To the General Manager

Attach: 1. 2-4 Blue St North Sydney CTMP

SUBJECT: (6.1) 2-4 Blue Street, North Sydney - Construction Traffic Management Plan

AUTHOR: Report of Traffic & Transport Engineer, Iman Mohammadi

DESCRIPTION/SUBJECT MATTER:

The current Construction Traffic Management Plan (CTMP) of the development at 2-4 Blue Street, North Sydney (Development Consent 47/20) for early works, Demolition & Excavation stages was approved under Delegated Authority (TDA 20/119) on 1 December 2020.

Council has received a new CTMP prepared by ptc, dated 16 February 2021 for the approved development at 2-4 Blue Street, North Sydney (Development Consent 47/20) proposing to use truck and dog trailers instead of heavy rigid vehicles.

The applicant has requested use of truck and dog trailers to keep excavation stage of development program to schedule for 12 weeks using 40 truck and dogs trailer movements per day

The proposed development involves the demolition of five (5) residential flat buildings, bulk excavation, tree removal and the construction of a 10-story commercial building with basement parking. The site will be served by an existing driveway in Blue Street frontage.

Condition B3 of the development consent 47/20 states:

Construction Management Program – Local Traffic Committee Approval

B3. A Construction Management Program prepared by a suitably qualified and experienced traffic consultant must be submitted and approved in writing by North Sydney Traffic Committee PRIOR TO THE ISSUE OF ANY Construction Certificate. Any use of Council property will require appropriate approvals prior to any work commencing. At a minimum, the Construction Management Program must specifically address the following matters:

The applicant's Construction Traffic Management Plan is discussed in the report overleaf.

RECOMMENDATION:

1. THAT the Traffic Committee adopts one of the following recommendations (a or b):

a) **THAT** the proposed use of Truck and Dog trailers for 2-4 Blue Street, North Sydney is not approved due to the following concerns:

i. The proposal requires removal of two (2) parking spaces in Blue Street and two (2) spaces in William Street at Blues Point Road. North Sydney is one of the highest

on street parking demand areas in North Sydney LGA and as such the proposed removal of parking spaces to accommodate the use of Truck and Dog is not supported by Council.

ii. The Truck and Dog passes through school entrance at the corner of Blue St and William St on the route to the site. Despite restriction on truck movements during school times, there is pedestrian safety issue when trucks are travelling to the site around mid-day when school children are likely outside school gates during lunch time.

iii. The use of Truck and Dog will reduce the total excavation duration but will not reduce the number of daily truck movements during excavation. The original approved CTMP prepared by Varga Traffic Planning dated 30 October 2020, estimated use of approximately 40 HRV trucks per day for 22 weeks during demolition works compared to use of 40 Truck and Dog trucks per day for 12 weeks during demolition works.

iv. Truck and Dogs turning right from Lavender Street onto Blues Point Road and left into William Street, require southbound traffic to be held up for truck and dogs maneuvering at the intersection, as the truck has to cross onto the opposite side of the road to make the turn. Proposing 40 Truck and Dog movements per day is equivalent to 1 truck movement every 9 minutes (between the hours of 8am and 5pm excluding school times), for 12 weeks. This may cause a large impact on the traffic flow around and at Lavender St and Blues Point Rd intersection.

v. Truck and Dogs turning right from Lavender Street onto Blues Point Road and William Street, also require the southbound lanes to be clear at the traffic light for maneuvering. The report proposes that *"in the unlikely event that a vehicle is already sitting in front of the intersection, heavy vehicles shall continue north on Blues Point Road, left onto Pacific highway, and stay on the State Roads to circle back around into approach again through Lavender Street from Bradfield Highway*." This is an additional 22km distance for a truck to travel on state road to get back to its original location at the Blues Point Road and Lavender Street intersection. It is unlikely that truck drivers would travel this additional distance due to the significant inconvenience and inefficient approach, they are more likely to wait for the next cycle causing delays and increased queuing at the signals.

