCT SOUTH
PROPOSED DEVELOPMENT**

CONSTRUCTION MANAGEMENT PLAN

Designed: —
Drawn: JB
Checked: RD

Scales: Plan 1:1000
Horiz. —
Vert. —
X-Sect. —

Datum: A.H.D.

Plan No.
SY190226-01-101

File Ref.
SY190226

REV.
H

Appendix B
Crane Location Plan

Turmdrehkran

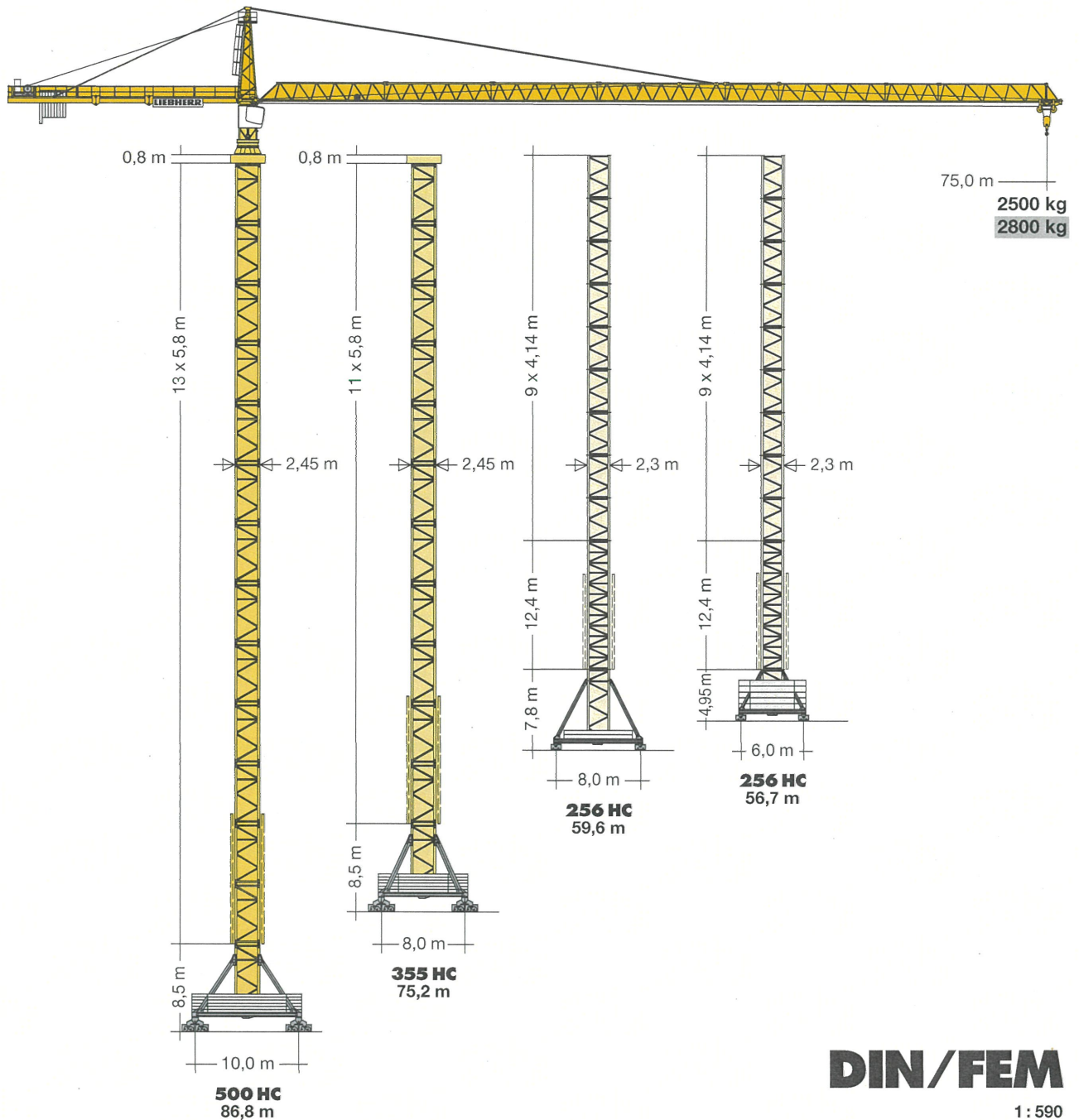
Tower Crane / Grue à tour / Gru a torre
Grúa torre / Guindaste de torre

280 EC-H 12 FR.tronic®

280 EC-H 12 Litronic®

280 EC-H 12 FR.tronic®
280 EC-H 12 Litronic®

280 EC-H 16 FR.tronic®
280 EC-H 16 Litronic®



DIN/FEM

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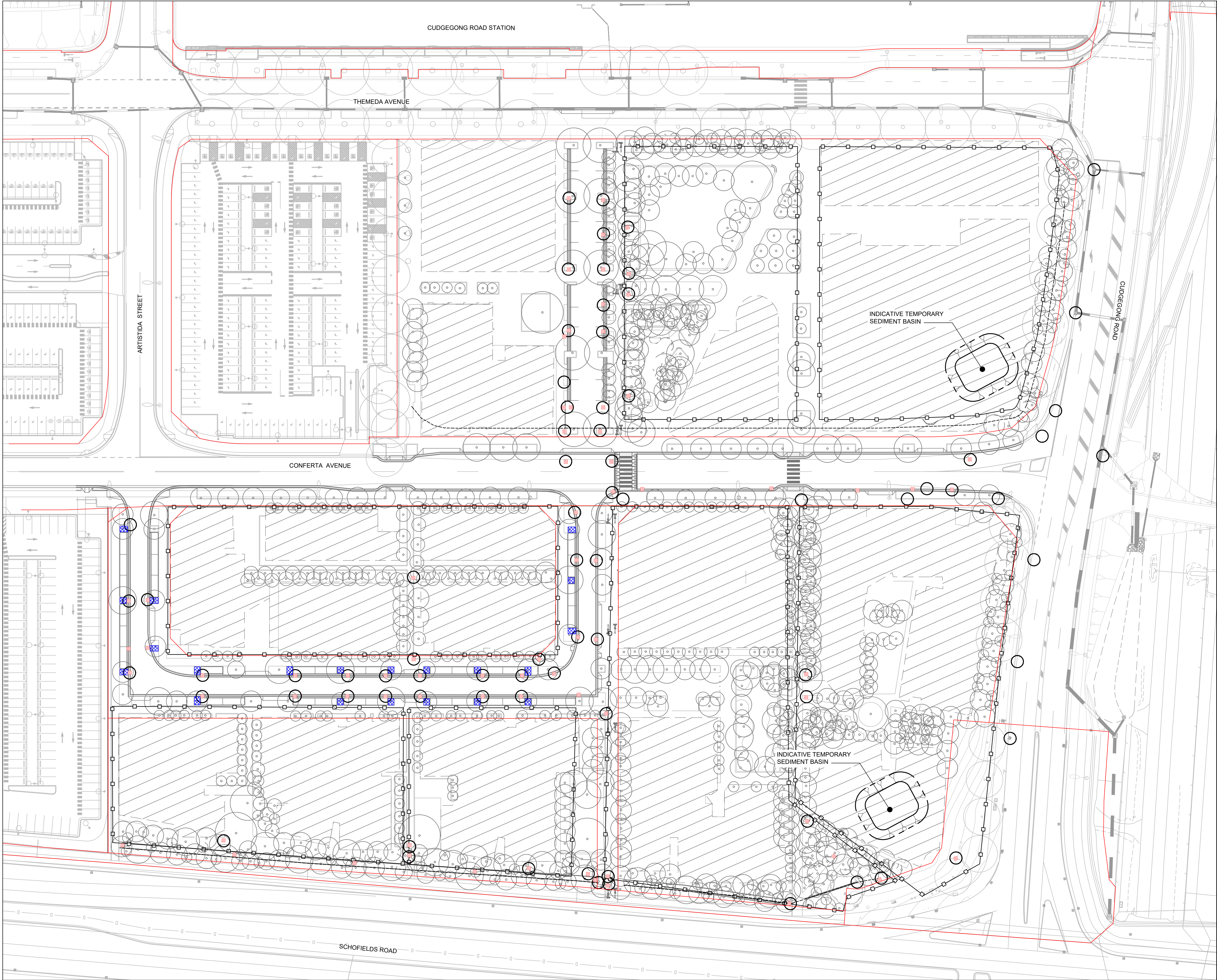
LIEBHERR

Appendix C

Soil and Water Management Plan

ISO A1 594mm x 841mm

Last saved by: REVESC5(2020-11-25) Last Plotted: 2020-11-27
Filename: \\AUSYD1FP001\PROJECTS\60618532-SHT-00-0000-CI-0201.DWG




AECOM

PROJECT

TALLAWONG STATION PRECINCT SOUTH CIVIL PACKAGE

CLIENT



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(TALLAWONG STATION) PTY LTD

CONSULTANT

AECOM Australia Pty Ltd
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LEGEND

- 56.5 MAJOR COUNTOURS
- SEDIMENT FENCE
- DIVERSION SWALE
- MESH AND GRAVEL INLET FILTER
- ROCK CHECK DAM
- PROPOSED DRAINAGE PITS
- STABILISED SITE ACCESS AND WHEEL WASH
- STRAW BALE FILTER

SCALE BAR

0 12.5 25 m
1:500

PRELIMINARY

PROJECT MANAGEMENT INITIALS

C.REYES	N.MITCHELL	G.ROEFFEN
DESIGNER	CHECKED	APPROVED

ISSUE/REVISION

I/R	DATE	DESCRIPTION
5	25.11.2020	ISSUE FOR SUBMISSION
4	07.05.2020	ISSUE FOR SUBMISSION
3	16.04.2020	ISSUE FOR SUBMISSION
2	03.04.2020	ISSUE FOR REVIEW
1	24.03.2020	ISSUE FOR REVIEW

