University of Sydney Engineering & Technology Precinct

Main Works

Construction Pedestrian and Traffic Management Plan

Prepared by: GTA Consultants (NSW) Pty Ltd for **Laing O'Rourke** Australia
on 6/03/19
Reference: N139963
Issue #: B

GTAconsultants

University of Sydney Engineering & Technology Precinct

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Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A	01/03/19	Final	Sherry Merson Ingrid Bissaker	Dora Choi	Dora Choi	Dora Choi
B	06/03/19	Final	Ingrid Bissaker	Dora Choi	Dora Choi	

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1. INTRODUCTION

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1.1. Background & Proposal

Laing O'Rourke commissioned GTA Consultants (GTA) to prepare a Construction Pedestrian and Traffic Management Plan (CPTMP) for University of Sydney (USYD) Engineering and Technology Precinct Stage 1 main works, to examine the impacts of the construction works on the surrounding road network and to detail the proposed construction traffic and pedestrian management measures.

This CPTMP has been prepared in accordance with the City of Sydney Standard Requirements for Construction Traffic and Pedestrian Management Plans and Laing O'Rourke proposes to undertake all works in accordance with this CPTMP. The standard requirements are attached in Appendix A.

1.2. Purpose of this Report

The overall principles of traffic management during the construction activity include:

- minimise the impact on pedestrian and cyclist movements
- maintain appropriate public transport access
- minimise the loss of parking
- maintain access to/ from adjacent buildings
- restrict construction vehicle movements to designated routes to/ from the site
- manage and control construction vehicle activity in the vicinity of the site
- carry out construction activity in accordance with Council's approved hours of works.

This report has been prepared by engineers who hold the Roads and Maritime Services (Roads and Maritime) Prepare a Works Zone Traffic Management Plan certification. Details of the accredited engineers are provided below:

- Dora Choi – Certification No. 0051848825
- Ingrid Bissaker – Certification No. 0051848757.

1.3. Authority Requirements

Table 1.1 lists Development Consent SSD8636, Schedule 2 Conditions that relate to this Construction Pedestrian and Traffic Management Plan.

Table 1.1: Relevant Development Consent SSD8636 Conditions

DA Reference	DA Condition	GTA Resopnse
Schedule 3, B19 The Construction Traffic and Pedestrian Management Sub-Plan must address, but not be limited to, the following:		
B19 (a)	be prepared by a suitably qualified and experienced person(s);	See Section 1.2
B19 (b)	be prepared in consultation with Council, RMS and the Sydney Coordination Office within TfNSW;	See Section 4.8
B19 (c)	detail the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services;	See Section 3.5, 3.6, 3.7, 3.8, 3.10, 3.11, 4.1, 4.2, 4.4
B19 (d)	detail heavy vehicle routes, access and parking arrangements;	See Section 3.5, 3.10
B19 (e)	include a Driver Code of Conduct to:	See Section 3.11

DA Reference	DA Condition	GTA Resopnse
	• Minimise the impacts of earthworks and construction on the local and regional road network; • Minimise conflicts with other road users; • Minimise road traffic noise; and • Ensure truck drivers use specific routes;	
B19 (f)	include a program to monitor the effectiveness of these measures; and	See Section 4.7
B19 (g)	if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.	See Section 4.8
B25	Prior to the commencement of construction, the Applicant must provide sufficient parking facilities for heavy vehicles on-site (unless alternative parking is agreed to in writing from the relevant road authority), and ensure that construction traffic associated with the development minimised on-street parking or the use of public parking facilities.	See Section 3.4, 3.6, 3.10
C4	Construction, including the delivery of material to and from the site, may only be carried out between the following hours: • between 7am and 6pm, Mondays to Fridays inclusive; and • between 7.30am and 3.30pm, Saturdays.	See Section 3.2
C9	All construction vehicles (excluding worker vehicles) are to be contained wholly within the Site, except if located in an approved on street work zone, and vehicles must enter the site before stopping.	See Section 3.5, 3.6, 3.7, 3.10
C10	A road Occupancy Licence must be obtained from the relevant transport authority for any works that impact of the traffic flow during construction activities.	See Section 3.8
C13	The public way (outside of any construction works zone) must not be obstructed by any materials, vehicles, refuse, skips or the like, under and circumstances. Non-compliance with this requirement will result in the issue of a notice by the relevant Authority to stop all works on site.	See Section 3.6
C15	The Applicant must ensure construction vehicles (including concrete agitator trucks) do not arrive at the Site or surrounding residential precincts outside of the construction hours of work outlined under condition C4.	See Section 3.11

2. EXISTING CONDITIONS

02

2.1. Subject Site

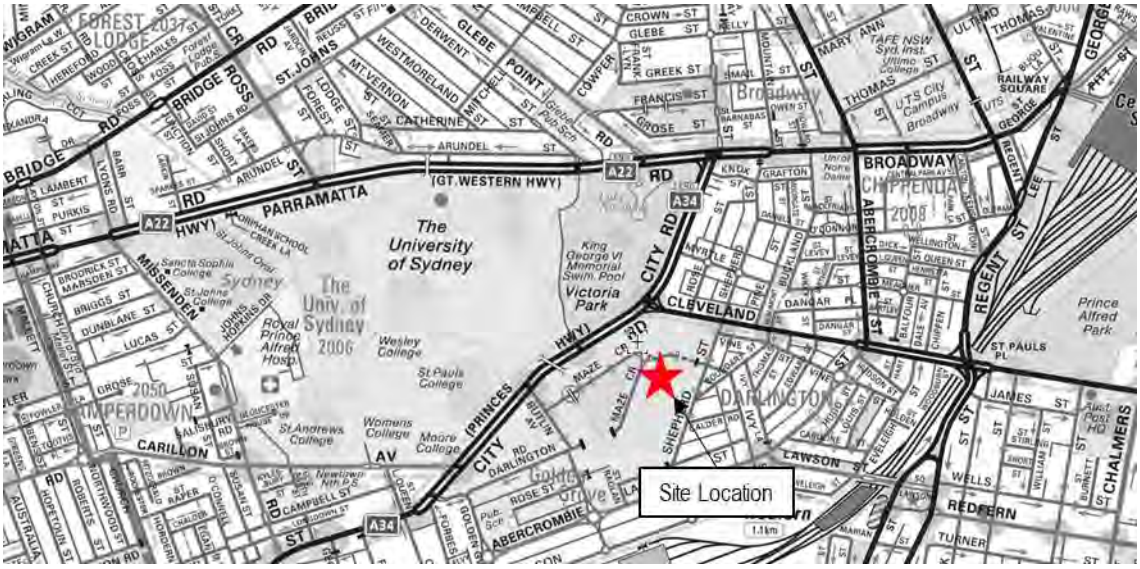
The subject site is located on the eastern end of the University of Sydney's Darlington campus.

The site of approximately 6,500sq.m has been occupied by the University of Sydney Engineering and Technology Precinct.

To the south of the Electrical Engineering Building is the Centre for Sustainable Energy Development, School of Civil Engineering and the Peter Nicol Russel Building. To the north east of the Electrical Engineering Building is the Mechanical Engineering building and the School of Aeronautical Engineering.

The location of the subject site and its surrounding environs is shown in Figure 2.1 and Figure 2.2.

Figure 2.1: Subject Site and Its Environs



Base image source: Sydway

Figure 2.2: Aerial Photo of Subject Site and Its Environs

Base image source: Nearmap

2.2. Road Network

2.2.1. Surrounding Road Network

Maze Crescent

Maze Crescent (shown in Figure 2.3) functions as a private road within University of Sydney Darlington Campus and is aligned in a north-south direction. It is a two-way road configured with one lane in each direction, set within an approximately 13-metre-wide carriageway. There is a 4.5m height restriction along Maze Crescent at a pedestrian bridge midblock. Maze Crescent has a sign posted speed limit of 25km/hr.

Parking spaces are indented of the carriageway, with several spaces restricted to use by USYD personnel only.

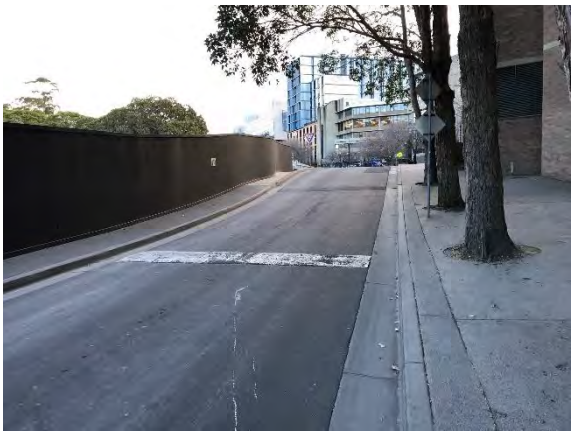
Blackwattle Creek Lane

Blackwattle Creek Lane (shown in Figure 2.4) functions as a private road within University of Sydney Darlington Campus and is aligned in an east-west direction. It is a two-way road configured with one lane in each direction, set within an approximately 9 metre wide carriageway. Blackwattle Creek Lane has a sign posted speed limit of 25km/hr.

No parking is permitted along the site frontage.

Figure 2.3: Maze Crescent (looking north)

Figure 2.4: Blackwattle Creek Lane (looking west)



Shepherd Street

Shepherd Street (shown in Figure 2.5) functions as a local road and is aligned in a north-south direction. It is a two-way road configured with one lane in each direction, set within a 10-metre-wide carriageway. Shepherd Street forms part of the Broadway Link, providing pedestrians and cyclists with a safe and connected green corridor between Ultimo, Chippendale and Darlington. As such, Shepherd Street is line marked as a shared vehicle and cycle lane between Wilson Street and Myrtle Street.

Kerbside parking is permitted, subject to one and two hour time restrictions with residential permit holders excepted.

Butlin Avenue

Butlin Avenue (shown in Figure 2.6) between City Road and Darlington Road is a private road within University of Sydney Darlington Campus and is aligned in a north-west direction. South of Maze Cresent, it is a two-way road configured with one lane in each direction, set within an approximately 7 metre wide carriageway. Butlin Avenue is line marked as a shared on-road cycle path and has a sign posted speed limit of 25km/hr.

Kerbside parking is not permitted near the site.

Figure 2.5: Shepherd Street (looking north)

Figure 2.6: Butlin Avenue (looking west)

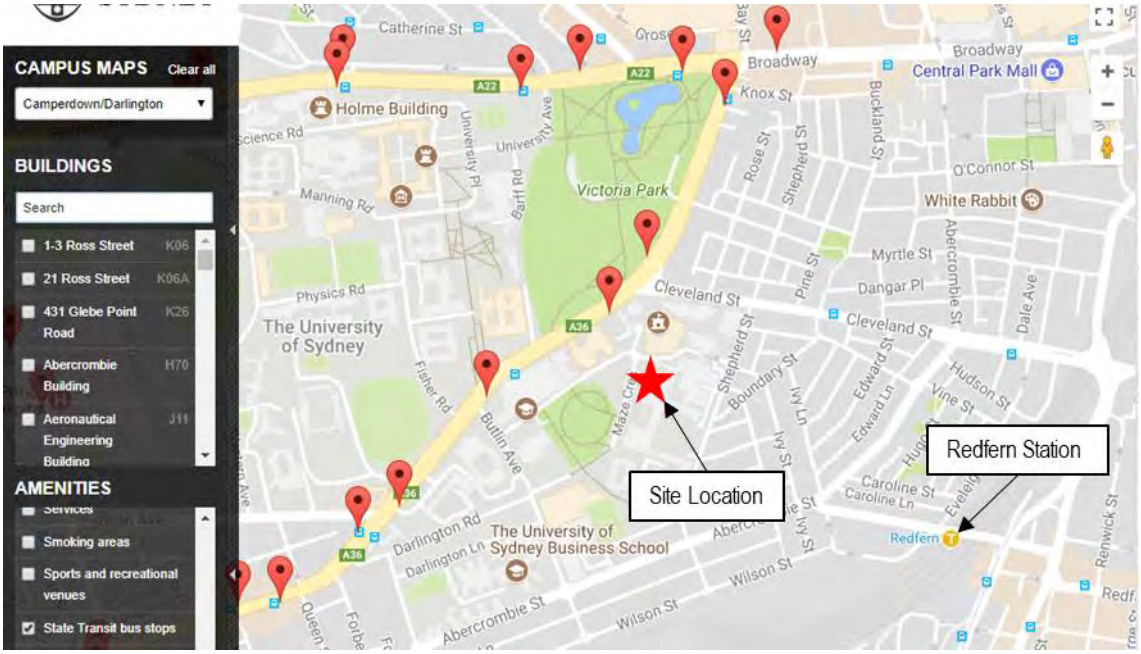
2.3. Public Transport

The site is located 600m from Redfern Railway Station (equivalent to a nine-minute walk). Redfern Railway Station serves as key rail hub in Sydney for Sydney Trains services to destinations across the Sydney Metropolitan Area, the Illawarra, Blue Mountains and Central Coast.

The site is well serviced by the existing bus network, with high frequency bus services provided along the City Road corridor. There are many bus stops along City Road and Parramatta Road within walking distance of the site which provide high frequency connections between the western suburbs and the CBD.

The bus stops in the vicinity of the site are shown in Figure 2.7.

Figure 2.7: Bus Stop Locations



Source: http://sydney.edu.au/maps/campuses/?area=CAMDAR, accessed 14/11/17

A review of the public transport available in the vicinity of the site is summarised in Table 2.1.

Table 2.1: Public Transport Provisions

Service	Route #	Route Description	Location of Nearest Stop	Distance to Nearest Stop	Frequency On/Off Peak
Bus	352	Bondi Junction to Marrickville Metro via Oxford Street	City Road after Cleveland Street	100m	20min peak / 30min off peak
	370	Leichardt Marketplace to Coogee			10min peak / 20min off peak
	422	City to Kogarah			5-10min peak / 20min off peak
	423	City to Kingsgrove via central station and Newtown			Every 10min
	426	City to Dulwich Hill			10min peak / 20min off peak
	428	City to Dulwich Hill			5-10min peak / 15min off peak
	M30	Sydenham to Mosman			10min peak / 15min off peak
	L23	City to Kingsgrove	City Road	230m	Every 15min 4:30pm – 6:30pm
	L28	City to Canterbury			Every 15min 4:30pm – 6:30pm
	N10	City to Sutherland			Hourly 1am – 5am
	N30	City to Macarthur			Every Half Hour 1am-5am
	N40	City to East Hills			Every Half Hour 12am-5am
Train	All except airport branch of the Airport, Inner West & South Line and the Cumberland Line		Redfern Station	600m	Frequency is less than 5min
	All Lines		Central Station	1400m	Frequency is less than 5min

2.4. Pedestrian and Cycling Infrastructure

USYD has adequate pedestrian footpaths throughout the campus and within the precinct linking the site to the rest of the surrounding infrastructure.

Pedestrian paths are located as follows:

- City Road (both sides) - 3m wide path
- Cleveland Street (both sides) – 2m wide path
- Shepherd Street (both sides) – 1.5m wide path.

There are also numerous pedestrian paths within the precinct providing linkages between buildings and to pedestrian paths linking to the wider campus.

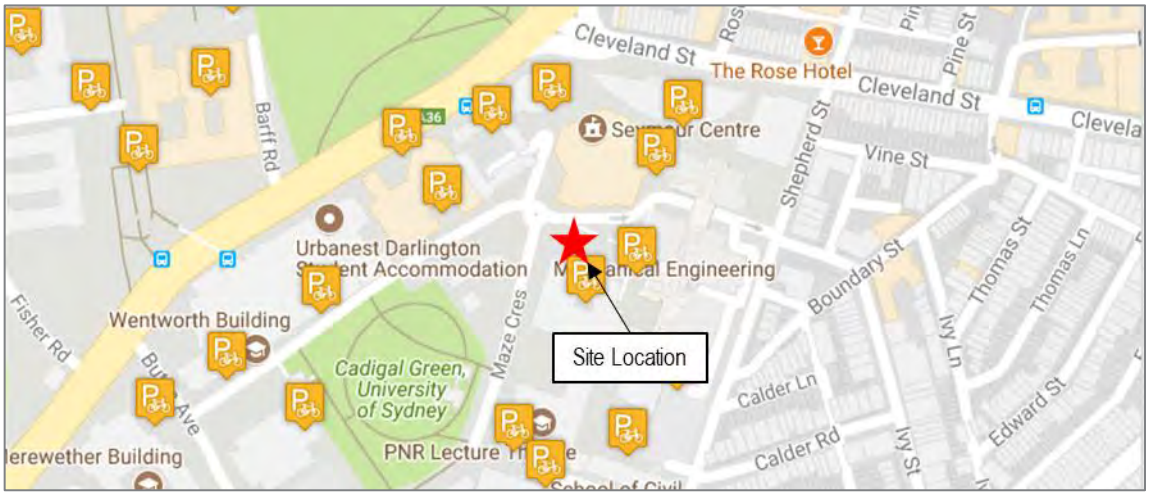
Safe crossing points in vicinity of the site include the following pedestrian crossings:

- Signalised crossing and a pedestrian bridge across City Road adjacent to Scholar Square
- Signalised crossings at the intersection of City Road and Cleveland Street
- There are also a number of pedestrian crossings on Maze Crescent in close proximity to the site.

2.4.1. Cycling Movements

The existing bicycle parking facilities at the Campus is shown in Figure 2.8 and illustrates that bicycle parking is provided extensively in the vicinity of the site.

Figure 2.8: Existing Bicycle Parking Locations



Source: http://sydney.edu.au/maps/campuses/?area=CAMDAR, accessed 14/11/17

3. OVERVIEW OF CONSTRUCTION ACTIVITIES

03

3.1. Description of Construction Activities

Stage 1 of the Engineering and Technology Precinct development involves the following works:

- refurbishment of Electrical Engineering Building
- addition of a new 10-storey building on vacant land to the north of the Electrical Engineering Building and
- the conversion of an at grade car park to a courtyard with landscaping.

Early and demolition works to facilitate construction of the Stage 1 development have recently been completed by Laing O'Rourke in early 2019.

The expected duration of works is 18 months, with the project expected to commence in March 2019 and be completed by August 2020. The key milestones for the project are shown in Table 3.1, with details of the main activities and duration for each stage.

Table 3.1: Stages of the project

Stage	Start Date	End Date	Duration
Structure	March 2019	April 2020	14 months
Facade	September 2019	April 2020	7 months
Internal fit-out	August 2019	August 2020	12 months
External works	January 2020	July 2020	6 months

3.2. Work Hours

Work associated with the development will be carried out between the following hours of construction:

- Monday to Friday 7:00am and 6.00pm
- Saturday 7:30am and 3:30pm
- Sunday/ public holiday no work.

Laing O'Rourke will be responsible for instructing and controlling all subcontractors regarding the hours of work. Any work outside the approved construction hours would be subject to specific prior approval from Council.

3.3. Construction Worker Induction

All workers and subcontractors engaged on-site would be required to undergo a site induction. The induction should include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, Work Health and Safety, driver protocols and emergency procedures.

Any workers required to undertake traffic control within the public domain would be suitably accredited and covered by adequate and appropriate insurances.

3.4. Construction Worker Parking

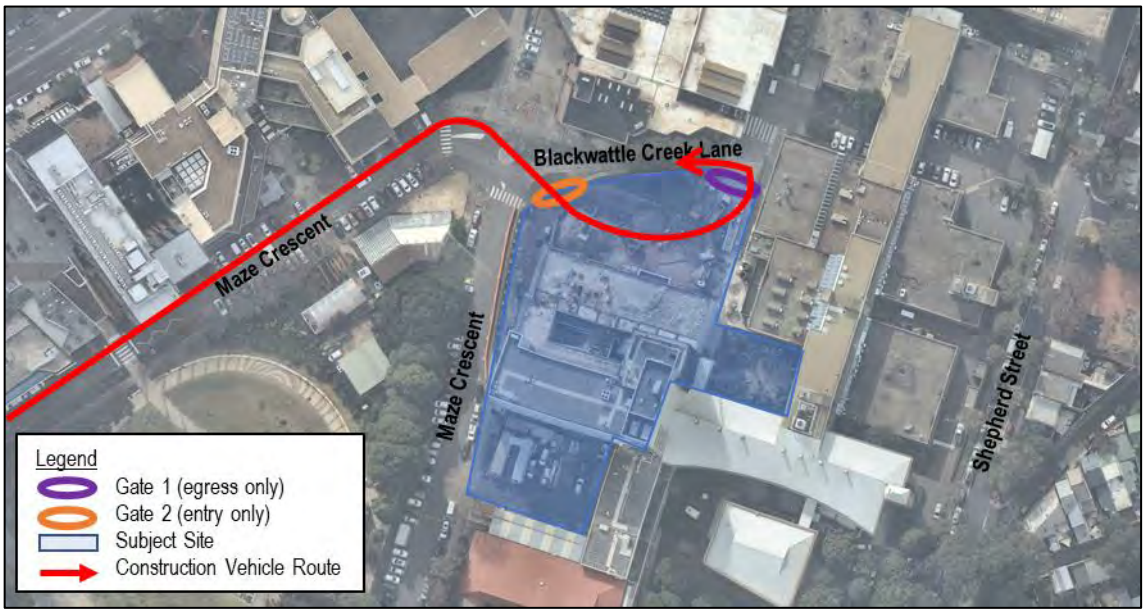
It is anticipated that there will be on average up to 100 workers on-site at any given time during construction activities.