KEY PLAN

PROJECT NUMBER

60618532

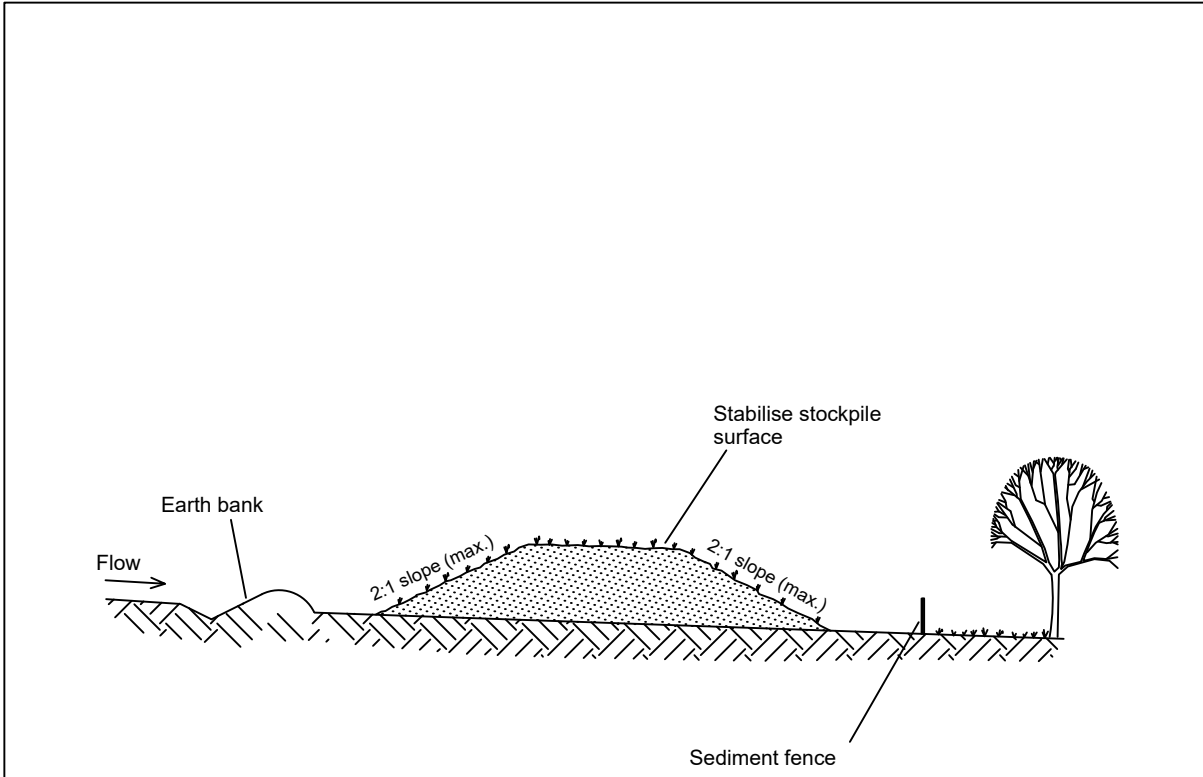
SHEET TITLE

EROSION AND SEDIMENTATION
CONTROL PLAN
SHEET 01

SHEET NUMBER

60618532-SHT-00-0000-CI-0201

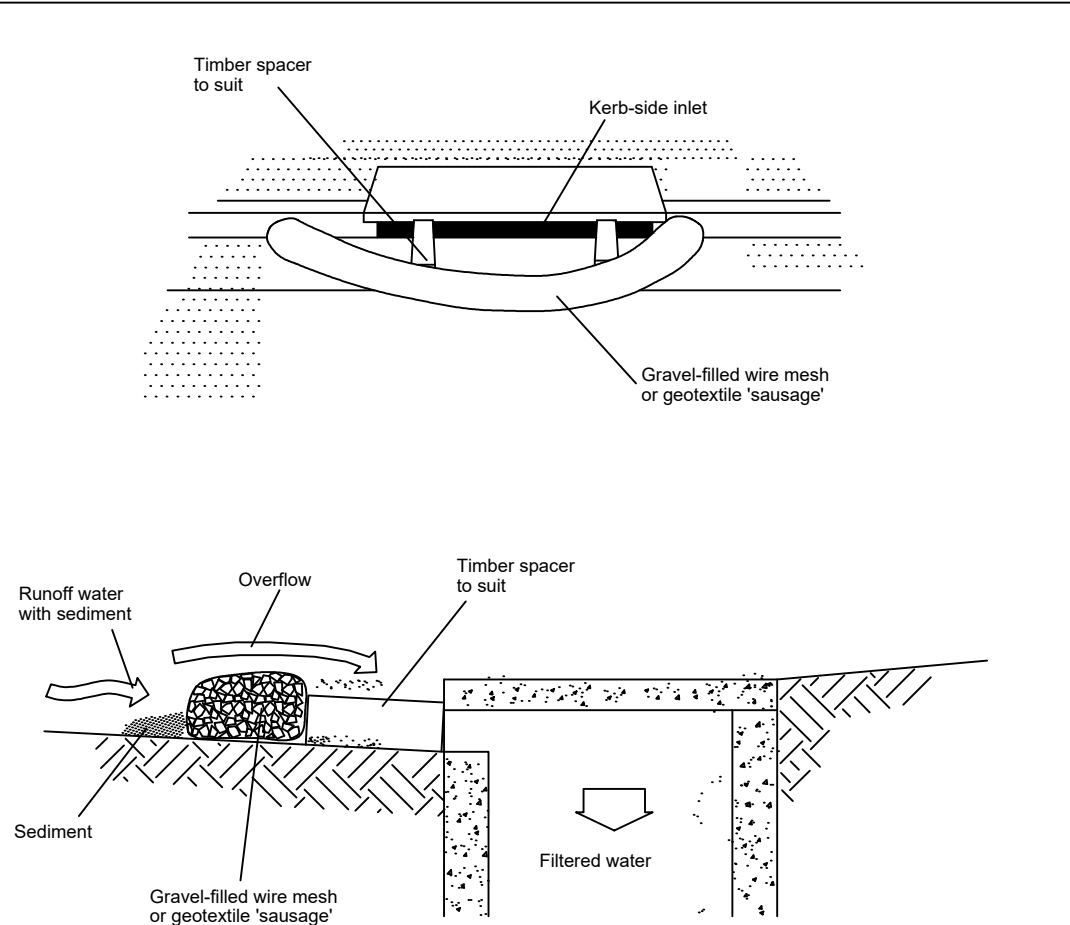
This drawing is confidential and shall only be used for the purpose of this project. The signing of this title block confirms the design and drafting of this project have been prepared and checked in accordance with the AECOM quality assurance system to ISO 9001:2000.



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0,10.
5. Construct earth banks on the upslope side to divert water around stockpiles and sediment fences 1 to 2 metres downslope.

STOCKPILE PROTECTION

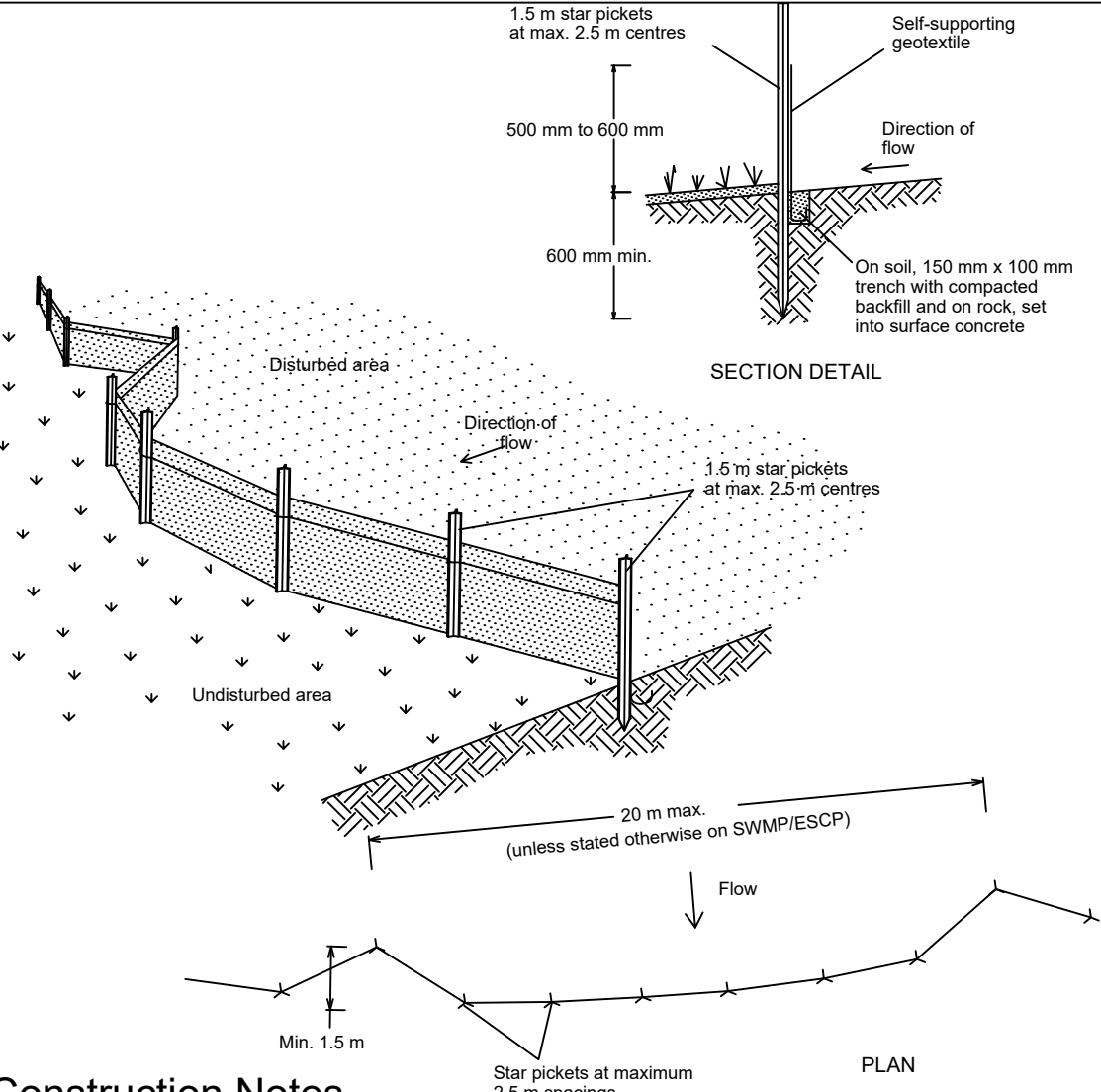


NOTE: This practice only to be used where specified in an approved SWMPI/ESCP.

Construction Notes

1. Install filters to kerb inlets only at sag points.
2. Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
4. Place the filter at the opening leaving at least a 100-mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
5. Form a seal with the kerb to prevent sediment bypassing the filter.
6. Sandbags filled with gravel can substitute for the mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.

MESH AND GRAVEL INLET FILTER

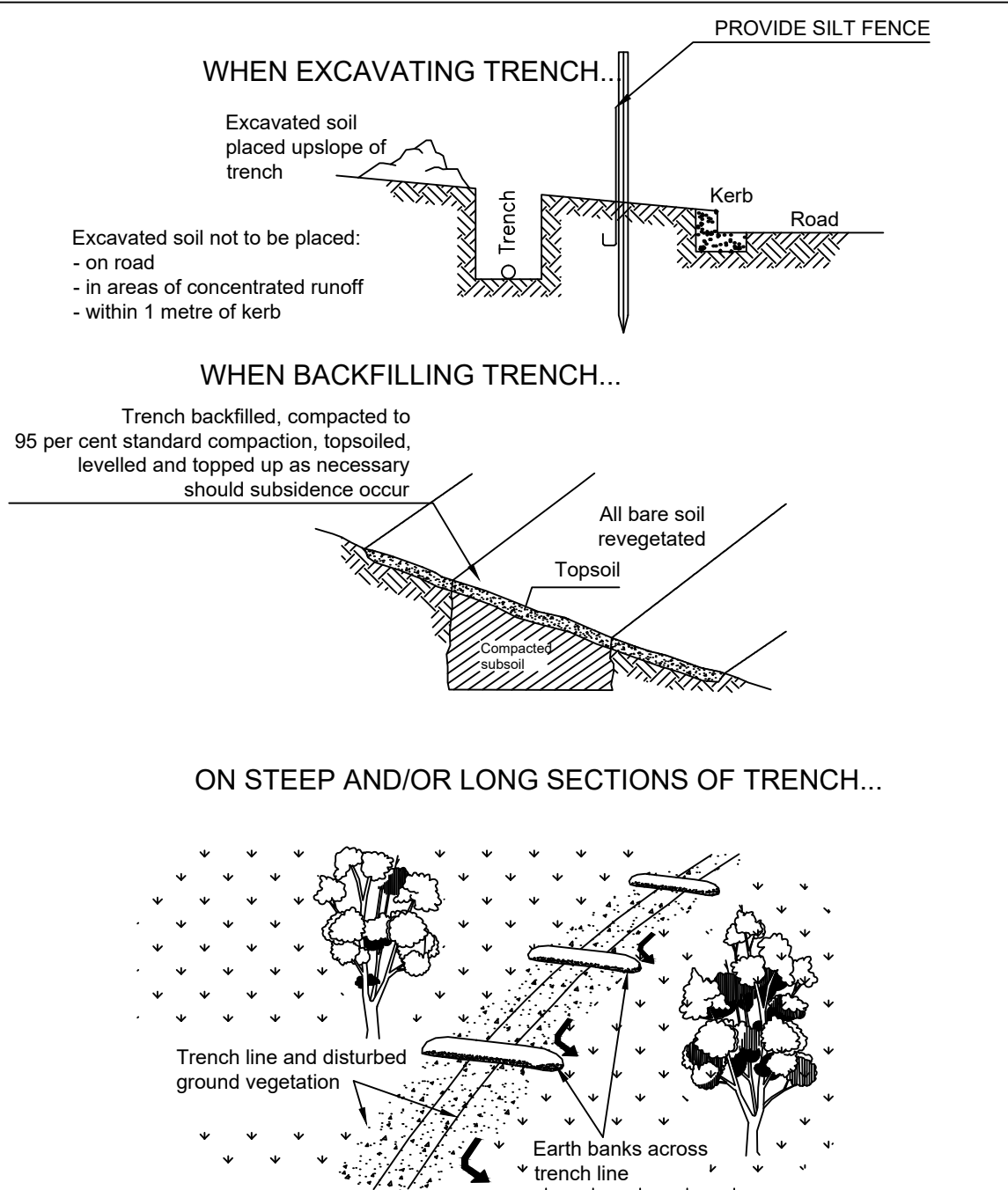


Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section, the catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. fix the geotextile with wire ties or as recommended by the manufacturer. only use geotextile specifically produced for sediment fencing, the use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE

SD 6-8

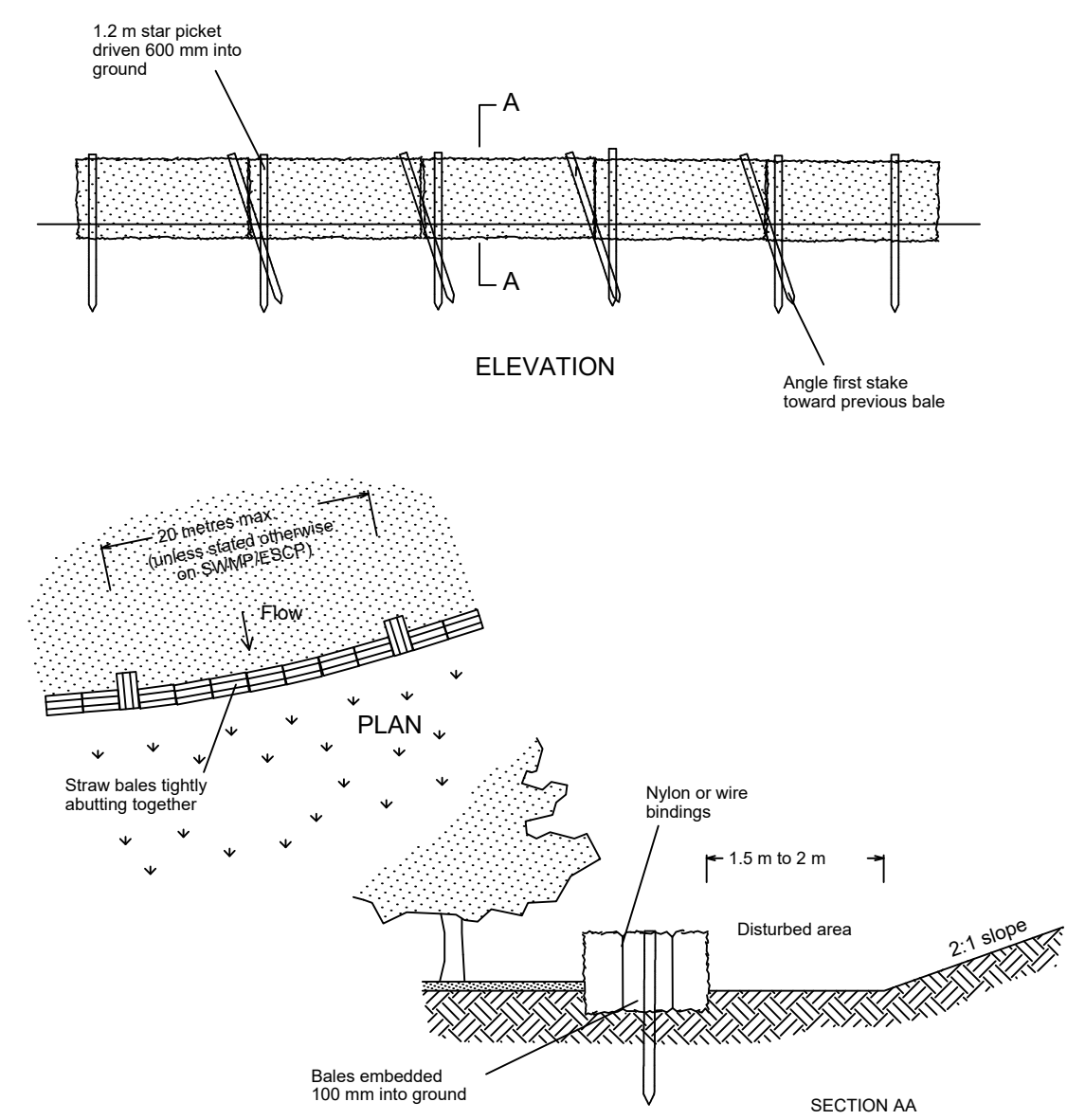


Construction Notes

1. Do not open any trench unless it is likely to be closed in three days.
2. Place excavated material upslope of trench.
3. Stockpile topsoil separately from subsoil.
4. Divert runoff from the line of the cut with diversions as directed by standard drawing 5-2.
5. Rehabilitate in accordance with specification.

UTILITY CONSTRUCTION

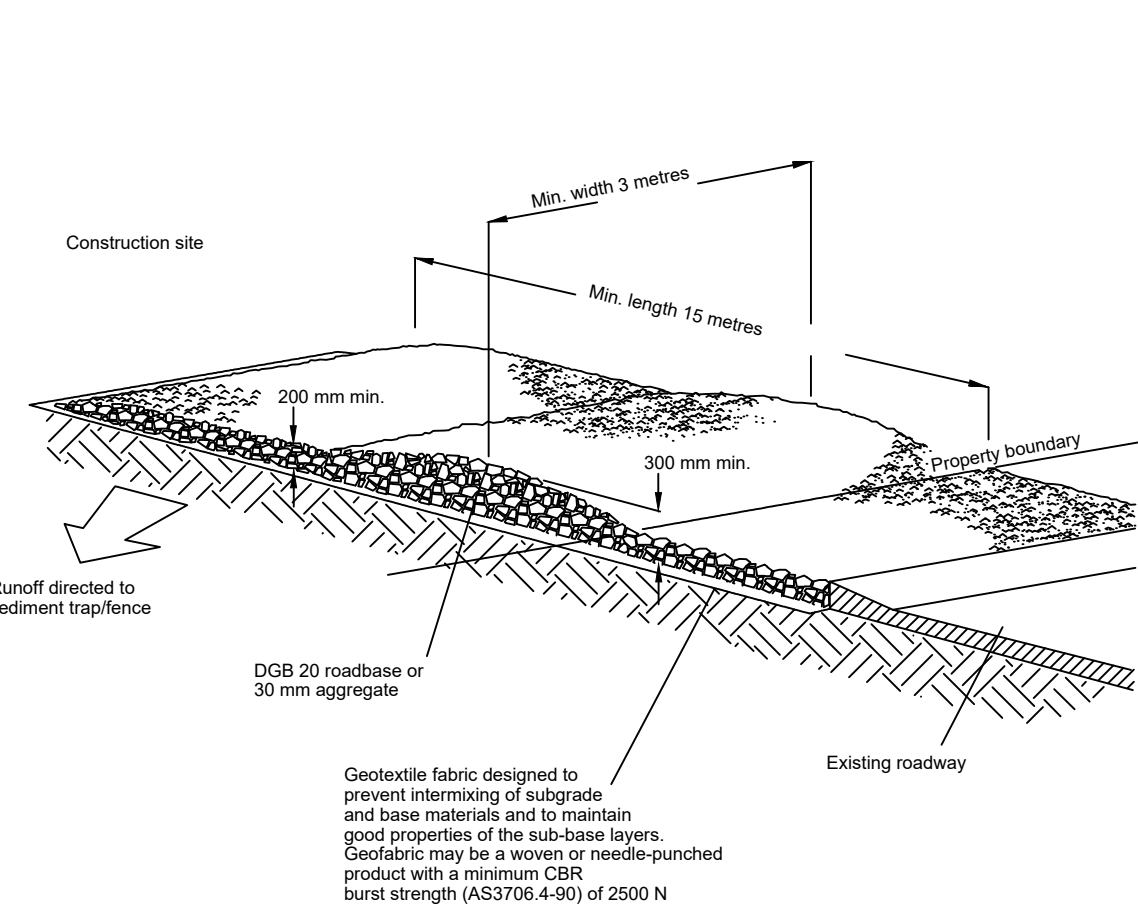
SD9-1



Construction Notes

1. Construct the straw bale filter as close as possible to being parallel to the contours of the site.
2. Place bales lengthwise in a row with ends tightly abutting. Use straw to fill any gaps between bales. Straws are to be placed parallel to ground.
3. Ensure that the maximum height of the filter is one bale.
4. Embed each bale in the ground 75 mm to 100 mm and anchor with two 1.2 metre star pickets or stakes. Angle the first star picket or stake in each bale towards the previously laid bale. Drive them 600 mm into the ground and, if possible, flush with the top of the bales. Where star pickets are used and they protrude above the bales, ensure they are fitted with safety caps.
5. Where a straw bale filter is constructed downslope from a disturbed batter, ensure the bales are placed 1 to 2 metres downslope from the toe.
6. Establish a maintenance program that ensures the integrity of the bales is retained - they could require replacement each two to four months.

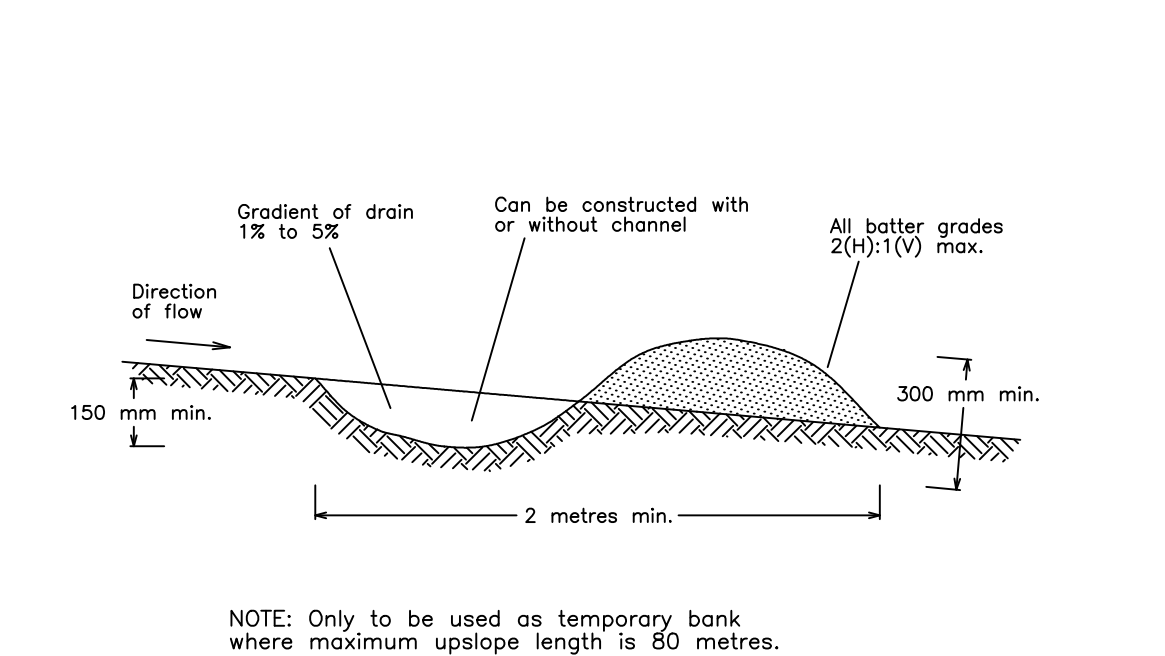
STRAW BALE FILTER



Construction Notes

1. Strip the topsoil, level the site and compact the subgrade.
2. Cover the area with needle-punched geotextile.
3. Construct a 200 mm thick pad over the geotextile using road base or 30 mm aggregate.
4. Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence

STABILISED SITE ACCESS



Construction Notes

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

DIVERSION SWALE

EROSION AND SEDIMENTATION CONTROL NOTES

1. UPON COMPLETION OF FINAL EARTHWORKS OR AFTER WRITTEN DIRECTION PRINCIPAL AUTHORISED PERSON, IMMEDIATE SILT CONSERVATION TREATMENTS SHALL BE APPLIED SO AS TO RENDER AREAS THAT HAVE BEEN DISTURBED, EROSION PROOF WITHIN 14-DAYS;
2. ALL PERIMETER AND SILTATION CONTROL MEASURES ARE TO BE THE FIRST STEP IN CLEARING OR EARTHWORKS;
3. THE AREA OVER ALL STORMWATER AND SEWER LINES NOT IN STREETS IS TO BE MULCHED AND SEEDED AS SOON AS POSSIBLE BUT NO LATER THAN WITHIN 14-DAYS AFTER BACKFILL;
4. NO MORE THAN 150-METRES OF TRENCH IS TO BE OPEN AT ANY ONE TIME;
5. AREAS OVER ELECTRICITY POWER, TELEPHONE AND GAS SUPPLY TRENCHES ARE TO BE SEEDED AND MULCHED AS SOON AS POSSIBLE BUT NO LATER THAN WITHIN 14-DAYS AFTER BACKFILL;
6. ALL TEMPORARY EARTH BERMS, DIVERSION AND SEDIMENT BASIN EMBANKMENTS ARE TO BE TRACK ROLLED, SEEDED OR MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED;
7. ALL FILLS ARE TO BE LEFT WITH A WINDROW AT LEAST 200 MM HIGH AT THE TOP OF THE SLOPE AT THE END OF EACH DAY'S EARTHWORKS, AND ALL EARTHWORK AREAS SHALL BE ROLLED EACH EVENING TO "SEAL" THE EARTHWORKS;
8. ALL FINAL EROSION PREVENTION MEASURES, INCLUDING ESTABLISHMENT OF GRASSING, ARE TO BE COMPLETED PRIOR TO THE SITE FINAL INSPECTION;
9. STABILISATION OF ALL CUT AND FILL SLOPES SHALL BE COMMENCED WITHIN 14-DAYS OF COMPLETION OF FORMATION;
10. A STRIP OF TURF IS TO BE PLACED IMMEDIATELY BEHIND THE KERB AND GUTTER ON ALL NEW ROADS AND AT ADDITIONAL LOCATIONS AS DETERMINED BY PRINCIPAL AUTHORISED PERSON;
11. ALL TOPSOIL IS TO BE STOCKPILED ON SITE (AWAY FROM TREES AND DRAINAGE LINES). MEASURES SHALL BE APPLIED TO PREVENT EROSION OF THE STOCKPILES AND
12. ESTABLISHMENT OF FIRE BREAKS SHALL BE CARRIED OUT IN CONSULTATION WITH A FIRE CONTROL OFFICER.