There will be no on-site parking provided for construction workers. Given the site's proximity to high frequency public transport services, all workers will be encouraged to use public transport when travelling to and from the site, with appropriate tool/ equipment drop-off arrangements available.

3.5. Construction Site Access

The site access arrangements are shown in Figure 3.1 and comprise one-way circulation through the site, including entry via the western access (Gate 2) and egress via the eastern access (Gate 1). As shown, all construction vehicles will enter and exit the site in a forward direction.

Figure 3.1: Construction site access locations



Base image source: Nearmap

Construction vehicle access to the site will include 12.5m Heavy Rigid Vehicles and up to 19m articulated vehicles. Vehicles and their loaders are required to be less than 4.5m in height given the height restriction along Maze Crescent. Swept paths of the largest vehicle to access the site are included in Appendix C.

Accredited traffic controllers will be positioned at all site accesses to manage pedestrian and through traffic movements when construction vehicles are entering/ exiting the site.

Queuing or marshalling of construction vehicles will not be permitted on the road network, being the public road network and private USYD Darlington Campus road network, with call-up and 'truck tracking' procedures to be put in place to manage arrivals.

3.6. Construction Parking, Material Handling and Loading Zones

As indicated in the proposed logistics plan provided by Laing O'Rourke shown in Figure 3.2, all construction vehicles will be loaded/unloaded within the project boundaries, with up to three designed heavy vehicle parking zones nominated. Delivery Area 1 and 2 will be accessed from Gate 1 on Blackwattle Creek Lane, with the exit at Gate 2 onto the same laneway. Delivery Area 3 will have ingress and egress from Gate 3 on Maze Crescent. As illustrated in Figure 3.1 and Appendix C, sufficient manoeuvring area has been provided within the site to ensure construction vehicles can enter from Gate 1 and exit at Gate 2 in a forward direction.

All construction traffic logistics will be managed via Voyageur, Laing O'Rourke traffic management system. Non-scheduled deliveries will be rejected and are not permitted to parking outside the project site boundaries.

All construction materials will be stored within the site boundaries including material, plant and spoil bin storage areas.

Figure 3.2: Proposed Logistics

Base image source: Laing O'Rourke

3.7. On-Street Works Zone

No on-street works zones are proposed. This includes along the University of Sydney Darlington Campus private roads, where no reliance on on-street or kerbside parking for truck layover will be permitted.

3.8. Road Closure

No road closures are proposed. If required, Laing O'Rourke will apply to Traffic Management Centre for a Road Occupancy License, in consultation with Transport for NSW's Sydney Coordination Office and City of Sydney Council.

3.9. Construction Traffic Volumes

The site will have various types of construction vehicles accessing the site. The largest construction vehicles will include 12.5m Heavy Rigid Vehicles and 19m articulated vehicles. Vehicles larger than 12.5m Heavy Rigid Vehicles will not be permitted to use any City of Sydney roads unless separate approval from Council's Construction Regulation Unit is obtained for each occurrence.

It is expected that the peak construction vehicle activity will result in up to four trucks (eight two-way movements) in and out of the site per hour.

3.10. Construction Vehicle Routes

Generally, construction vehicles will have origins and destinations from a wide variety of locations throughout Sydney. However, all construction vehicles will be restricted to the State and Regional Road network where practicable. As such, dedicated construction vehicle routes have been developed with the aim to provide the shortest distances to/ from the arterial road network whilst minimising the impact of construction traffic on Sydney CBD and local streets.

No vehicles larger than 12.5m Heavy Rigid Vehicles are to be used any City of Sydney roads (unless specific separate approval is obtained from the City's Construction Regulation Unit). No truck movements will be permitted on Shepherd Street.

Truck drivers will be advised of the designated truck routes to/ from the site. The construction vehicle routes are detailed below and shown in Figure 3.3 and Figure 3.4. No queuing or marshalling of construction vehicle will be permitted on public roads.

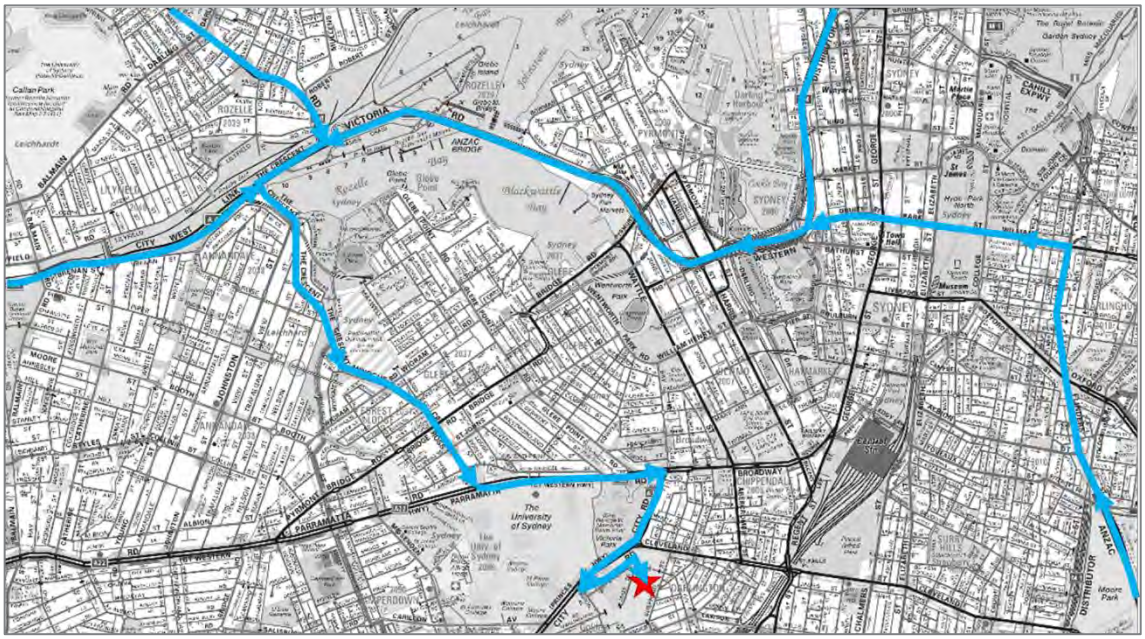
Approach Routes

- North: Sydney Harbour Bridge, Western Distributor, Anzac Bridge, Victoria Road, The Crescent, Minogue Crescent, Ross Street, Parramatta Road, City Road, Butlin Avenue, Maze Crescent and Blackwattle Crescent Lane
- West:
    - Parramatta Road, Wattle Street/ City West Link Road, The Crescent, Minogue Crescent, Ross Street, Parramatta Road, City Road, Butlin Avenue, Maze Crescent and Blackwattle Crescent Lane
    - Victoria Road, The Crescent, Minogue Crescent, Ross Street, Parramatta Road, City Road, Butlin Avenue, Maze Crescent and Blackwattle Crescent Lane
- East/ South: Eastern Distributor, Cross City Tunnel, Western Distributor, Anzac Bridge, Victoria Road, The Crescent, Minogue Crescent, Ross Street, Parramatta Road, City Road, Butlin Avenue, Maze Crescent and Blackwattle Crescent Lane.

Departure Routes

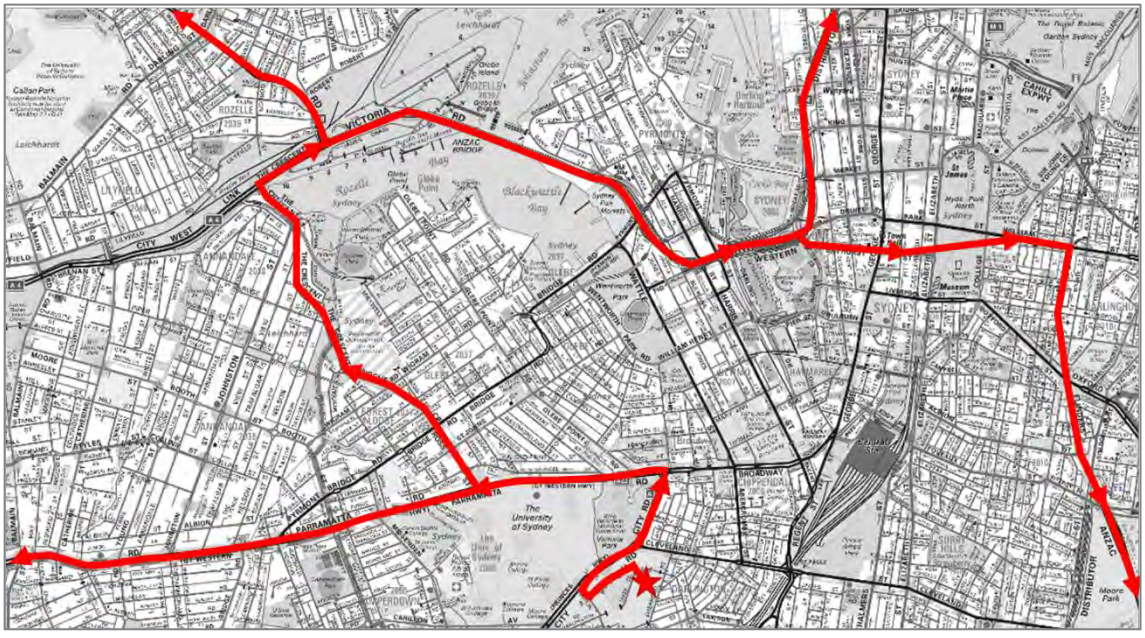
- North: Blackwattle Crescent Lane, Maze Crescent, Butlin Avenue, City Road, Parramatta Road, Ross Street, Minogue Crescent, The Crescent, Victoria Road, Anzac Bridge, Western Distributor and Sydney Harbour Bridge
- West:
    - Blackwattle Crescent Lane, Maze Crescent, Butlin Avenue, City Road and Parramatta Road
    - Blackwattle Crescent Lane, Maze Crescent, Butlin Avenue, City Road, Parramatta Road, Minogue Crescent, The Crescent and Victoria Road
- East/ South: Blackwattle Crescent Lane, Maze Crescent, Butlin Avenue, City Road, Parramatta Road, Ross Street, Minogue Crescent, The Crescent, Victoria Road, Anzac Bridge, Western Distributor, Cross City Tunnel and Eastern Distributor.

Figure 3.3: Construction vehicle approach routes



Base image source: Sydway

Figure 3.4: Construction vehicle departure routes



Base image source: Sydway

3.11. Driver Code of Conduct

Laing O'Rourke will include the following in all subcontract procurement packages:

- a copy of the approved truck routes as detailed in Figure 3.3 and Figure 3.4
- the approved maximum truck size
- any other entry restrictions, or site access restrictions as agreed to by the authorities.

OVERVIEW OF CONSTRUCTION ACTIVITIES

Laing O'Rourke will be responsible for managing all site access points and monitoring subcontractor behaviour and subcontractor truck access arrangements to ensure compliance with conditions of contract. Laing O'Rourke will be responsible for managing for all the site gate access to ensure there is no access to or from the site before or after approved construction hours. Vehicles entering, exiting and driving around the site will be required to give way to pedestrians. Drivers are to be particularly vigilant when entering and exiting the site on Blackwattle Creek Lane as there is a pedestrian path on the southern side of Blackwattle Creek Lane. Drivers will be informed of the 4.5m height restriction along Maze Crescent at the pedestrian bridge to ensure loads are below this limit. Vehicles are not to queue on the road network and must enter and exit the site in a forward direction. All deliveries will be pre-booked and are to check in at the site office on arrival.

4. CONSTRUCTION TRAFFIC MANAGEMENT

04

4.1. Traffic Control Plan

Detailed information for work site operations is contained in the Traffic Control at Work Sites manual (Roads and Maritime, 2018) and Australian Standard 1742.3, Manual of uniform traffic control devices – Traffic control for works on roads. The control of traffic at work sites must be undertaken with reference to WorkCover requirements and any other Workplace Health and Safety manuals.

The proposed traffic control plan, provided in Appendix B, includes the following considerations:

- Construction vehicle activity, including the loading/ unloading of trucks to be conducted within the work site.
- Pedestrians and all passing vehicles will maintain priority.
- Clear definition of the work site boundary to be provided by erection of A hoardings around the site boundaries (already complete during early and demolition phases of works).
- All signage will be clean, clearly visible and not obscured.
- All construction vehicle activity will be minimised during peak periods, where possible.

4.2. Pedestrian and Cyclist Management

Pedestrian movements will be maintained through the provision of Class A hoarding along the perimeter of the site, previously erected during the early and demolition phases of works. Pedestrian and cyclist movements are not expected to be impacted along the site frontage.

4.3. Existing and Future Developments

No construction sites will be active within the USYD Darlington campus during the construction period of the proposed works.

4.4. Public Transport

The construction activities are not expected to impact existing public transport services near the site.

4.5. Emergency Vehicle Access

Access to the subject site and adjacent buildings by emergency vehicles would not be affected by the works as road and footpath frontages would be unaffected. Emergency protocols on the site would include a requirement for suitably accredited site personnel to assist with emergency access from the street.

Consequently, any potential impacts on emergency access would be effectively managed throughout the works.

Liaison would be maintained with the police and emergency services agencies throughout the construction period and a 24-hour contact would be made available for 'out-of-hours' emergencies and access.

4.6. Traffic Movements in Adjoining Council Areas

No adverse effects are expected from the movement of heavy vehicles through adjacent council areas.

4.7. Site Inspections and Record Keeping

The construction work would be monitored to ensure that it proceeds as set out in the Construction Management Plan provided by Laing O'Rourke. A daily inspection before the start of the construction activity should take place to ensure that

conditions accord with those stipulated in the plan and there are no potential hazards. Any possible adverse impacts would be recorded and dealt with if they arise.

As per the requirements outlined in the Roads and Maritime Services Traffic Control at Works Sites Manual, it is the obligation of the Site Manager to ensure records are adequately kept and maintained, and relevant authorities notified to seek guidance/ advice where required.

All staff employed on the site by Laing O'Rourke (including sub-contractors) would be required to undergo a site induction. The induction would include permitted access routes to and from the construction site for site staff and delivery vehicles, limited parking arrangements, as well as standard environmental, workplace health and safety, driver protocols and emergency procedures. The approved work hours must be included as part of this induction.

4.8. Consultation

4.8.1. Authority/ Stakeholder Consultation

Laing O'Rourke will liaise with relevant stakeholders regarding construction schedules and truck routes and will raise any potential conflict with authorities at the earliest time.

Authority consultation actions required by Laing O'Rourke are detailed in Table 4.1.

Table 4.1: Authority Consultation Actions

Stakeholder	Action
TfNSW/ Sydney Coordination Office (SCO)	Laing O'Rourke to submit CPTMP to stakeholder. Laing O'Rourke to liaise with stakeholder to address comments and re-submit final CPTMP.
City of Sydney	Laing O'Rourke to submit CPTMP to stakeholder. Laing O'Rourke to liaise with stakeholder to address comments and re-submit final CPTMP.
Transport Management Centre (TMC)	Laing O'Rourke to submit CPTMP to stakeholder. SCO to coordinate with TMC

4.8.2. Public Notification

Public notification actions to be undertaken by Laing O'Rouke are detailed in Table 4.2.

Table 4.2: Public Notification Actions

Public	Action
University of Sydney (USYD)	Laing O'Rourke to liaise with USYD to establish agreement on the level of notification required and the information to distribute to the University and the University Community.
Nearby Residents	USYD to letter drop to all residents along Shepherd Street between Cleveland Street and Lander Street prior to the commencement of main works.

A. CITY OF SYDNEY CTMP STANDARD REQUIREMENTS

A

APPENDIX A

The City of Sydney
Standard Requirements for Construction Traffic Management Plan

The Applicant or contractor undertakes to follow and abide by the following requirements at all times during the demolition, excavation and construction works at The University of Sydney, Engineering and Technology Precinct.

1. Details of routes to and from site and entry and exit points from site – site specific

2. Details of roads that may be excluded from use by construction traffic i.e. roads with load limits, quiet residential streets or access/turn restricted streets – site specific

3. The approved truck route plan shall form part of the contract and must be distributed to all truck drivers.

4. All vehicles must enter and exit the site in a forward direction (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

5. Trucks are not allowed to reverse into the site from the road (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

6. The Applicant must provide the City with details of the largest truck that will be used during the demolition, excavation and construction.

   NOTE: No dog trailers or articulated vehicles (AV) to be used on local roads (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

7. Oversize and over-mass vehicles are not allowed to travel on Local Roads (unless approval for a **one-off occasion** is obtained from the City's Traffic Operations Unit). Requests to use these vehicles must be submitted to the City 28 days prior to the vehicle's scheduled travel date. For more information please contact the National Heavy Vehicle Regulator (NHVR) on 1300 696 487 or www.nhvr.gov.au.

8. No queuing or marshalling of trucks is permitted on any public road.

9. Any temporary adjustment to Bus Stops or Traffic Signals will require the Applicant to obtain approval from the STA and RMS respectively prior to commencement of works.

10. All vehicles associated with the development shall be parked wholly within the site. All site staff related with the works are to park in a designated off street area or be encouraged to use public transport and not park on the public road.

11. All loading and unloading must be within the development site or at an approved "Works Zone".

12. The Applicant must apply to the City's Traffic Works Co-ordinator to organise appropriate approvals for Work Zones and road closures.

13. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for partial road closures.

14. The Applicant must apply to the Transport for NSW's Transport Management Centre for approval of any road works on State Roads or within 100m of Traffic Signals and receive an approved Road Occupancy Licence (ROL). A copy of the ROL must be provided to the City.

15. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for temporary driveways, cranes and barricades etc.

16. The Applicant must comply with development consent for hours of construction.

17. All Traffic Control Plans associated with the CTMP must comply with the Australian Standards and Roads and Maritime Services (RMS) Traffic Control At Work Sites Guidelines.

18. Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site - **the vehicles already on the road have right-of-way.**

19. Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e. **at all times the pedestrians have right-of-way on the footpath not the trucks**.

20. Physical barriers to control pedestrian or traffic movements need to be determined by the City's Construction Regulations Unit prior to commencement of work.

21. The Applicant must obtain a permit from the City's Construction Regulation Unit regarding the placing of any plant/equipment on public ways.

22. The Applicant must apply to the City's Building Approvals Unit to organise appropriate approvals for hoarding prior to commencement of works.

23. The CTMP is for the excavation, demolition and construction of building works, not for road works (if required) associated with the development. Any road works will require the Applicant or the contractor to separately seek approval from the City and/or RMS for consideration. Also WorkCover requires that Traffic Control Plans must comply with Australian Standards 1742.3 and must be prepared by a Certified Traffic Controller (under RMS regulations).

24. Please note that the provision of any information in this CTMP will not exempt the Applicant from correctly fulfilling all other conditions relevant to the development consent for the above site.

B. TRAFFIC CONTROL PLAN

B

NOTES

1. NOT ALL DIMENSIONS SHOWN ARE TO SCALE.
2. LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
3. ALL SIGNS TO BE MINIMUM SIZE A.
4. ALL SIGNS TO BE CLASS 1 RETROREFLECTIVE.
5. ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE RMS "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER 5 (RMS 2018) AND AUSTRALIAN STANDARDS AS1742.3:2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
6. THIS TRAFFIC CONTROL PLAN MUST BE SET UP BY A PERSON HOLDING AN "IMPLEMENT TRAFFIC MANAGEMENT PLAN" TICKET AND THE RMS TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION.
7. THE ACCREDITTED PERSONNEL SHALL IMPLEMENT THE APPROVED TCP BEFORE ANY PHYSICAL WORK COMMENCES AND ENSURE A COPY OF THE TCP IS KEPT ON-SITE. THE ACCREDITTED PERSONNEL SHALL ALSO DRIVE THROUGH THE SITE BEFORE WORKS BEGIN TO ENSURE THAT THE TCP HAS BEEN IMPLEMENTED CORRECTLY AND THAT IT WILL WARN, INSTRUCT AND GUIDE ROAD USERS AS DESIGNED. ANY VARIATIONS MADE TO THE PLAN MUST BE MARKED ON THE PLAN AND INITIALLED BY THE ACCREDITTED PERSONNEL.
8. IT IS THE RESPONSIBILITY OF AN ACCREDITTED PERSONNEL WITH A 'PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN' TICKET TO ENSURE THE FOLLOWING:
   - THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURES THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
   - VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES.
   - AT ALL TIMES AN UP-TO-DATE COPY OF "TRAFFIC CONTROL AT WORK SITES" SHOULD BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE.
9. ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN.
10. IF THE WORKSITE IS LEFT UNATTENDED IT IS THE CONTRACTOR'S DUTY TO ENSURE THAT THE APPROPRIATE MEASURES ARE TAKEN TO PROVIDE A SAFE ENVIRONMENT FOR VEHICLES AND PEDESTRIANS TO RELEVANT AUSTRALIAN STANDARDS.
11. TRAFFIC CONTROLLER (T1-34) AND PREPARE TO STOP (T1-18) SIGNS TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER/S ARE NOT ON SITE.
12. ALL SIGNAGE IS TO BE CLEAN, CLEARLY VISIBLE AND NOT OBSCURED.
13. ROADWORK SIGNS TO BE COVERED OR REMOVED WHEN WORKERS ARE NOT ON SITE.
14. ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2009.
15. ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH SECTION 2.5.2 OF AS1742.3:2009. HOWEVER, MODIFICATIONS CAN BE MADE TO SUIT SITE CONDITIONS.