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PROJECT

TALLAWONG STATION
PRECINCT SOUTH
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SCALE BAR

PRELIMINARY

PROJECT MANAGEMENT INITIALS

C.REYES	N.MITCHELL	D.FETTELL
DESIGNER	CHECKED	APPROVED

ISSUE/REVISION

I/R	DATE	DESCRIPTION
4	07.05.2020	ISSUE FOR SUBMISSION
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KEY PLAN

PROJECT NUMBER

60618532

SHEET TITLE

EROSION AND SEDIMENTATION
CONTROL DETAILS
SHEET 01

SHEET NUMBER

60618532-SHT-00-0000-CI-0221

Appendix D Construction Waste Management Plan



Deicorp Projects (Tallawong Station) Pty Ltd

Construction Waste Management Plan

Proposed Mixed Use Development

Tallawong Station Precinct South

July 2020

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Project No.	SY190226
Author	BM
Checked	LW
Approved	GB

Rev No.	Status	Date	Comments
1	Draft	12/03/2020	
2	Final	16/04/2020	Deicorp comments
3	Final Amended	7/05/2020	Landcom and Sydney Metro Comments
4	Final Amended v2	6/07/2020	Update to address Green Star Credit.

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This report is for development application purposes only and is not to be relied upon for construction purposes. The waste calculations included in the report are an estimate only, based on the plans and documents supplied by the client and waste generation guidelines from Council, the EPA and other third parties. This report is a guideline only and should not be used as a basis for feasibility studies, safety procedures, operational costs, demolition / construction estimates or bills of quantities. Should waste generation be higher than expected, the site manager shall make appropriate adjustments to accommodate additional waste. Any equipment recommended in this report shall be assessed by the supplier and site manager to determine it is fit for the intended purpose.



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1 Author and Contact Details

AUTHOR DETAILS

Name	Barker Ryan Stewart
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Phone number(s)	02 9659 0005
Email	sydney@brs.com.au

DEVELOPMENT DETAILS

Project Details	Tallawong Station Precinct South
Address of Development	1-15 Conferta Avenue, Rouse Hill (Lot 293 DP 1213279) and 2-12 Conferta Avenue (Lot 294 DP 1213279)
Existing Buildings and other structures currently on the site	The site is currently vacant of buildings.
Description of proposed development	Proposed mixed use development precinct incorporating 987 residential units, retail and commercial space. Basement car parking will be provided to service proposed uses.

This development achieves the waste objectives set out in the DCP. The details on this form are the provisions and intentions for minimising waste relating to this project. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as council, OEH or WorkCover NSW.

Contact Name Ben Miller

Signature



Date 01/05/2020

2 Introduction and Legislative Requirements

Barker Ryan Stewart have been engaged by Deicorp Projects (Tallawong Station) Pty Ltd to prepare a Construction Waste Management Plan to accompany a State Significant Development application for the proposed Tallawong Station South mixed use precinct.

In collaboration with Landcom and Sydney Metro, Deicorp have made a commitment to divert $\geq 95\%$ of construction waste away from landfill. As discussed in Section 3.1, this Construction Waste Management Plan has been prepared to enable contractors and site management to meet specific waste objectives.

This WMP has been prepared having regard for the specific waste management controls and objectives of the Blacktown City Council Growth Centre Precincts DCP, where development applications are required to demonstrate consideration of the following:

- a) *To maximise opportunities for re-use through source separation and on-site storage.*
- b) *To minimise waste generation and maximise re-use and recycling*
- c) *To minimise waste generation through design, material selection and building practices.*
- d) *To ensure efficient storage and collection of waste and quality design of facilities*

The Secretary's Environmental Assessment Requirements (SEAR's) dated 13 February 2020 also required the preparation of a waste strategy to accompany submission of the SSD application.

3 Waste Avoidance and Reduction

3.1 Landcom and Sydney Metro Waste Requirements

Landcom and Sydney Metro waste requirements have been reviewed and Barker Ryan Stewart confirm the construction of the proposed Tallawong Station Precinct South development can meet the following Landcom and Sydney Metro objective:

E1. Waste Diversion

Project will divert $\geq 95\%$ of construction waste from landfill (excluding contamination or hazardous materials which are to be processed safely).

Contractors will be provided with a waste management module which outlines primary ways to manage waste and divert excess construction materials from landfill. To ensure the project will divert more than 95% of waste from landfill, the construction waste strategy will include:

- Utilising all suitable topsoil (approximately 5%) on site for landscaping purposes.
- All inert fill (approximately 95%) excavated from the site will be transported to approved development sites to be reused where additional inert fill is required.
- All waste identified with contaminants to be disposed at approved waste facilities.
- Information on the importance of early waste separation and in-situ characterisation of waste;
- Methods to enable identification of waste and construction materials;
- Appropriate instructions for documenting volumes of waste and methods of disposal;
- Site Manager field observations and audits designed to ensure that contractors are adhering to the construction waste strategy;
- Reduce stockpiling of waste where possible as it becomes difficult to characterise specific materials for recycling when certain materials cannot be visually identified;
- Specific waste characterisation areas should allow waste to be sorted in a safe environment away from immediate construction danger;
- Procedures to be prepared prior to construction for Site Managers or persons responsibility for site waste to undertake a final inspection of landfill waste to ensure the materials have been characterised correctly;
- Procedure to be prepared for potential reuse of construction materials on site.

3.2 Construction Waste Monitoring and Reporting

Documentation of construction waste generation totals, methods of removal and on site reuse, off site reuse, off site recycling and off-site disposal should be maintained by contractors to ensure waste targets are achieved and documented. Where possible, Site Managers should be responsible for the preparation of monthly reporting to ensure waste objectives are being met.

A Waste Register is to be kept by all contractors documenting the following:

- Type of waste;
- Total tonnage and volume of waste;
- Category of waste (recycling, reuse, landfill);
- Destination for reuse, recycling or landfill; and
- Landfill and waste contractor receipts.

Any non-conformances throughout construction should be identified immediately and Site Managers should undertake any actions required to prevent the issue reoccurring.

3.3 Excavation Waste Reuse

With the exception of some minor contaminants and asbestos identified in the Detailed Site Investigation Report prepared by El Australia 100% of the excavated material will be reused including approximately 5% on site for landscaping and 95% to other approved development sites requiring inert fill.

The proposal will require the excavation of approximately 380,000m³ of material to facilitate construction. To ensure that more than 95% of excavation material is diverted from landfill, all inert material excavated from the site will be transported to local development sites requiring extra fill.

Any topsoil will remain on site for use in landscaping with remaining topsoil transported to nearby development sites. Details of nearby development sites will be provided prior to excavation of the material.

3.4 Roles and Responsibilities

Table 1 identifies typical roles and responsibilities associated with contractor waste disposal in large construction sites. Note roles and responsibilities will be assigned by the contractor and the following information is provided as a guide only.

Table 1: Typical Waste Roles and Responsibilities

Role	Typical Responsibility
Site Management or Waste Managers	Responsible for the meeting of all waste objectives within the site area including monitoring, reporting and delegating of tasks where required to ensure at least 95% of waste is to be diverted from landfill.
Construction personnel	Responsible for daily waste characterisation and maintenance to ensure waste objectives are being met. Construction personnel should be educated on the requirement of the waste strategy and any impacts associated with
WHS Managers	Typically responsible for management of site safety and induction of all workers prior to construction. This may include discussion of the waste management strategy and hierarchy associated with waste disposal on and off the site.
External Waste Contractors	Responsible for the collection and disposal of waste to recycling facilities or landfill. External waste contractors should report to the Site Managers or Waste Managers to ensure the waste strategy is being adopted and documentation of waste leaving the site is prepared.

3.5 Waste Avoidance and Reduction Methods

- All fixtures and fittings will be made to measure wherever possible;
- All materials will be ordered in accordance with a bill of quantities;
- Recycled materials will be utilised on site or on nearby sites where ever possible to reduce transport costs and impacts to the environment;
- Measures will be taken to ensure the construction contractor is aware of the waste management procedures and adheres to appropriate guidelines;
- Salvage materials for recycling and reuse during the construction process; and
- The remaining waste to be transported to a recognised builders recycling yard or waste facility.

3.6 End Destination for Waste Streams

Per requirements of the green star credit system, see below details of the Construction Waste Management contractor that is to be engaged to undertake construction waste removal from the site.

Cheap and Quick Waste Bins Pty Ltd.

25 - 27 Governor Macquarie Drive
Chipping Norton NSW 2170

The waste contractor will utilise the below end destination for all recyclable materials.

KLF Holdings Pty Ltd

16 Grande Avenue
Camelia NSW 2142

Landfill products will be transported to SUEZ at Kemps Creek.

3.7 Waste Recovery Rate

The Green Star Construction & Demolition Waste Reporting Criteria maintains that a waste processing facility's diversion of waste for recovery is limited to 50% of the facility's total input as follows:

This 50 percent cap is based on the GBCA's position that energy recovery from construction and demolition waste streams is not an acceptable substitution for recycling in its own right, but rather a complementary management solution for wastes that would otherwise go to landfill. As a consequence, waste processing facilities that divert waste streams for the production of nonstandard fuels for waste-to-energy purposes should not rely on this waste diversion pathway for the majority of their recycling output.

It is therefore considered that the maximum waste recovery rate achievable for the proposed development is 50% of recycled waste generation calculations provided in Table 2.

4 Construction

4.1 Waste Generation

Table 2 identifies expected waste generation during construction. Note volume to mass calculations for construction waste have been guided by the *Green Star Reduction of Construction and Demolition Waste* document which provides a *conversion factors* table used to convert measurement of waste types from volume to weight.

Table 2: Expected Construction Waste Generation

TYPE OF WASTE GENERATED	REUSE	RECYCLE	DISPOSAL	MASS	COMMENT
	Estimate Volume (m ³)	Estimate Volume (m ³)	Estimate Volume (m ³)	Estimate Mass (Tonnes)	Specify method of on-site reuse, contractor and recycling outlet and/or waste depot to be used
Excavation material	380,000m ³	-	-	380,000 tonnes	Excavated materials will be reused as fill on this site or other developments.
Timber (Side façade / dressed)	50m ³	65.7m ³	-	185.12 tonnes	Reused on site or transferred to waste recycling facility.
Gyprock / Cladding	55m ³	63.7m ³	-	23.74 tonnes	Reused on site or transferred to waste recycling facility.
Concrete	18.1m ³	10.4m ³	-	65.55 tonnes	Any excess concrete will be retained in the truck and used elsewhere or if required will be transferred to a waste recycling facility.
Masonry (Hebel Block/ cement sheeting/ Pavers)	44m ³	55.5m ³	-	129.35 tonnes	Reused on site or transferred to waste recycling facility.
Tiles (roof)	N/A	N/A	N/A	N/A	No roof tiles will be used in the development.
Metal (roofing / framing / façade)	28m ³	36m ³	-	57.6 tonnes	Reused on site or transferred to waste recycling facility.
Glass	N/A	N/A	N/A	N/A	All glass will be made to order.
Furniture	N/A	N/A	N/A	N/A	Not an issue at construction stage.
Fixtures / fittings	19.2m ³	11.5m ³	-	9.21 tonnes	Fixtures will generally be made to order. Any excess will be reused or transferred to waste recycling facility.
Floor coverings	30m ³	48.3m ³	-	23.49 tonnes	Reused on site or transferred to waste recycling facility.

TYPE OF WASTE GENERATED	REUSE	RECYCLE	DISPOSAL	MASS	COMMENT
	Estimate Volume (m ³)	Estimate Volume (m ³)	Estimate Volume (m ³)	Estimate Mass (Tonnes)	Specify method of on-site reuse, contractor and recycling outlet and/or waste depot to be used
Packaging (used pallets / pallet wrap)	90m ³	57.4m ³	9.5m ³	37.07 tonnes	Pallets will be reused by delivery contractors or transferred to a Material Recovery Facility. Wrap and packaging will be a transferred to waste recycling or waste management facility.
Garden organics	24.6m ³	30m ³	-	8.19 tonnes	Organics will be ordered to size in accordance with the quantity survey. Any excess will be returned to provider, reused on site or another development site or transferred to a waste recycling facility.
Containers (cans / plastic / glass)	-	24.5m ³	-	3.4 tonnes	Containers will be a transferred to a waste recycling facility.
Paper / cardboard	-	59.1m ³	-	5.91 tonnes	Transferred to waste recycling facility.
Residual waste		157.5m ³	44m ³	161.2 tonnes	Residual waste will be sorted and transferred to a waste recycling facility or waste management facility as required.
Hazardous / special waste (specify)	N/A	N/A	N/A	N/A	No hazardous materials will be utilised in the construction.
Other (Asphalt)	32m ³	28.9m ³	-	48.72 tonnes	Reused on another development site or transferred to waste recycling facility.
TOTAL	390.9m³ (excl excavation amount)	648.5m³	53.5m³	758.2 tonnes (excl excavation)	

4.2 Meeting Waste Targets

Based on the above figures and without taking into account significant reuse of excavation materials, our estimates conclude that approximately 95.1% of construction waste can be recycled or reused and diverted from land fill.

4.3 Waste Confirmation

Final waste calculations during construction will be provided as part of a construction management plan included as part of the construction certificate process.

5 Conclusion

This Construction Waste Management Plan has been prepared to guide waste management processes associated with the proposed mixed use development.

With the exception of some minor contaminants and asbestos identified in the Detailed Site Investigation Report prepared by EI Australia 100% of the excavated material will be reused including approximately 5% on site for landscaping and 95% to other approved development sites requiring inert fill.

The quantity of waste materials to be generated onsite are estimates based on the information provided. It is estimated that approximately 95.1% of construction waste can be reused or recycled and diverted from landfill in accordance with Landcom objectives.

Site management are responsible for proactive waste protocols during the construction phase to ensure that $\geq 95\%$ waste is diverted from landfill.

Appendix E Construction Pedestrian and Traffic Management Plan



Deicorp Projects (Tallawong Station) Pty Ltd

Construction Pedestrian and Traffic Management Plan

Tallawong Station Precinct South

7 May 2020

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Project No.	SY190226
Author	BM
Checked	AJ/GB
Approved	GB

Rev No.	Status	Date	Comments
1	Draft	13/03/2020	
2	Final	16/04/2020	Deicorp comments
3	Amended Final v1	20/04/2020	Deicorp comments
4	Amended Final v2	7/05/2020	Landcom and Sydney Metro comments

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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	Stage 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	13/02/2020

Requirement	Relevant Report Section
Construction Pedestrian and Management Plan (including construction traffic) The EIS shall include a Construction Pedestrian and Management Plan, developed in 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 - Traffic Control Plan (TCP)

Appendix B – Vehicle Movement Plan (VMP)

Appendix C – Swept Path Analysis

Appendix D – Road Safety Audit (Construction stage)

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 demolition, excavation and building stages for the proposed mixed-use development at Tallawong Station Precinct South in accordance with the requirements of:

- North West Growth Centre Development Control Plan,
- RMS's *"Traffic Control at Worksites"* document, 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 and the recommendations of the audit have been incorporated into the CPTMP.

2 Project Overview

2.1 Proposed Development

A State Significant Development (SSD) application is to be submitted to the NSW Department of Planning, Industry and Environment for excavation and construction of a mixed-use precinct comprising the development outlined in Table 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.

The basement level car parking is spread over four levels.

Table 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

2.2 Building and Construction Works

This CPTMP covers the excavation 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.

3 Traffic Management

3.1 General

Traffic management for the site shall be configured to ensure that workers can undertake demolition, excavation and building works safely at all times by separating workers and public road users. Contractors are responsible for the demolition and excavation work and the building contractor is responsible for construction management and 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 shall be implemented by appropriately qualified and authorised traffic controllers only. Traffic controllers must have completed RMS 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.

3.2 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,
- 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,
- Traffic volumes including nearby school, industrial, commercial, retail and residential developments

3.3 Traffic Control Plan

The site management plan and crane location plan in the Construction Management Plan show the proposed truck/crane hoist locations within the site. The Traffic Control Plan (TCP) within Appendix A shows the proposed traffic control measures to be made in the road network include the arrangements for warning traffic and guiding traffic around and/or past the worksite.

In the implementation of the TCPs 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 site (TCAW) 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 TCPs 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 TCPs which have been identified in a Location Risk Assessment can be made by a person with a current certificate in TCAW Planning (red card). Should the TCPs 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 TCPs will be prepared once the Public Infrastructure Engineering Design plans have been approved by the Road Authorities.

3.4 Construction Parking Strategy

On-site parking will be provided for construction staff and Deicorp employees. The use of public transport (Sydney Metro and Buses) will be encouraged. There are also opportunities for construction staff to park off site, staff and contractor parking is not to occur within the commuter car parks or the residential areas to the south of Schofields Road.

3.5 Road Safety Audit (Construction stage)

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 Pedestrian and Traffic Management Plan for the project reviewed to identify issues that may affect road user safety and other relevant issues.

The Road Safety Audit (Construction stage) is attached at Appendix D, the recommendations of the audit.

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.

3.6 Traffic Management Strategy

Table 2 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.

A swept path analysis was undertaken to check vehicles can safely manoeuvre through road network for an Articulated Vehicle (AV), and a heavy Rigid vehicle (HRV) can enter the construction site via Conferta Avenue. The swept path analysis is contained within Appendix C of this report.

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.

The peak construction vehicle traffic is likely to occur during excavation or during large concrete pours where an estimated up to 20 truck movements per day could occur.

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

The Vehicle Management Plan (VMP) is attached at Appendix B of this report. This plan shows the proposed construction vehicle routes to and from the site through the road network.

Table 2: Traffic Management Strategy

Potential Impact	Impact Assessment	Control Measure
On the commercial, retail and residential developments in the vicinity of the site. Duration of project	Heavy vehicle traffic movement through the following local streets: <ul style="list-style-type: none"> Tallawong Road Conferta Avenue Cudgegong Road Schofields Road 	Heavy Vehicle Movements inbound to the site from Cudgegong Road and Conferta Avenue. All outbound Heavy Vehicle exits to Conferta Avenue and Tallawong Road. Where required, TCP's will be provided informing users of the local streets of heavy vehicles entering the site.
Floating machinery to the site	In/out of the site.	Swept path analysis shows turning movements are OK (See Appendix C). All loading and unloading will be done on site in designated area on site or via the construction/work zones.
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. There are also opportunities for construction staff to park off site, 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	Set up delineation by way of no go zones and signage. There is no need to cut off current walkways along the perimeter of the site. Pedestrians will 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: <ul style="list-style-type: none"> 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 excavation and building works.

4 Monitoring and Performance

4.1 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.

4.2 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 (where required by Council) including provision of:
 - Letters
 - Handouts
 - Maps and plans
6. Location Risk assessment and any modifications
7. Confirmation of implementation and start of works
8. Monitoring reports
9. Incident reports and corrective action

5 Conclusion

This Construction Pedestrian and Traffic Management Plan details traffic management procedures and systems for the proposed excavation and building of the mixed-use Tallawong Precinct South development at 1-15 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 Plan.

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 works on existing properties and local streets during the demolition, excavation and construction stages of the proposal.

Appendix A

Traffic Control Plan



Date: 16/04/2020 **Author:** ARON JAGGANNATH **Project:** TALLAWONG STATION PRECINCT SOUTH - TCP

Comments:

BASED ON TCP 195 OF RMS'S TRAFFIC CONTROL AT WORK SITES

CARD NUMBER: 0052035594

AERIAL PHOTOGRAPHY SOURCE: NEARMAP



NOTE: IT IS RECOMMENDED THAT TRAFFIC CONTROLLERS STOP PEDESTRIAN MOVEMENTS ACROSS CONFERTA AVENUE BETWEEN ARISTIDA AVENUE AND TALLAWONG ROAD WHILE HEAVY VEHICLES ARE EXITING THE SITE ALONG CONFERTA AVENUE

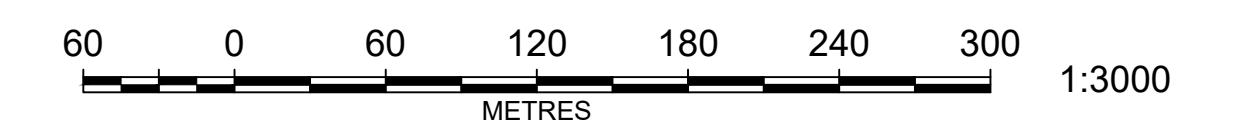



Appendix B

Vehicle Movement Plan



IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD



No	DATE	AMENDMENT	 <p>BARKER RYAN STEWART</p> <p>TOTAL PROJECT SOLUTIONS <small>ENGINEERING PLANNING PROJECT MANAGEMENT SURVEYING CERTIFICATION</small></p>	SYDNEY P: 02 3659 0005 CENTRAL COAST P: 02 4325 5255 HUNTER P: 02 4960 9389 AS/NZS: 26 134 067 842 www.brs.com.au mail@brs.com.au	Client:	TALLAWONG STATION PRECINCT SOUTH	Designed: AAJ Drawn: AAJ Checked: AAJ	Scales: Plan Horiz. Vert. X-Sept.	Plan No. SY190226TR09 File Ref. SY190226D01A SHEET 9 OF 9 SHEETS	REV. A
A	12/03/2020	FIRST ISSUE								
				DEICORP		VEHICLE MOVEMENT PLAN		Datum: A.H.D.		

Appendix C

Swept Path Analysis

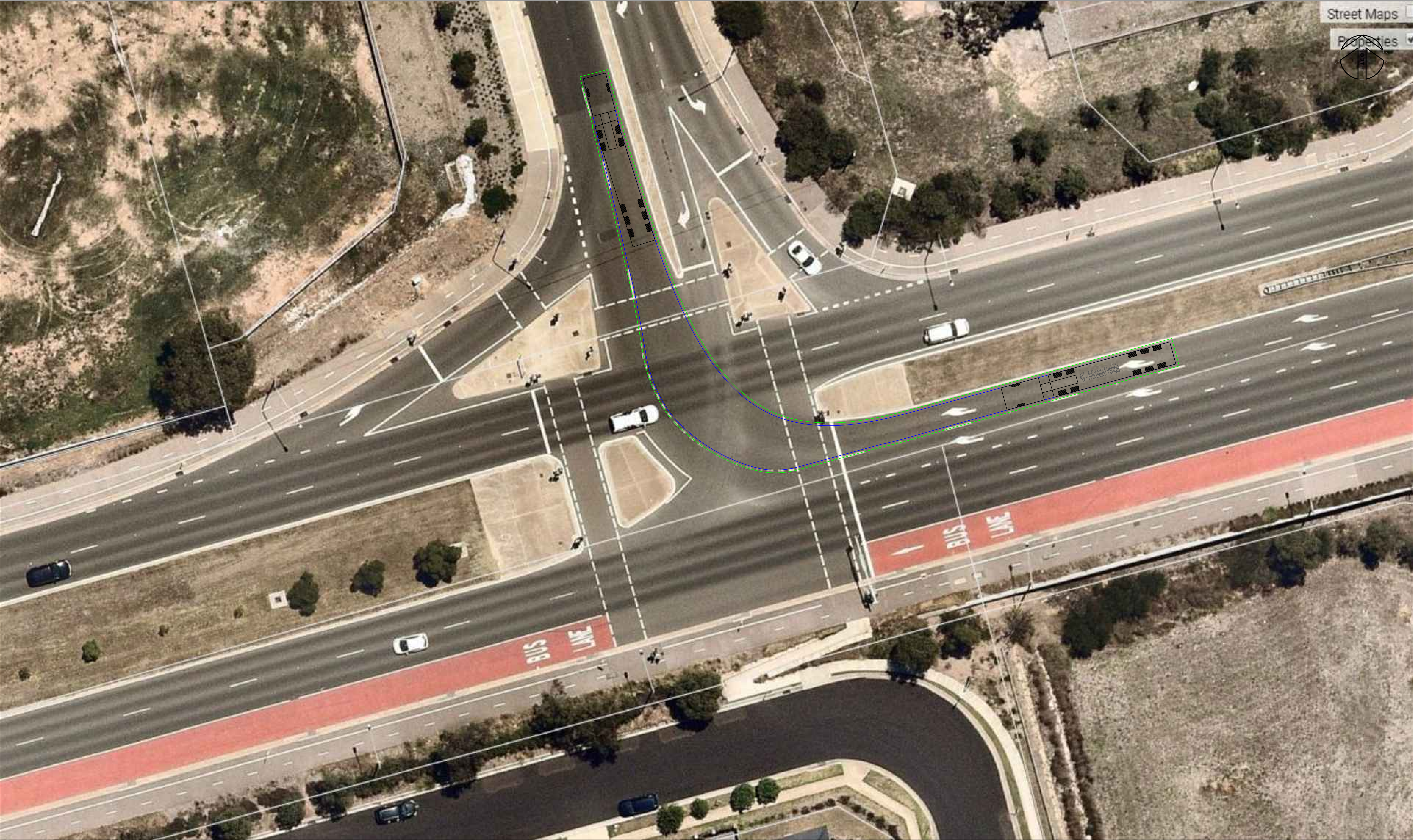


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TALLAWONG STATION PRECINCT SOUTH

SCHOFIELDS ROAD / CUDGEGONG ROAD - 19.5M ARTICULATED VEHICLE

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TALLAWONG STATION PRECINCT SOUTH