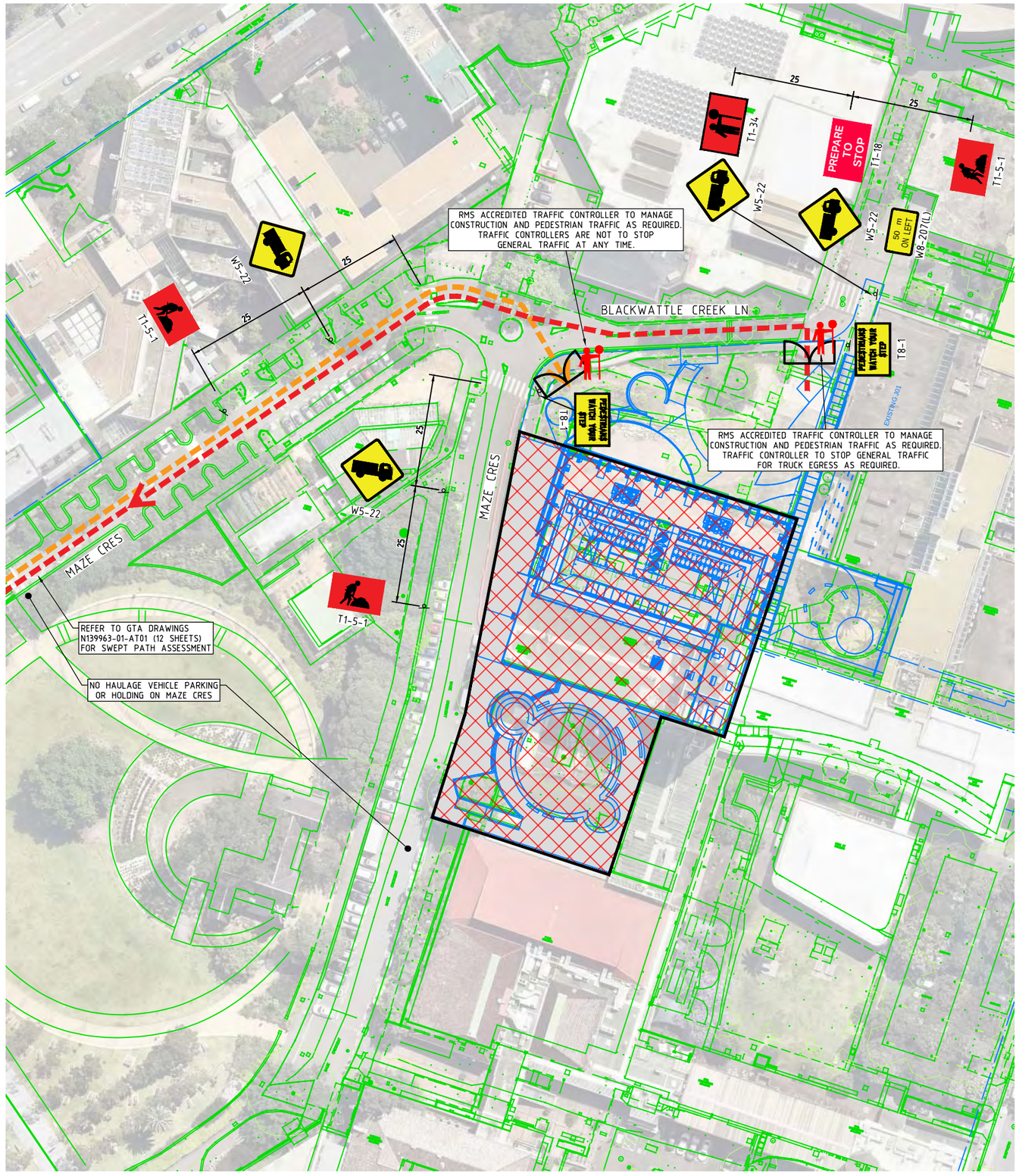
LEGEND

- WORK SITE
- SIGN POST
- TRAFFIC CONTROLLER
- TRUCK ENTRY ROUTE
- TRUCK EGRESS ROUTE
- CONSTRUCTION ACCESS GATE

CERTIFICATION

THE UNDERSIGNED HAS COMPLETED AND OBTAINED:
- PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN AND IS SUITABLY EXPERIENCED TO DESIGN, SELECT AND MODIFY TRAFFIC CONTROL PLANS

CERTIFICATE NO: 0045105381
PREPARE A WORK ZONE TMP CARD
HENRY TRUONG



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Perth	08 6169 1000

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PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

DESIGNED H.TRUONG	DESIGN CHECK A.MODESSA
APPROVED BY D.CHOI	DATE ISSUED 25 FEBRUARY 2019
CAD FILE NO. N139963-02_01-P2.DWG	

SCALE A3 0 2.5 5 10 1:500

USYD ENGINEERING AND TECHNOLOGY

TRAFFIC CONTROL PLAN
ALL STAGES - TRUCK ENTRY TO SITE

DRAWING NO. N139963-02-01 SHEET 1 OF 2 ISSUE P2

NOTES

1. NOT ALL DIMENSIONS SHOWN ARE TO SCALE.
2. LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
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   - VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES.
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15. ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH SECTION 2.5.2 OF AS1742.3:2009. HOWEVER, MODIFICATIONS CAN BE MADE TO SUIT SITE CONDITIONS.

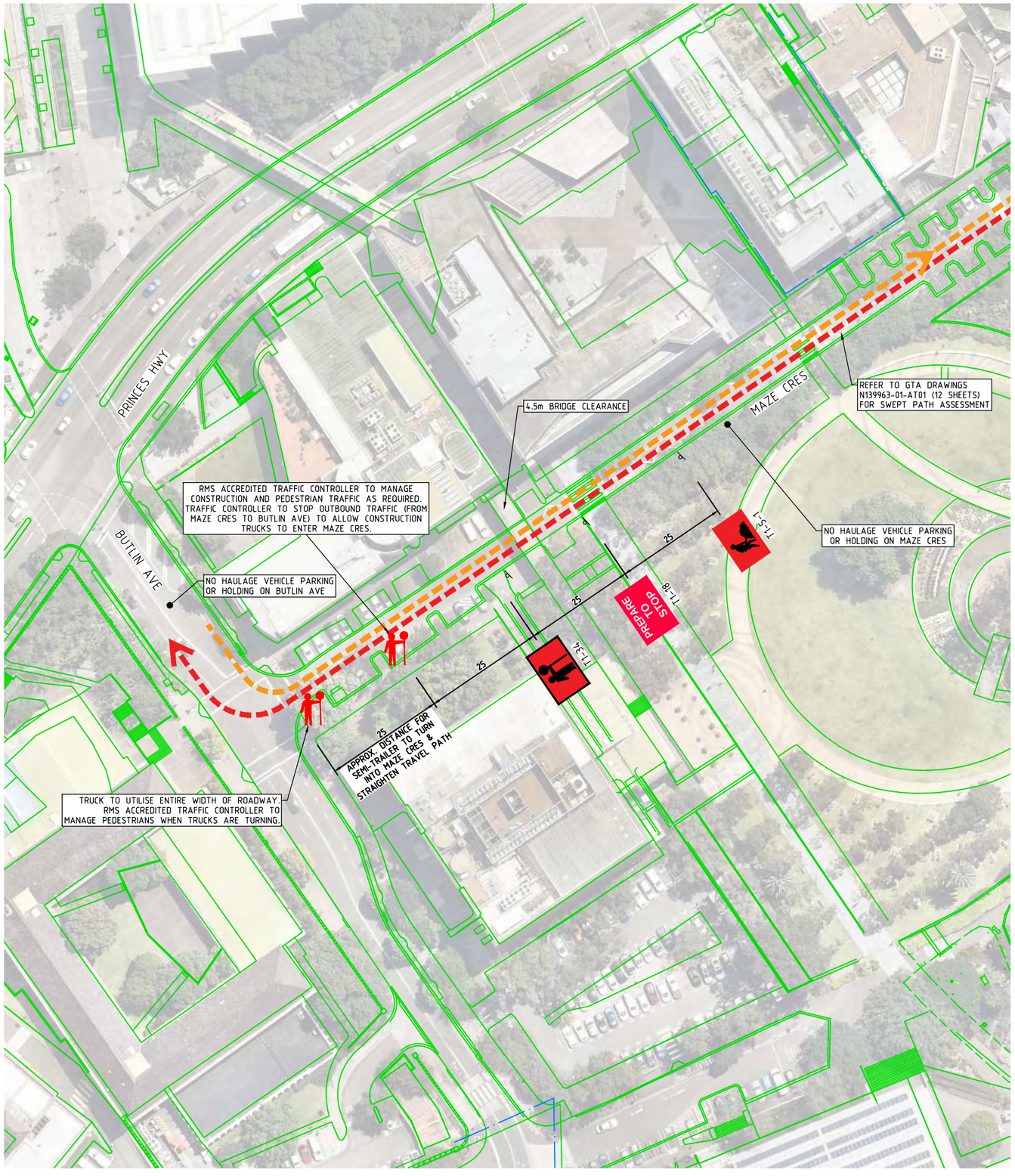
LEGEND

- WORK SITE
- SIGN POST
- TRAFFIC CONTROLLER
- TRUCK ENTRY ROUTE
- TRUCK EGRESS ROUTE
- CONSTRUCTION ACCESS GATE

CERTIFICATION

THE UNDERSIGNED HAS COMPLETED AND OBTAINED:
- PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN AND IS SUITABLY EXPERIENCED TO DESIGN, SELECT AND MODIFY TRAFFIC CONTROL PLANS

CERTIFICATE NO: 0045105381
PREPARE A WORK ZONE TMP CARD
HENRY TRUONG



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PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