CUDGEGONG ROAD / CONFERTA AVENUE - 19.5M ARTICULATED VEHICLE

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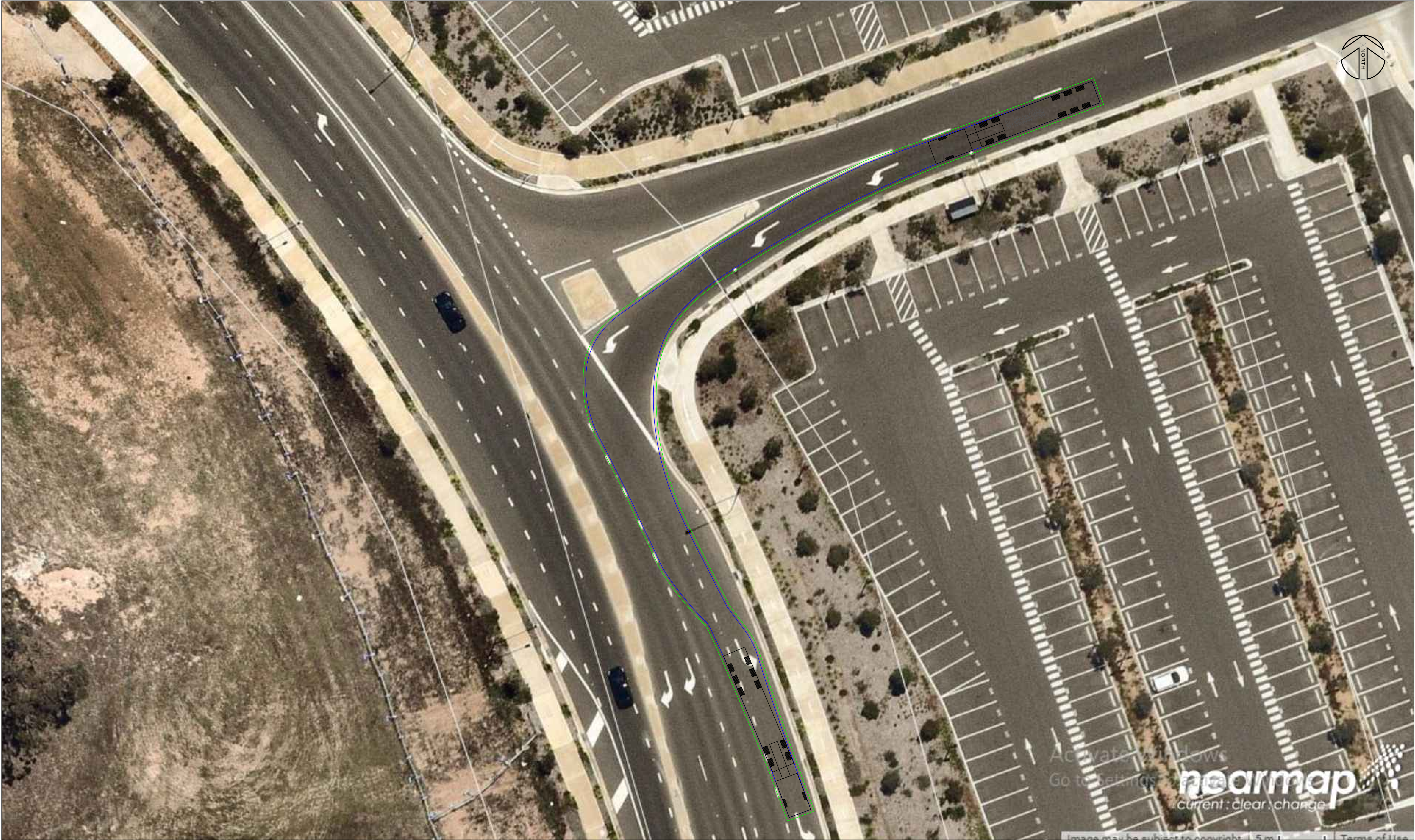


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TALLAWONG STATION PRECINCT SOUTH

CONFERTA AVENUE / TALLAWONG ROAD - 19.5M ARTICULATED VEHICLE

Designed: AAJ
Drawn: AAJ
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Scales: Plan
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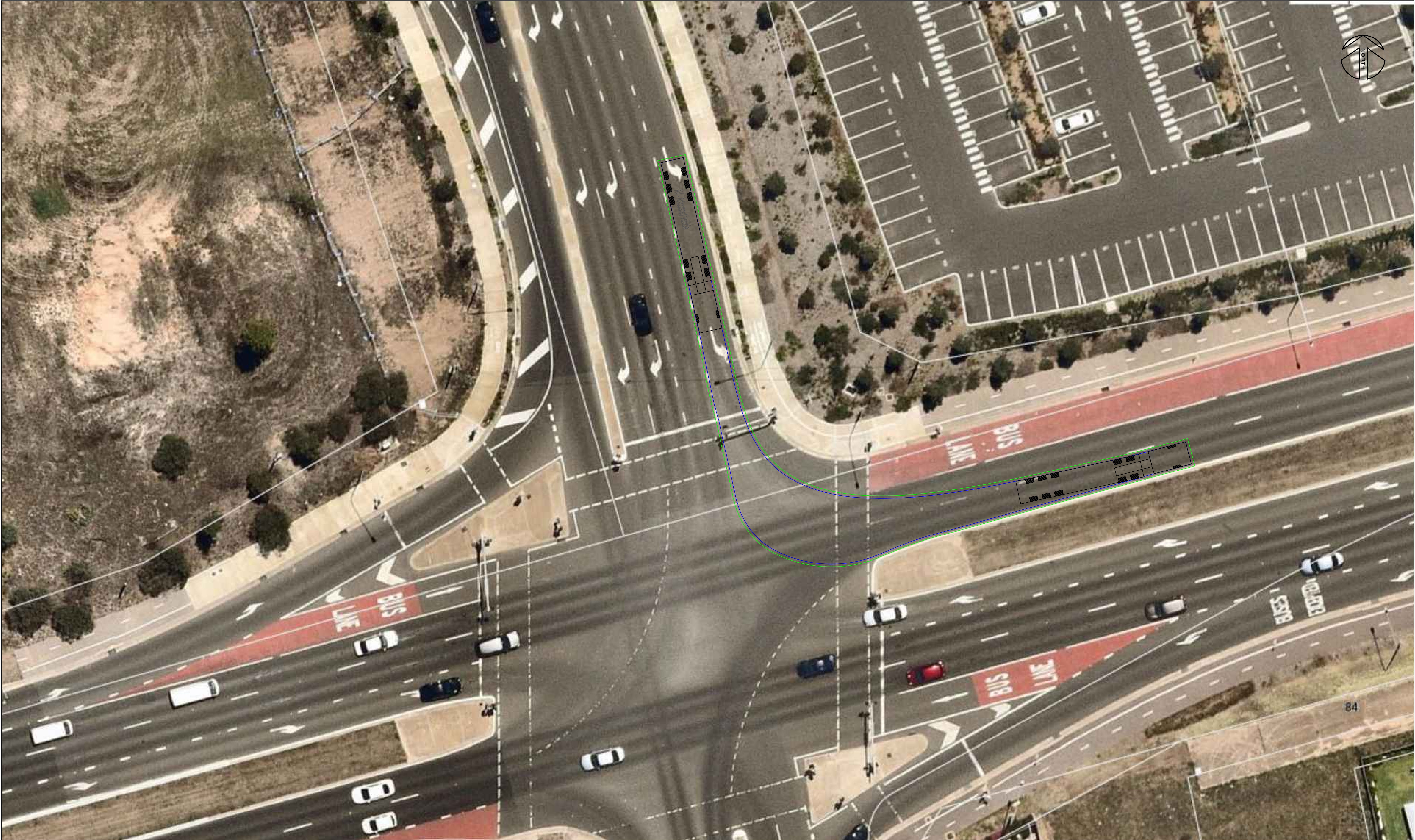


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TALLAWONG STATION PRECINCT SOUTH

TALLAWONG ROAD / SCHOFIELDS ROAD - 19.5M ARTICULATED VEHICLE

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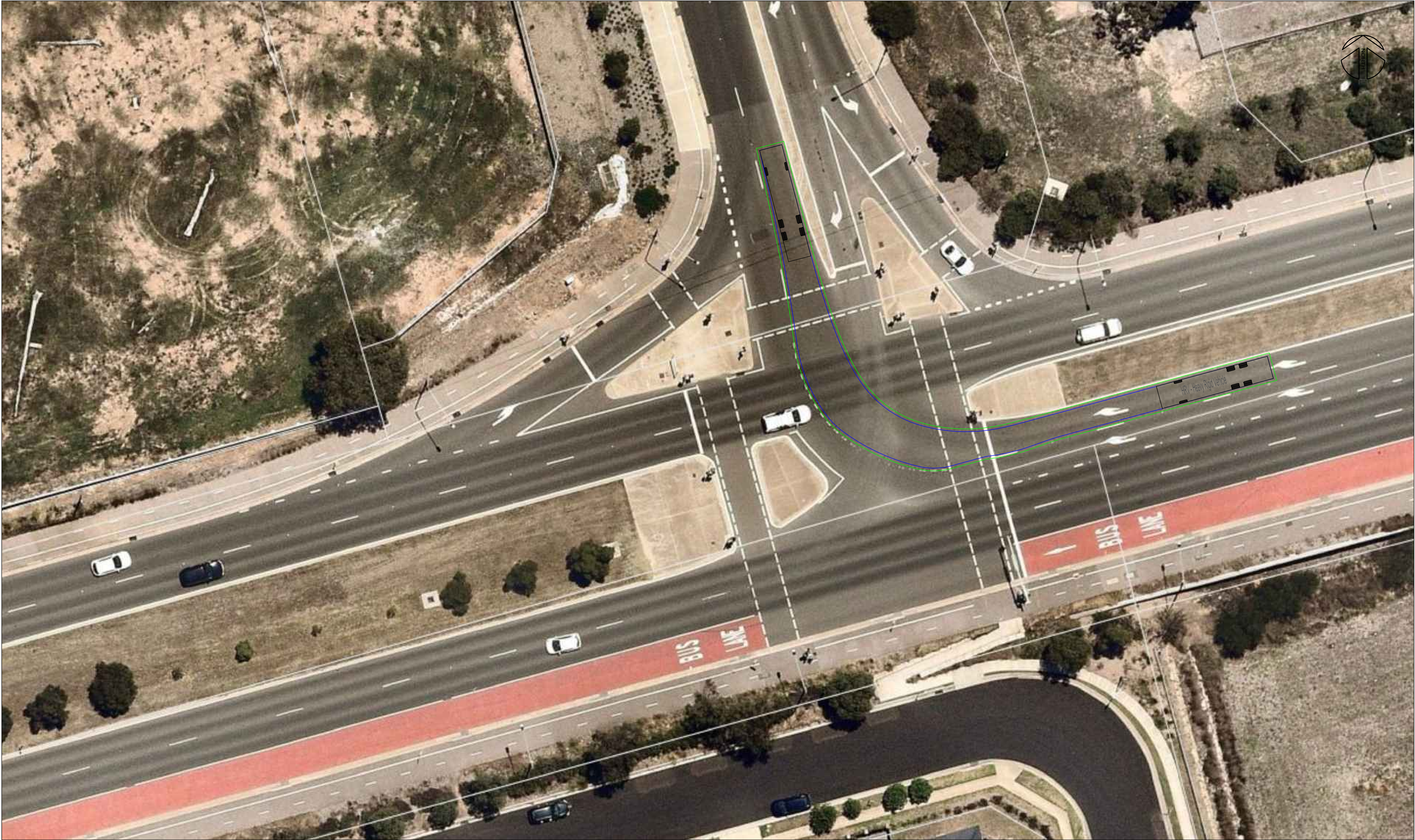


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TALLAWONG STATION PRECINCT SOUTH

SCHOFIELDS ROAD / CUDGEGONG ROAD - 12.5M HEAVY RIGID VEHICLE

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Scales: Plan
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Vert.
X-Sect.

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TALLAWONG STATION PRECINCT SOUTH

CUDGEGONG ROAD / CONFERTA AVENUE - 12.5M HEAVY RIGID VEHICLE

Designed: AAJ
Drawn: AAJ
Checked: AAJ

Scales: Plan
Horiz.
Vert.
X-Sect.

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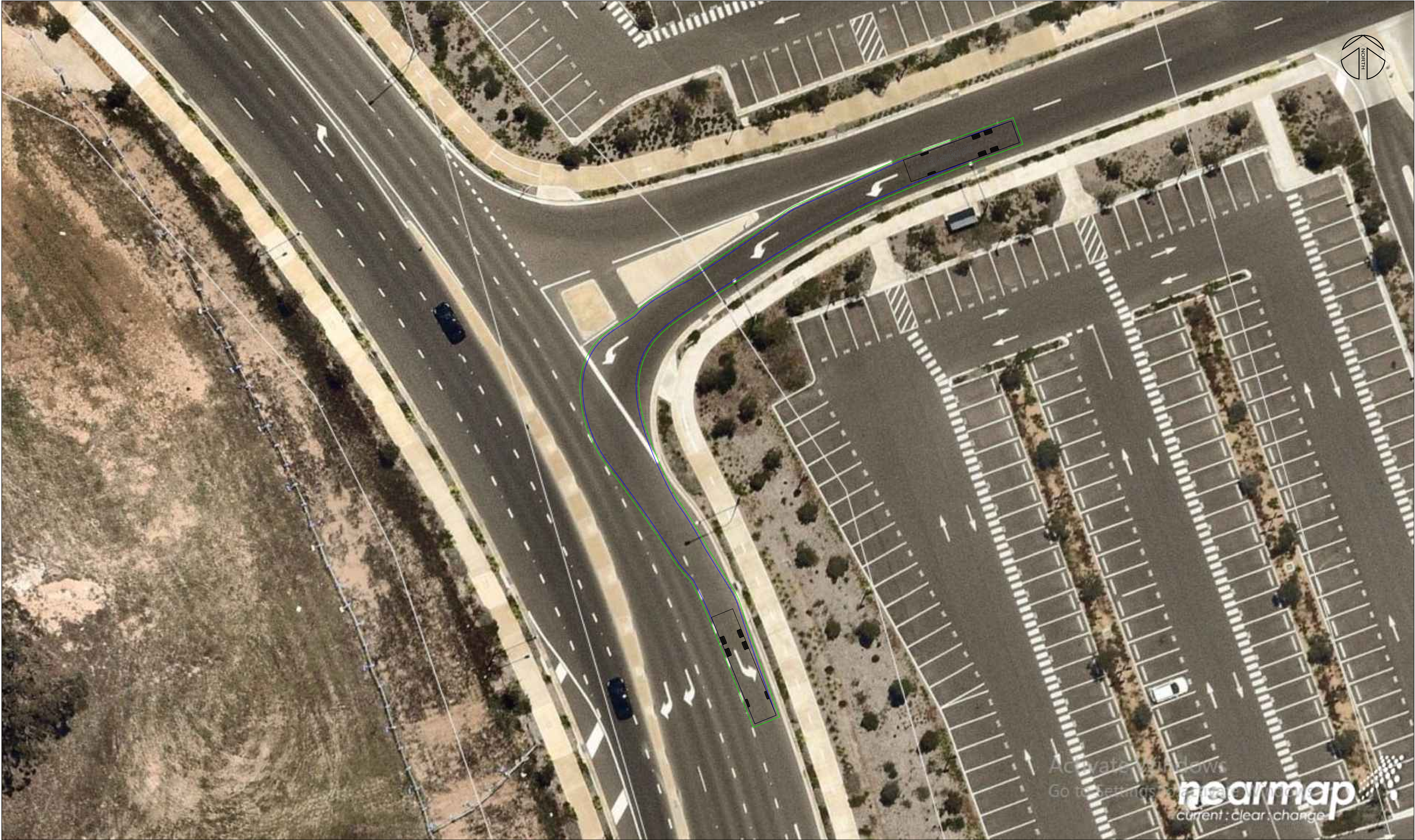


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TALLAWONG STATION PRECINCT SOUTH

TALLAWONG ROAD / CONFERTA AVENUE - 12.5M HEAVY RIGID VEHICLE

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Checked: AAJ

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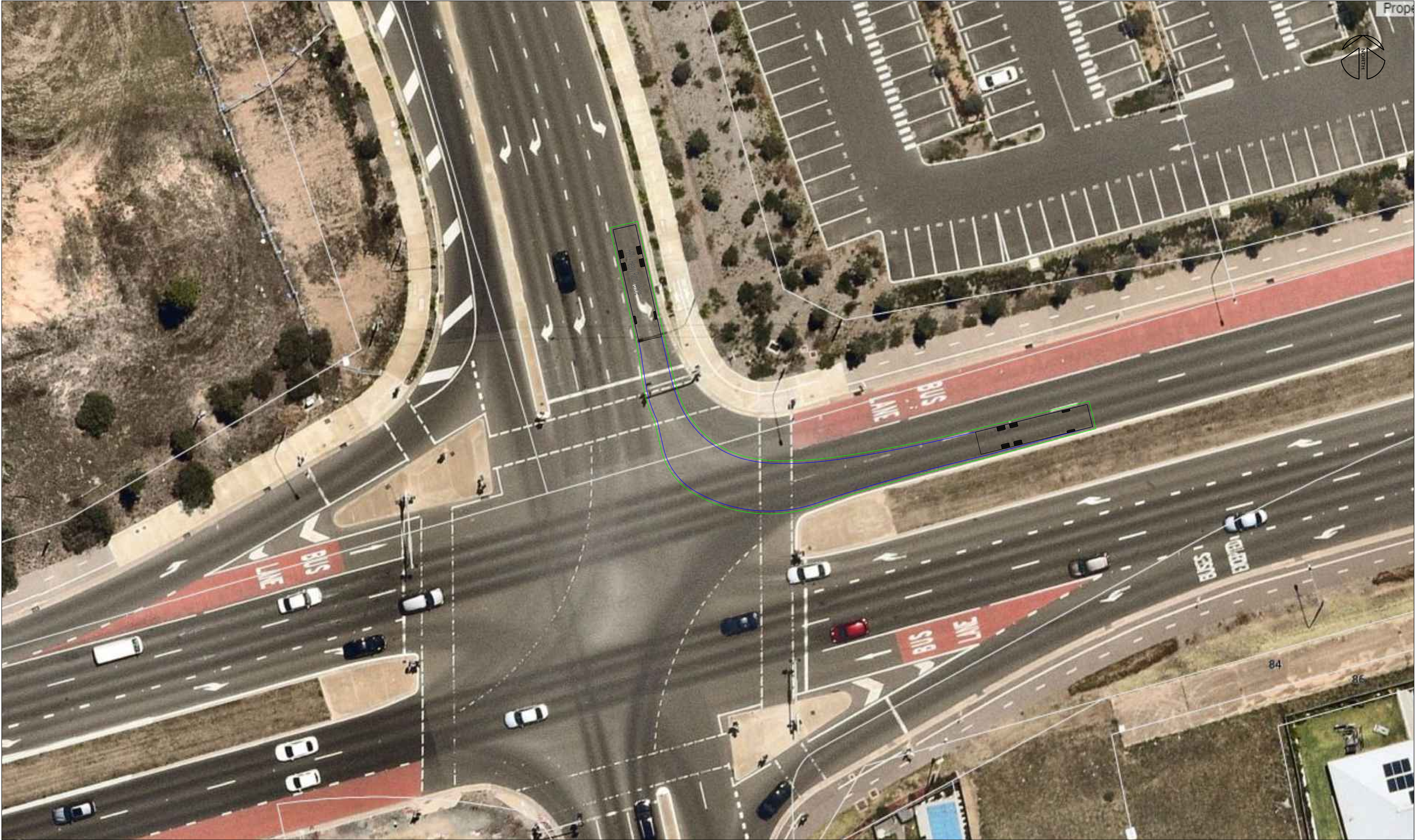


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Datum: A.H.D.

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File Ref.
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Appendix D

Road Safety Audit (Construction stage)



Deicorp Projects (Tallawong Station) Pty Ltd

Road Safety Audit Report Construction Stage

Tallawong Station Precinct South

May 2020

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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
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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:

- ⇒ **Intolerable**
- ⇒ **High**
- ⇒ **Medium**
- ⇒ **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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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	Probable	Occasional	Improbable
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

Audit Findings	Suggested Treatments	Risk	Responsible Officer	
			Accept Y/N	Comments
1. The increase in the volume and frequency of heavy vehicle movements increases the risk of crashes with light vehicles, particularly at the Schofields Road / Cudgegong Road intersection where heavy vehicles will turn right across opposing traffic.	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		
2. Heavy vehicles exiting the site along Conferta Avenue towards Tallawong Road creates a risk of crashes with vehicles accessing the southern portion of the commuter carpark. The likely low travel speed in this area will reduce the severity of potential crashes.	Appropriate warning signs should be installed in Conferta Avenue and Aristada Street to raise driver awareness of heavy vehicle movements.	Occasional / Minor = MEDIUM		
3. Heavy vehicle movements at the Cudegong Road / Conferta Avenue intersection, the Tallawong Road / Conferta Avenue intersection and along Conferta Avenue will increase the risk to pedestrians crossing Conferta Avenue at these locations.	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		

Audit Findings	Suggested Treatments	Risk	Responsible Officer	
			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 Implexa Parade.	<p>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.</p> <p>In addition, the construction site entry at the Cudgegong Road / Conferta Avenue intersection should be clearly signposted.</p>	Occasional / Serious = HIGH		
<p>5. 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.</p> <p>The likely low travel speeds in this area will reduce the severity of potential crashes.</p>	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		

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:



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

Appendix A

Traffic Control Plan

Comments:

CARD NUMBER: 0052035594

AERIAL PHOTOGRAPHY SOURCE: NEARMAP

NOTE: IT IS RECOMMENDED THAT TRAFFIC CONTROLLERS STOP PEDESTRIAN MOVEMENTS ACROSS CONFERTA AVENUE BETWEEN ARISTIDA AVENUE AND TALLAWONG ROAD WHILE HEAVY VEHICLES ARE EXITING THE SITE ALONG CONFERTA AVENUE



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

Appendix F Staging Plans



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DL25 Quality Endorsed Company ISO 9001:2015, Registration Number 28475
Notified Architect: Nicholas Turner, 8665, ABN 66 064 084 911

KEY PLAN

LEGEND

STAGE 1 - Construct Site 1A+1B

Notes:
1. Indicative staging plan shown.
2. Refer to detailed staging plans prepared by surveyor.

Rev	Date	Approved by	Issue Name
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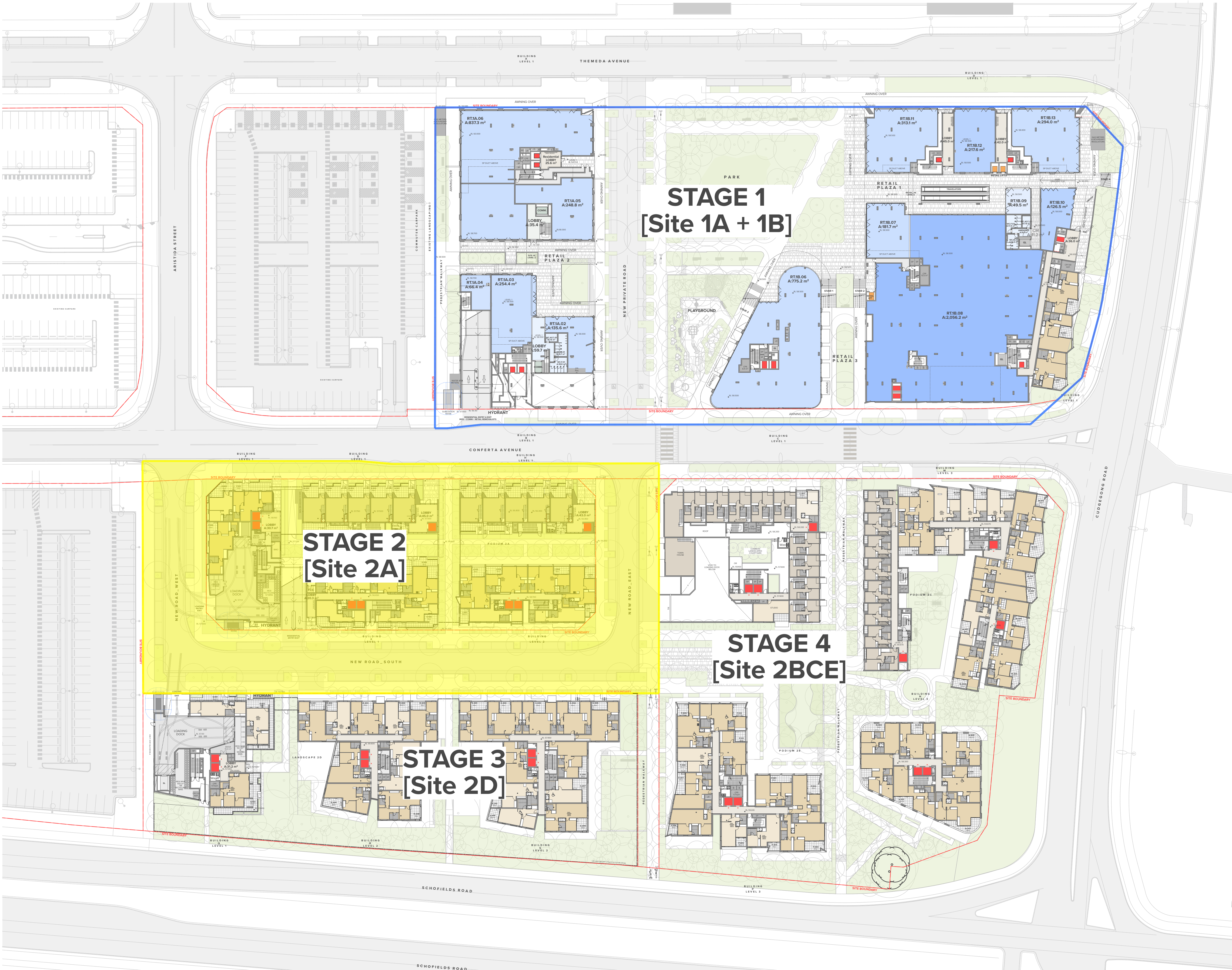
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Project Title
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Drawing Title
Site Information
Staging Diagram_S1

Scale 1:500, 1:0.61 @A1, 50% @A3	Project No. 18095	Drawn by TURNER	North ↑
Status RF11 for BCC	Dwg No. DA-010-011	Rev 04	

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Notified Architect: Nicholas Turner, 8665, ABN 88 064 084 911

KEY PLAN

LEGEND

- STAGE 1 - Site 1A+1B completed
- STAGE 2 - Construct Site 2A and new road

Notes:
1. Indicative staging plan shown.
2. Refer to detailed staging plans prepared by surveyor.