DESIGNED H.TRUONG	DESIGN CHECK A.MODESSA
APPROVED BY D.CHOI	DATE ISSUED 1 MARCH 2019

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N139963-02_02-P3.DWG

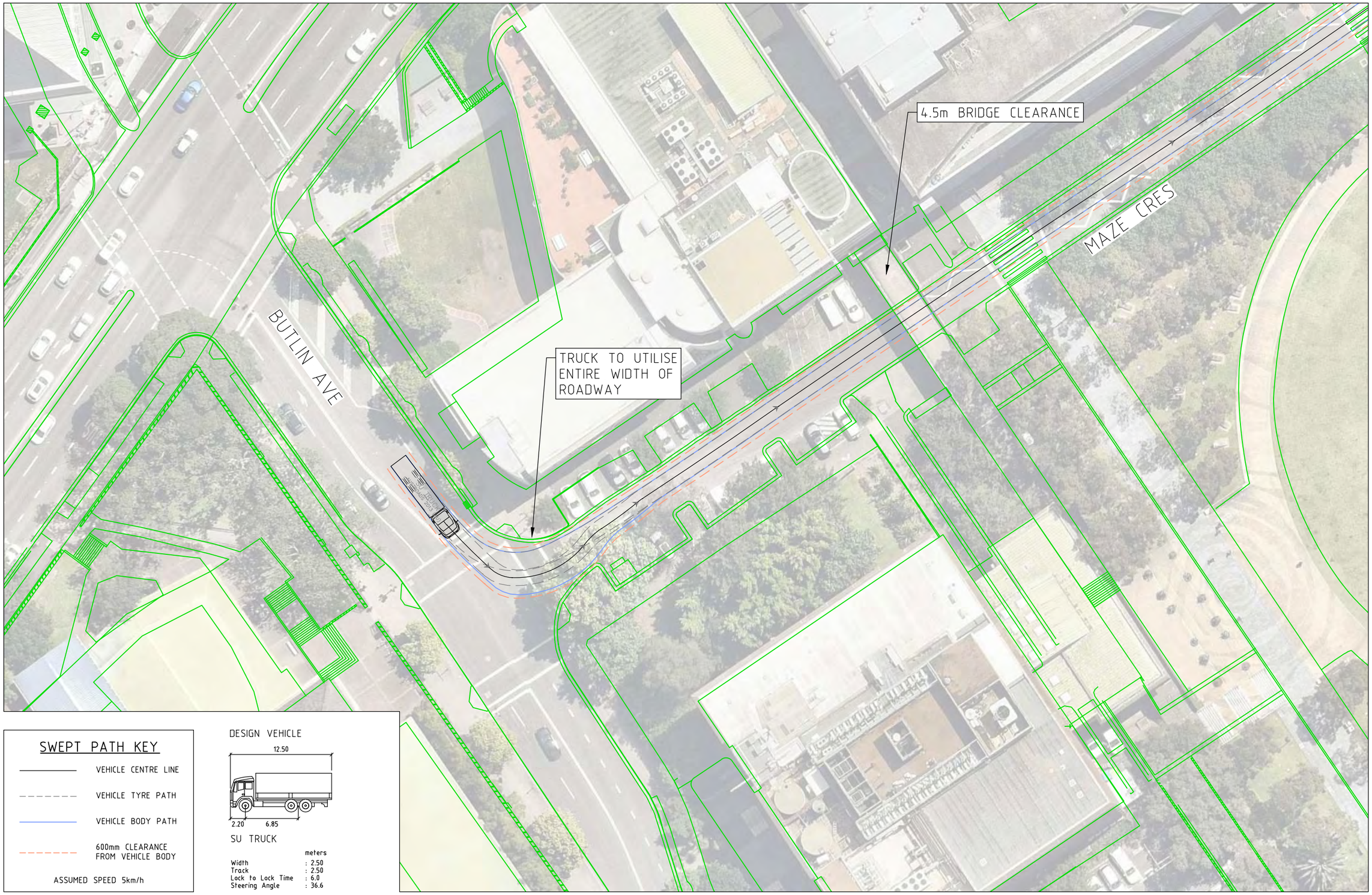
USYD ENGINEERING AND TECHNOLOGY

TRAFFIC CONTROL PLAN
ALL STAGES - TRUCK ENTRY (BUTLIN AVE TO MAZE CRES)

DRAWING NO. N139963-02-02 SHEET 2 OF 2 ISSUE P3

C. SWEPT PATH ASSESSMENT

C



SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE

SU TRUCK

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

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PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

DESIGNED H.TRUONG
DESIGN CHECK D.CHOI
APPROVED BY D.CHOI
DATE ISSUED 21 FEBRUARY 2019

SCALE A3 0 2.5 5 10 1:500
CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
12.5m SINGLE UNIT TRUCK - ENTRY 1

DRAWING NO. N139963-01-AT01-01 SHEET 1 OF 12 ISSUE P2

TRUCK TO TRAVERSE
ON MOUNTABLE ISLANDS
(OR CONSIDER REMOVING)

PROVIDE ENTRY DRIVEWAY AND GATES
TO CONSTRUCTION SITE AND TRUCK LAYDOWN AREA

BLACKWATTLE CREEK LN

MAZE CRES

MAZE CRESCENT

BLACKWATTLE CREEK LANE

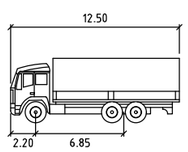
N

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE



SU TRUCK

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

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PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

DESIGNED H.TRUONG	DESIGN CHECK D.CHOI
APPROVED BY D.CHOI	DATE ISSUED 21 FEBRUARY 2019

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
12.5m SINGLE UNIT TRUCK - ENTRY 2

DRAWING NO. N139963-01-AT01-02 SHEET 2 OF 12 ISSUE P2

TRUCK TO TRAVERSE ON MOUNTABLE ISLANDS (OR CONSIDER REMOVING)

PROVIDE EGRESS DRIVEWAY AND GATES TO CONSTRUCTION SITE AND TRUCK LAYDOWN AREA

BLACKWATTLE CREEK LN

MAZE CRES

MAZE CRESCENT

BLACKWATTLE CREEK LANE

MAZE CRESCENT

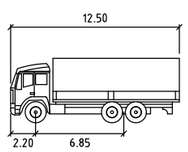
N

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE



SU TRUCK

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

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DESIGN CHECK D.CHOI
APPROVED BY D.CHOI
DATE ISSUED 21 FEBRUARY 2019

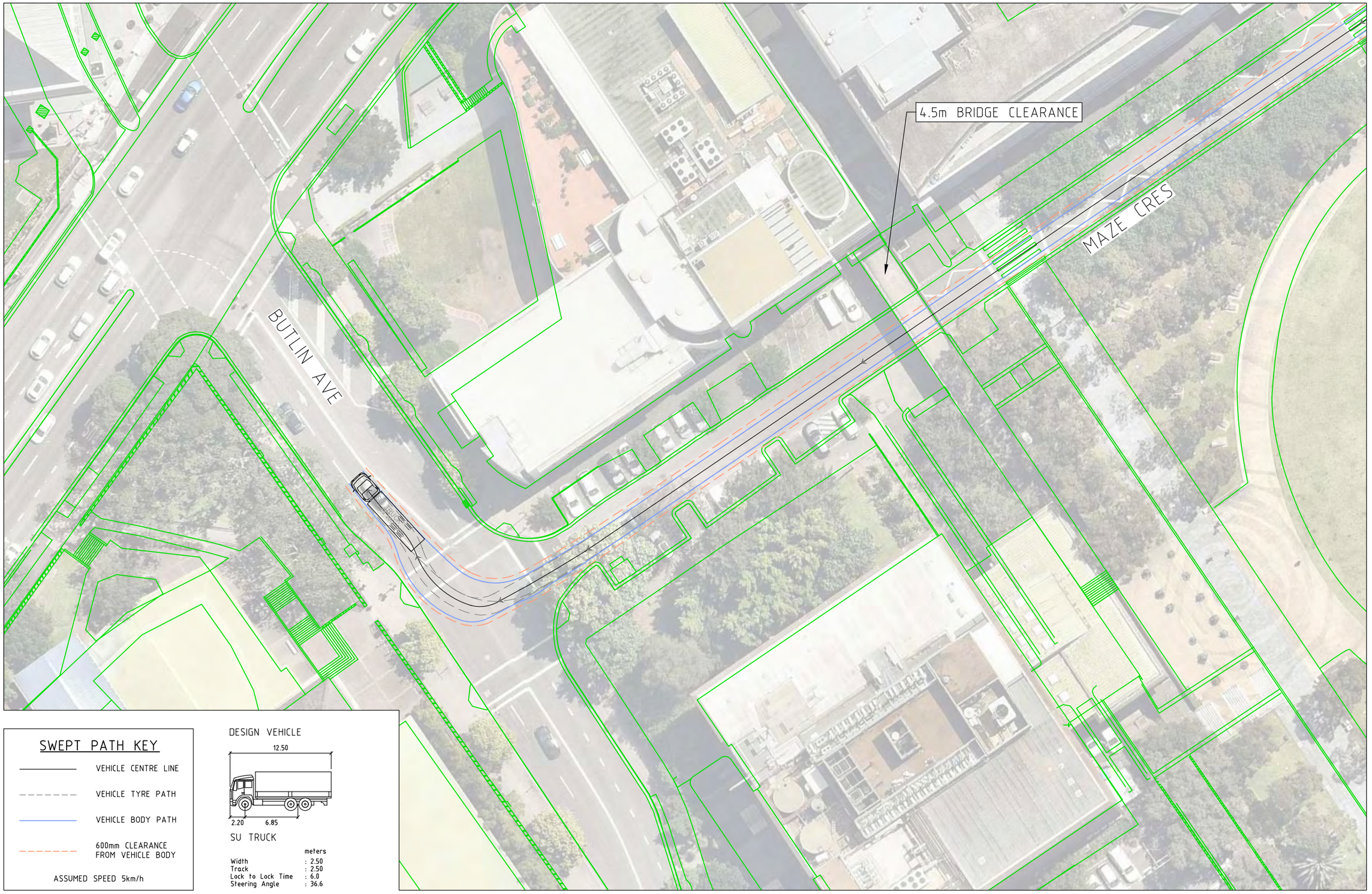
SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
12.5m SINGLE UNIT TRUCK - EGRESS 1

DRAWING NO. N139963-01-AT01-03 SHEET 3 OF 12 ISSUE P2



SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE

SU TRUCK

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

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PRELIMINARY PLAN
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SUBJECT TO CHANGE WITHOUT NOTIFICATION