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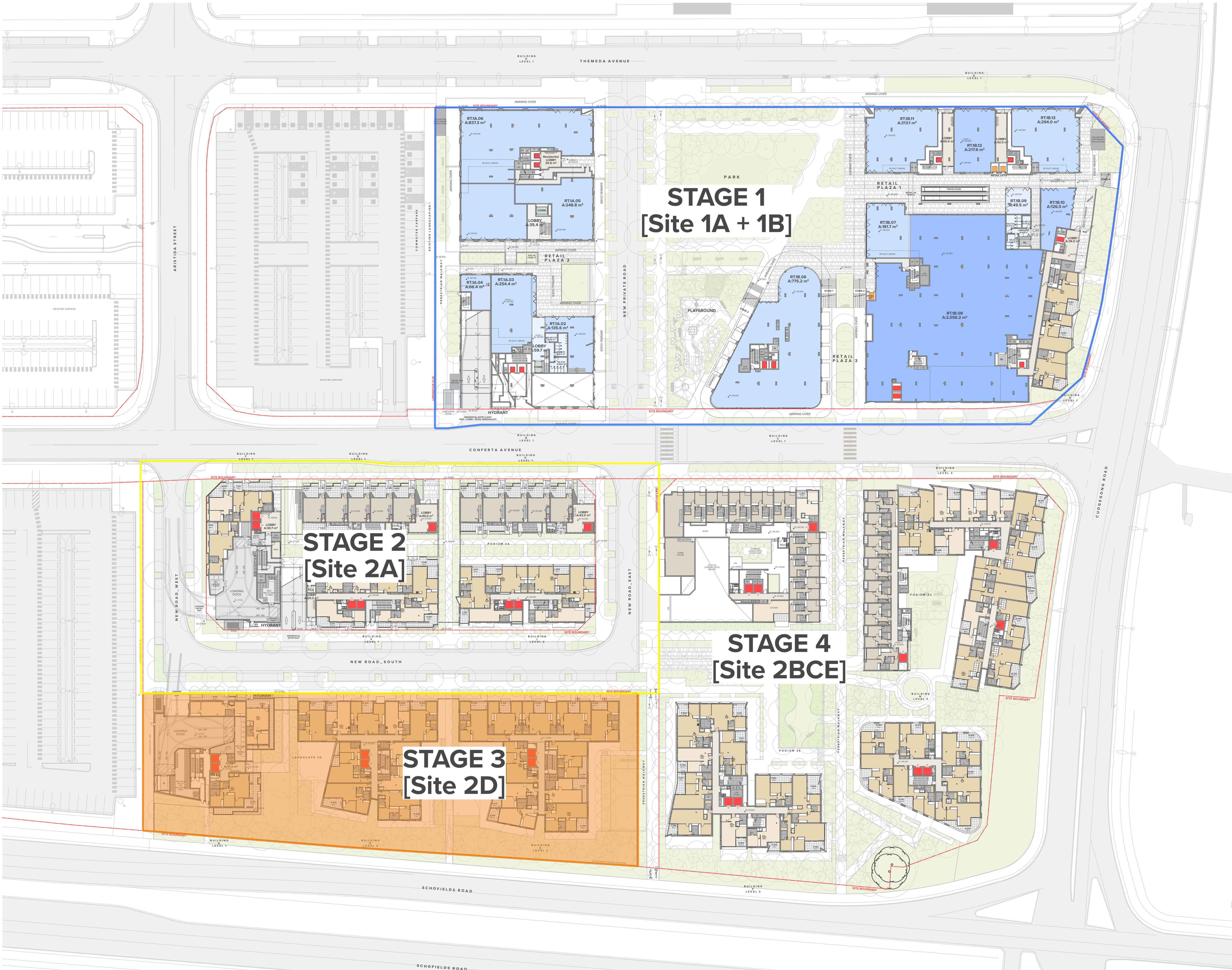
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Site Information
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Notified Architect: Nicholas Turner, 8665, ABA 86 064 084 911

KEY PLAN

LEGEND

- STAGE 1 - Site 1A+1B completed
- STAGE 2 - Site 2A completed
- STAGE 3 - Construct Site 2D

Notes:
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2. Refer to detailed staging plans prepared by surveyor.

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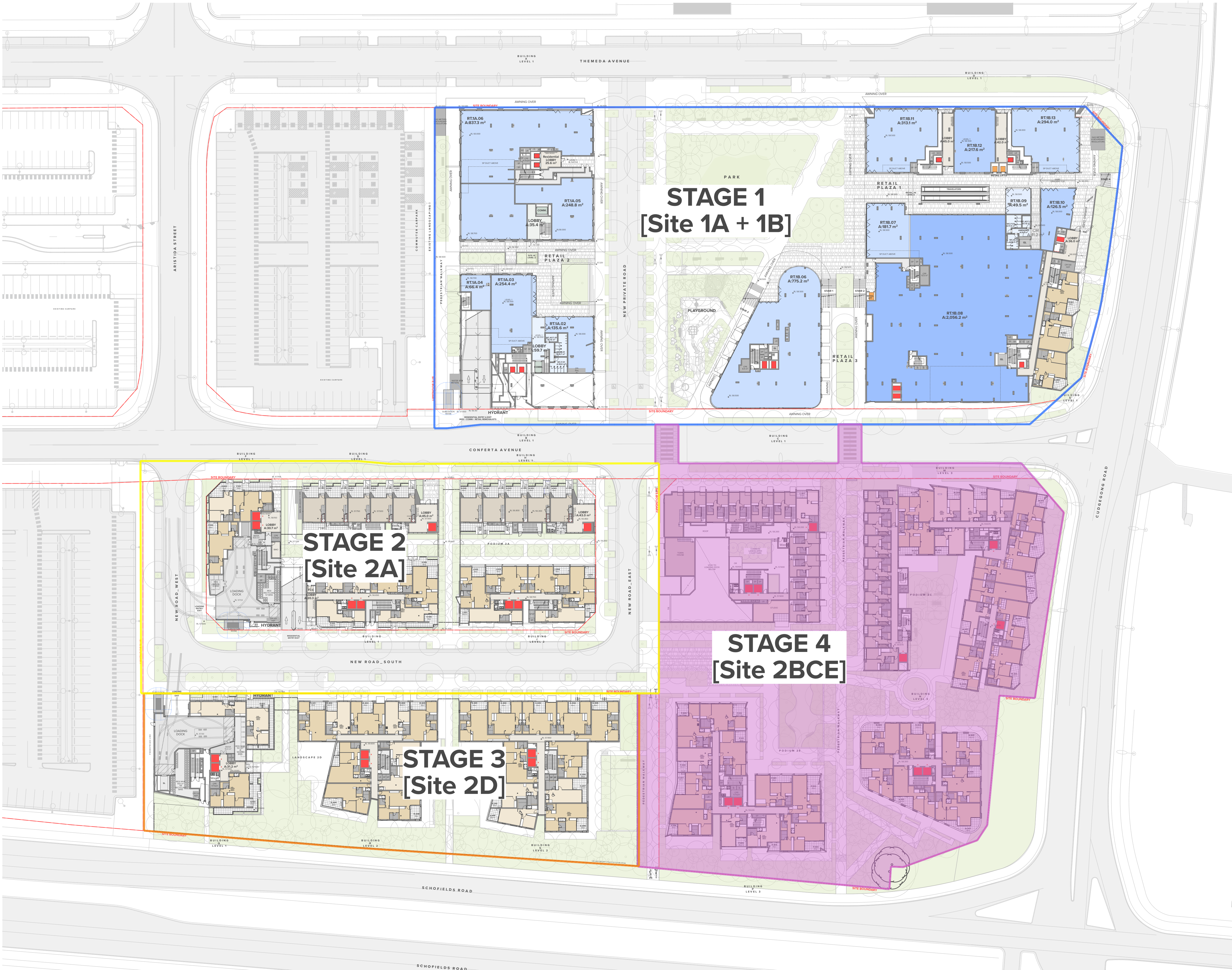
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Site Information
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LEGEND

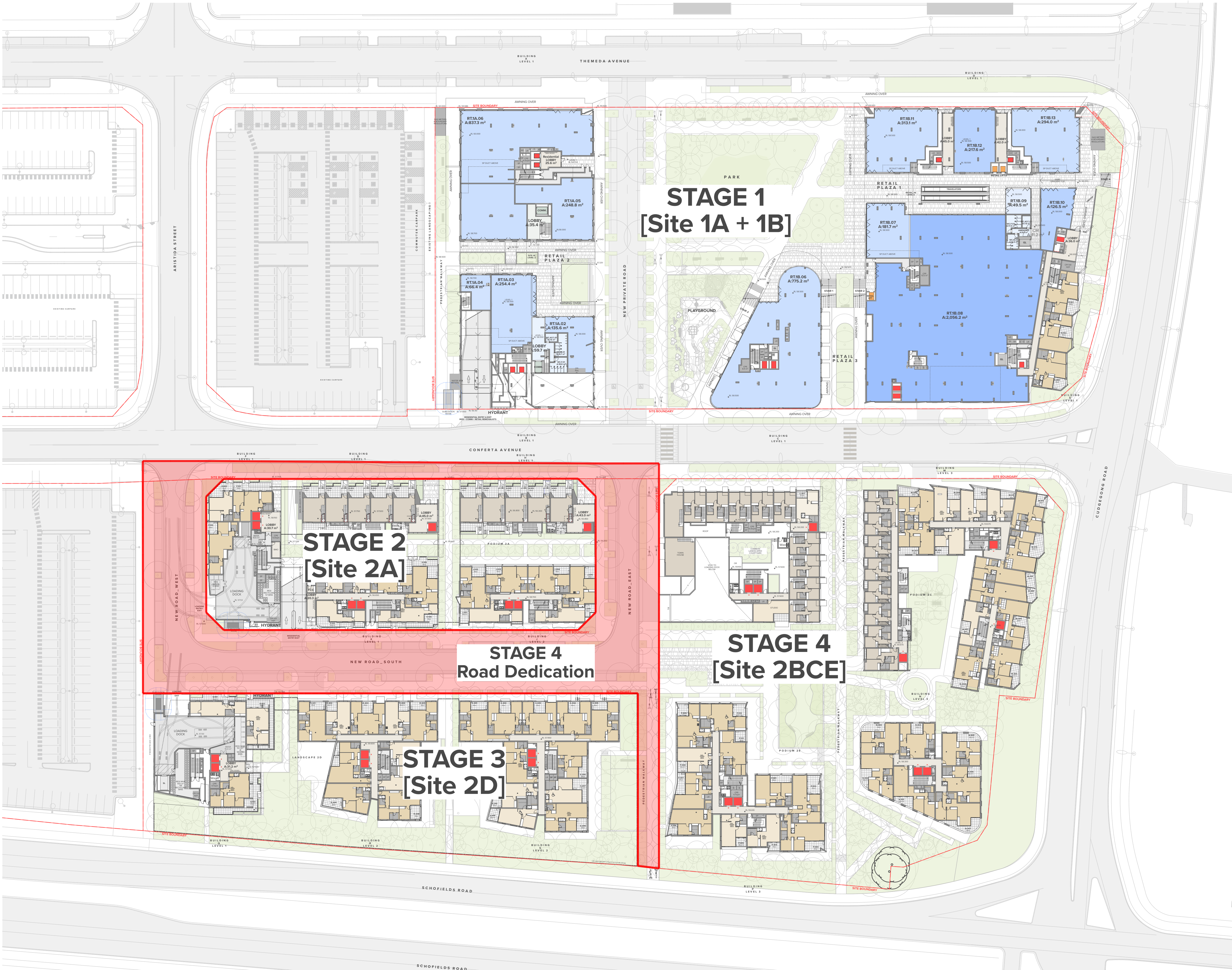
- STAGE 1 - Site 1A+1B completed
- STAGE 2 - Site 2A completed
- STAGE 3 - Site 2D completed
- STAGE 4 - Construct Site 2BCE + pedestrian crossings

Notes:
1. Indicative staging plan shown.
2. Refer to detailed staging plans prepared by surveyor.

Rev	Date	Approved by	Issue Name
04	17/11/20	YO	RF11 for BCC

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Project Title Tallawong Station Precinct South 1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155			
Drawing Title Staging Diagram_S4			
Scale 1:500 @A1, 50% @A3	Project No. 18095	Drawn by TURNER	North ↑
Status RF11 for BCC	Dwg No. DA-010-014	Rev 04	



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DL25 Quality Endorsed Company ISO 9001:2015, Registration Number 28475
Notified Architect: Nicholas Turner, 8665, ABA 86 064 084 911

KEY PLAN

- LEGEND
- STAGE 1 - Site 1A+1B completed
 - STAGE 2 - Site 2A completed
 - STAGE 3 - Site 2D completed
 - STAGE 4 - Site 2BCE completed
 - STAGE 4 - Dedication of public roads + footpaths

Notes:
1. Indicative staging plan shown.
2. Refer to detailed staging plans prepared by surveyor.

Rev	Date	Approved by	Issue Name
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Project Title
Tallawong Station Precinct South
1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155

Drawing Title
Site Information
Road Dedication_S4

Scale 1:500 @A1, 50% @A3	Project No. 18095	Drawn by TURNER	North ↑
Status RF11 for BCC	Dwg No. DA-010-015	Rev 04	

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