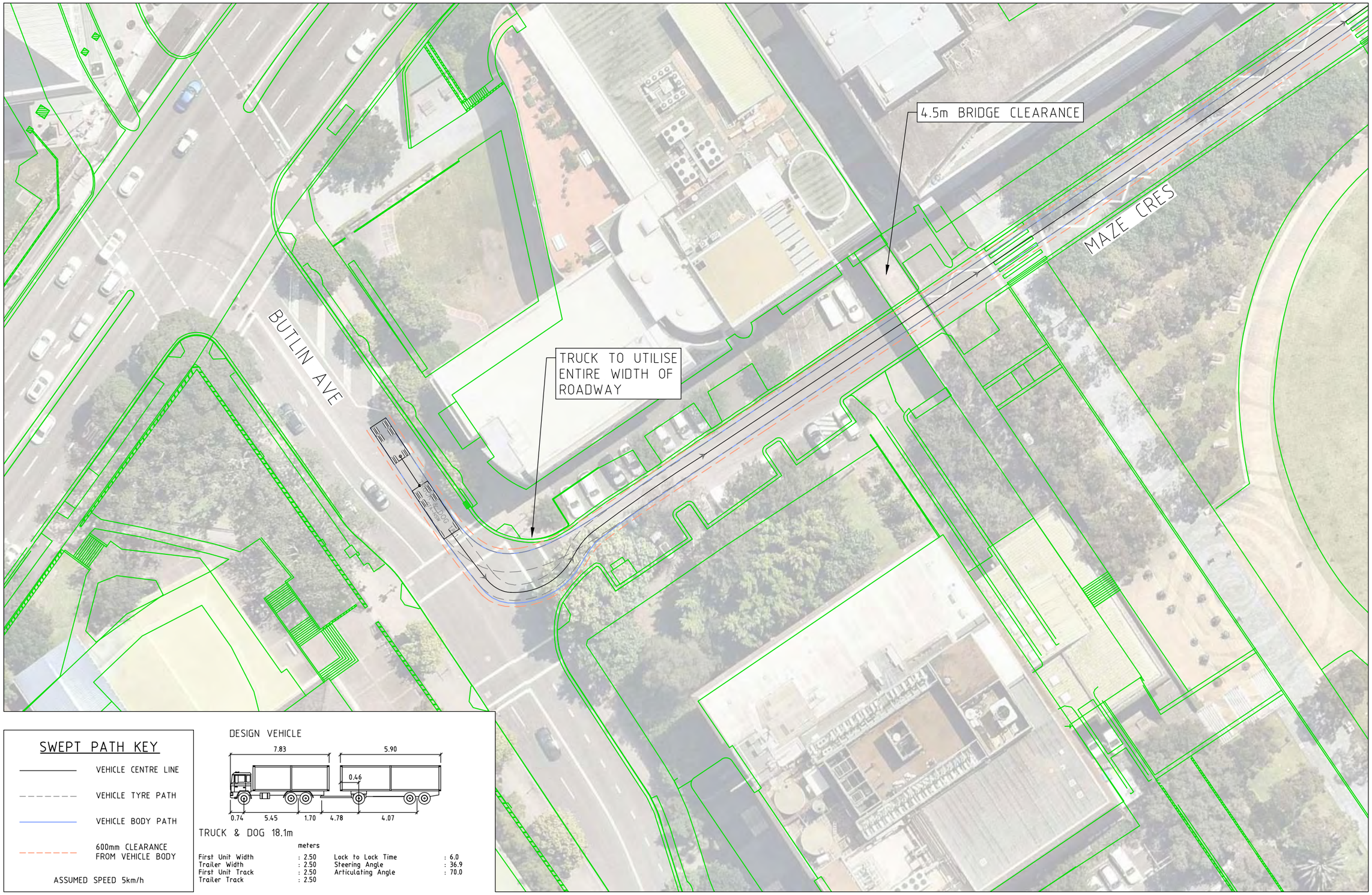
DESIGNED H.TRUONG
DESIGN CHECK D.CHOI
APPROVED BY D.CHOI
DATE ISSUED 21 FEBRUARY 2019

SCALE A3 0 2.5 5 10 1:500
CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
12.5m SINGLE UNIT TRUCK - EGRESS 2

DRAWING NO. N139963-01-AT01-04 SHEET 4 OF 12 ISSUE P2



SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE

TRUCK & DOG 18.1m

meters

First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 36.9
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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PRELIMINARY PLAN
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SUBJECT TO CHANGE WITHOUT NOTIFICATION

DESIGNED H.TRUONG	DESIGN CHECK D.CHOI
APPROVED BY D.CHOI	DATE ISSUED 21 FEBRUARY 2019

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
18m TRUCK & DOG - ENTRY 1

DRAWING NO. N139963-01-AT01-05 SHEET 5 OF 12 ISSUE P2

TRUCK TO TRAVERSE
ON MOUNTABLE ISLANDS
(OR CONSIDER REMOVING)

PROVIDE ENTRY DRIVEWAY AND GATES
TO CONSTRUCTION SITE AND TRUCK LAYDOWN AREA

BLACKWATTLE CREEK LN

MAZE CRES

MAZE CRESCENT

BLACKWATTLE CREEK LANE

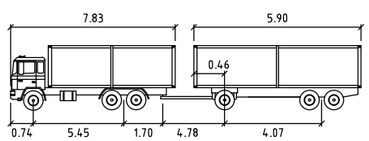
N

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE



TRUCK & DOG 18.1m

meters

First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 36.9
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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DESIGNED H.TRUONG	DESIGN CHECK D.CHOI
APPROVED BY D.CHOI	DATE ISSUED 21 FEBRUARY 2019

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
18m TRUCK & DOG - ENTRY 2

DRAWING NO. N139963-01-AT01-06 SHEET 6 OF 12 ISSUE P2

X:\N3900-13999\N139963 USYD - ENGINEERING AND TECHNOLOGY - CTMP\CAD\N139963-01-AT01-P2 (ALT SITE ENTRY).DWG PLOTTED BY HENRY TRUONG ON 22/02/2019 AT 16:08

TRUCK TO TRAVERSE ON MOUNTABLE ISLANDS (OR CONSIDER REMOVING)

PROVIDE EGRESS DRIVEWAY AND GATES TO CONSTRUCTION SITE AND TRUCK LAYDOWN AREA

BLACKWATTLE CREEK LN

MAZE CRES

MAZE CRESCENT

BLACKWATTLE CREEK LANE

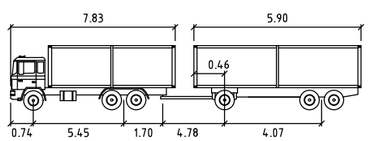
N

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE



TRUCK & DOG 18.1m

meters

First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 36.9
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

DESIGNED H.TRUONG	DESIGN CHECK D.CHOI
APPROVED BY D.CHOI	DATE ISSUED 21 FEBRUARY 2019

SCALE A3 0 2.5 5 10 1:500

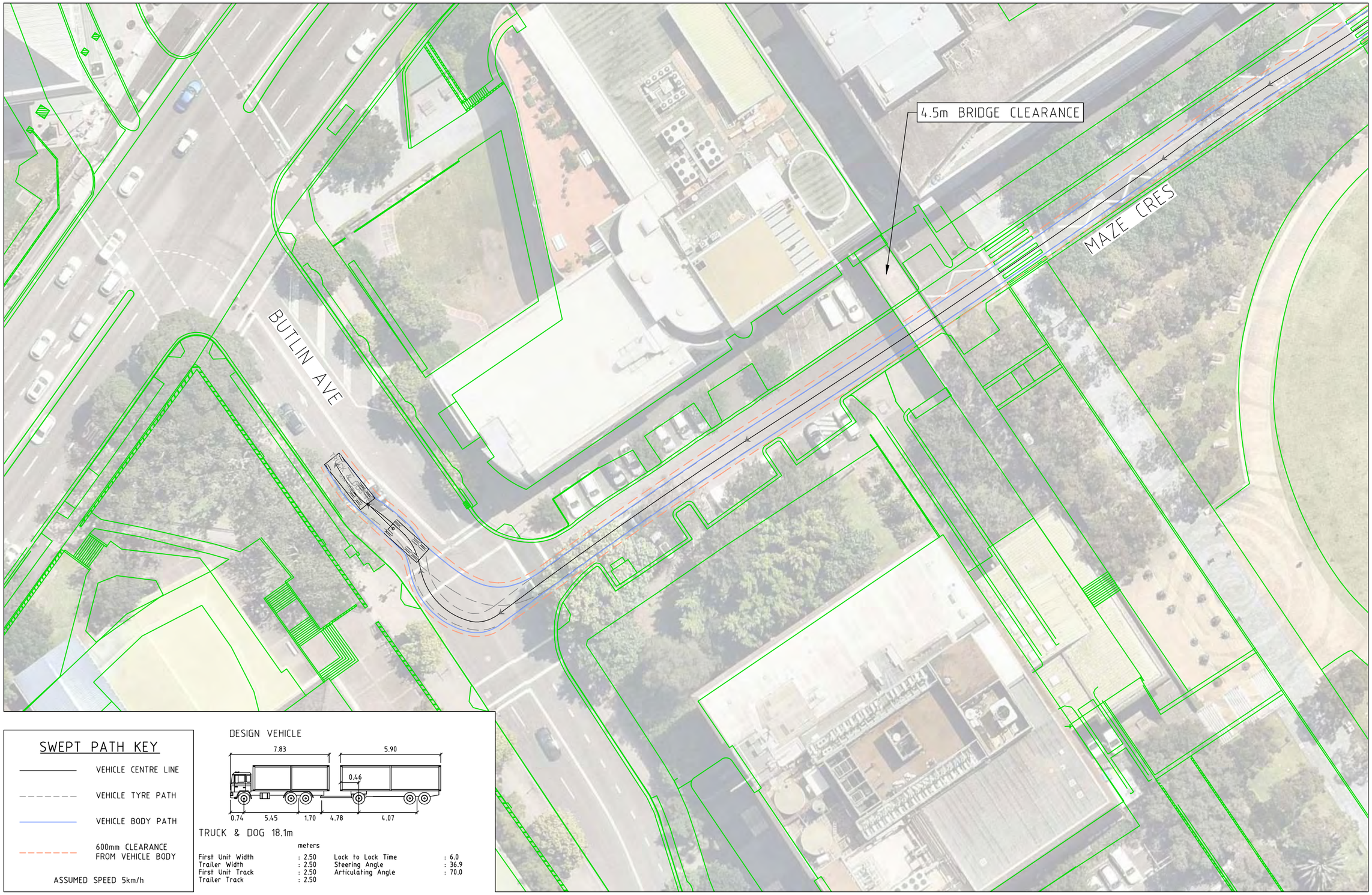
CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
18m TRUCK & DOG - EGRESS 1

DRAWING NO. N139963-01-AT01-07 SHEET 7 OF 12 ISSUE P2

X:\N3900-13999\N139963 USYD - ENGINEERING AND TECHNOLOGY - CTMP\CAD\N139963-01-AT01-P2 (ALT SITE ENTRY).DWG PLOTTED BY HENRY TRUONG ON 22/02/2019 AT 16:09



SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE

TRUCK & DOG 18.1m

meters

First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 36.9
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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nearmap.com

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

DESIGNED H.TRUONG
DESIGN CHECK D.CHOI
APPROVED BY D.CHOI
DATE ISSUED 21 FEBRUARY 2019

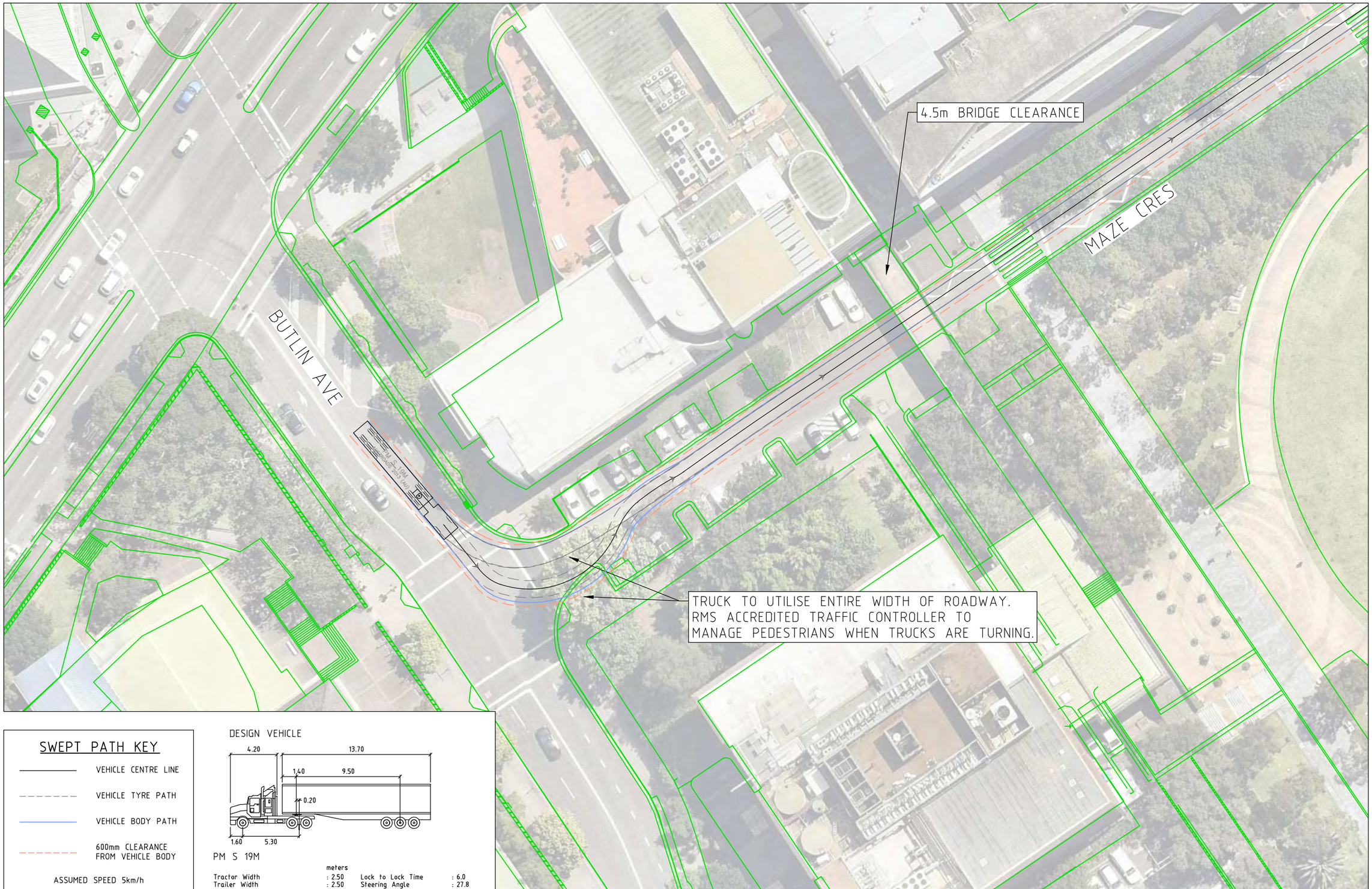
SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
18m TRUCK & DOG - EGRESS

DRAWING NO. N139963-01-AT01-08 SHEET 8 OF 12 ISSUE P2



SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE

PM S 19M

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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Perth	08 6169 1000

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PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

DESIGNED H.TRUONG	DESIGN CHECK D.CHOI
APPROVED BY D.CHOI	DATE ISSUED 1 MARCH 2019

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N139963-01-AT01-P3 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
19m SEMI-TRAILER - ENTRY 1

DRAWING NO. N139963-01-AT01-09 SHEET 9 OF 12 ISSUE P3

TRUCK TO TRAVERSE
ON MOUNTABLE ISLANDS
(OR CONSIDER REMOVING)

PROVIDE ENTRY DRIVEWAY AND GATES
TO CONSTRUCTION SITE AND TRUCK LAYDOWN AREA

BLACKWATTLE CREEK LN

MAZE CRES

MAZE CRESCENT

BLACKWATTLE CREEK LANE

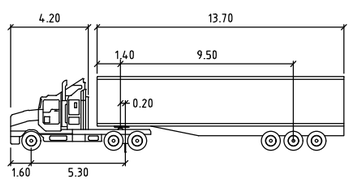
N

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE



PM S 19M

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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PRELIMINARY PLAN
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DESIGNED H.TRUONG	DESIGN CHECK D.CHOI
APPROVED BY D.CHOI	DATE ISSUED 21 FEBRUARY 2019

SCALE A3 0 2.5 5 10 1:500

CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
19m SEMI-TRAILER - ENTRY 2

DRAWING NO. N139963-01-AT01-10 SHEET 10 OF 12 ISSUE P2

TRUCK TO TRAVERSE ON MOUNTABLE ISLANDS (OR CONSIDER REMOVING)

PROVIDE EGRESS DRIVEWAY AND GATES TO CONSTRUCTION SITE AND TRUCK LAYDOWN AREA

BLACKWATTLE CREEK LN

MAZE CRES

MAZE CRESCENT

BLACKWATTLE CREEK LANE

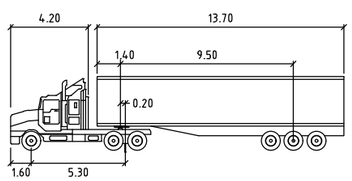
N

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE



PM S 19M

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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PRELIMINARY PLAN
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SUBJECT TO CHANGE WITHOUT NOTIFICATION

DESIGNED H.TRUONG	DESIGN CHECK D.CHOI
APPROVED BY D.CHOI	DATE ISSUED 21 FEBRUARY 2019

SCALE A3 0 2.5 5 10 1:500

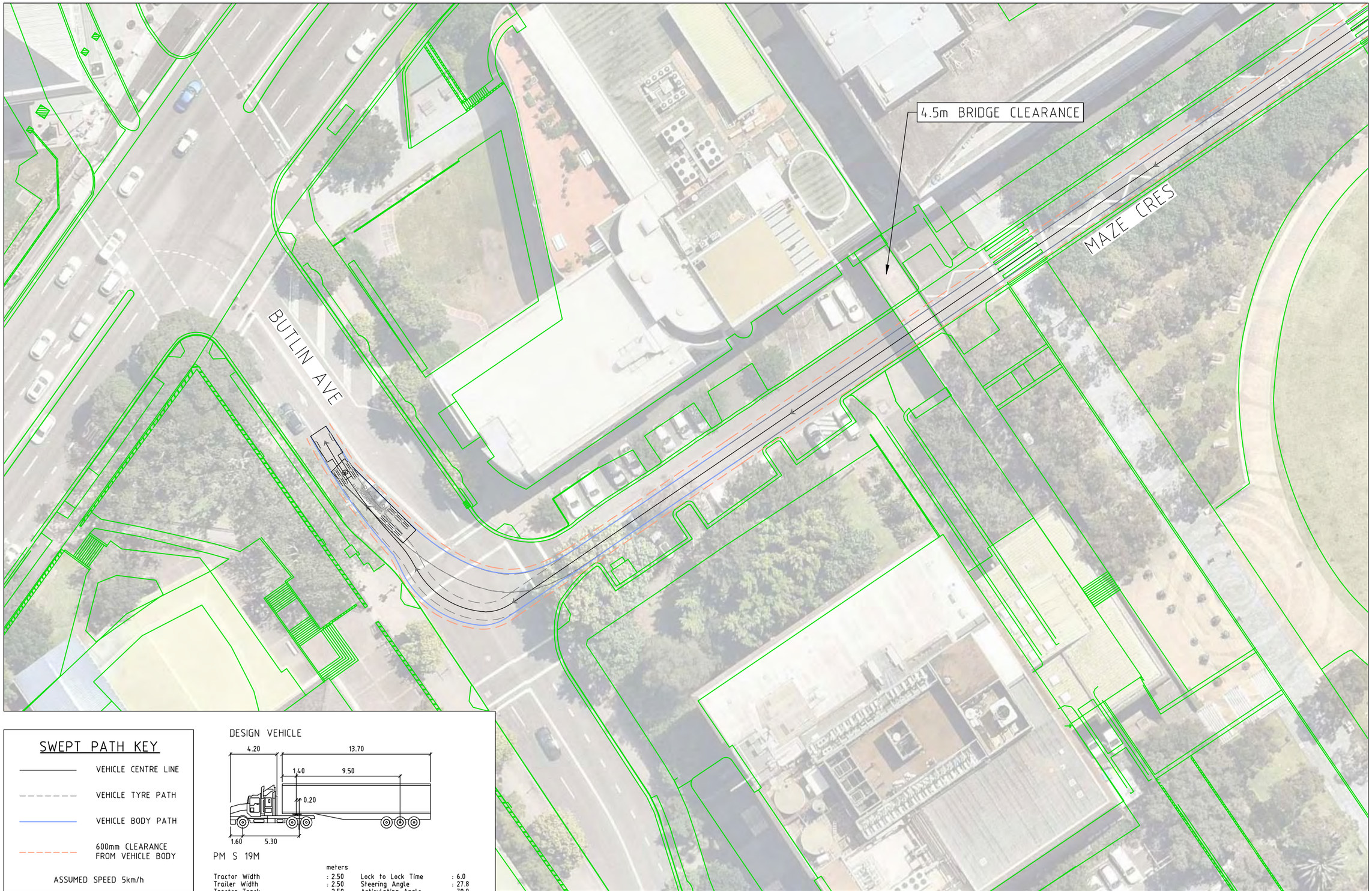
CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
19m SEMI-TRAILER - EGRESS 1

DRAWING NO. N139963-01-AT01-11 SHEET 11 OF 12 ISSUE P2

X:\N13900-13999\N139963 USYD - ENGINEERING AND TECHNOLOGY - CTMP\CAD\N139963-01-AT01-P2 (ALT SITE ENTRY).DWG PLOTTED BY HENRY TRUONG ON 22/02/2019 AT 16:09



SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

DESIGN VEHICLE

PM S 19M

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

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PRELIMINARY PLAN
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SUBJECT TO CHANGE WITHOUT NOTIFICATION

DESIGNED H.TRUONG
DESIGN CHECK D.CHOI
APPROVED BY D.CHOI
DATE ISSUED 21 FEBRUARY 2019

SCALE A3 0 2.5 5 10 1:500
CAD FILE NO. N139963-01-AT01-P2 (ALT SITE ENTRY).DWG

USYD ENGINEERING AND TECHNOLOGY

SWEPT PATH ASSESSMENT
19m SEMI-TRAILER - EGRESS 2

DRAWING NO. N139963-01-AT01-12 SHEET 12 OF 12 ISSUE P2

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