b) **THAT** should the traffic committee approve the use of truck and dog trailers, the approval be subject to the attached conditions; AND a separate Work Zone application with maximum 22m length to minimise loss of street parking and provision of turning path of a Medium Rigid Vehicle (MRV) traveling in William Street and safely passing the operating work zone, be submitted to Council for assessment and approval of the Traffic Committee; AND one of the following options to minimise any disruption to the traffic flow in Blues Point Road when a vehicle is already sitting in front of the intersection of Blues Point Road and Lavender Street:

i. Traffic controllers stop the south and north bound traffic before the truck arrives at the Lavender Street/Blues Point intersection, OR
ii. Existing two (2) parking spaces on the western side of Blues Point Road between Lavender Street and William Street to be removed, subject to a Work Zone application.

DETAIL

Standard or Guideline Used: RMS Traffic Control at Work Sites Manual, AS 1742.3
Signs & Lines Priority: N/A
Precinct and Ward: CBD/Wollstonecraft
Impact on Bicycles: Nil
Impact on Pedestrians: Safety concerns over truck and dog trailers traveling through school entrance at the corner of Blue St and William St on the route to the site.
Impact on Parking: Loss of two (2) parking spaces in Blue Street and two (2) spaces in William Street at Blues Point Road. Additional two (2) parking spaces on the western side of Blues Point Road immediately between Lavender Street and William Street, should Traffic Committee resolve to recommend parking removal to minimise any disruption to the traffic flow in Blues Point Road when a vehicle is already sitting in front of the intersection of Blues Point Road and Lavender Street.

Condition B3 of the development consent states:

B3. A Construction Management Program prepared by a suitably qualified and experienced traffic consultant must be submitted and approved in writing by North Sydney Traffic Committee PRIOR TO THE ISSUE OF ANY Construction Certificate. Any use of Council property will require appropriate approvals prior to any work commencing. At a minimum, the Construction Management Program must specifically address the following matters:

a) A plan view (min 1:100 scale) of the entire site and frontage roadways indicating:

i. Dedicated temporary construction site driveway entrances and exits, controlled by a certified traffic controller, to safely manage pedestrians and construction related vehicles in the frontage roadways and footways;
ii. The proposed signage for pedestrian management to comply with the relevant Australian Standards, including pram ramps;
iii. Turning areas within the site for construction and spoil removal vehicles, allowing a forward egress for all construction vehicles on the site;
iv. The locations of any proposed Work Zones in the frontage roadways (to be approved by Council's Traffic Committee);
v. Locations of hoardings proposed;
vi. Location of any proposed crane standing areas;
vii. A dedicated unloading and loading point within the site for all construction vehicles, plant and deliveries;
viii. Material, plant and spoil bin storage areas within the site, where all materials are to be dropped off and collected; and
ix. The provision of an on-site parking area for employees, tradesperson and construction vehicles as far as possible.

b) A detailed heavy vehicle access route map through the Council area to Arterial Roads. Provision is to be made to ensure through traffic is maintained at all times.
c) The proposed phases of works on the site, and the expected duration of each phase.
d) How access to neighboring properties will be maintained at all times and the proposed manner in which adjoining property owners will be kept advised of the timeframes for completion of each phase of process.
e) The road is not to be used as a waiting area for trucks delivering to or awaiting pick up of materials.

f) The proposed method of support to any excavation adjacent to adjoining properties, or the road reserve. The proposed method of support is to be designed and certified by an appropriately qualified and practicing structural engineer and must not involve any permanent or temporary encroachment onto Council's property.
g) Proposed protection for Council and adjoining properties. Details are to include site fencing and the provision of "B" class hoardings over footpaths and laneways.
h) A Waste Management Plan. The Waste Management Plan must include, but not be limited to, the estimated volume of waste and method of disposal for the construction of the development, design of on-site waste storage and recycling area and administrative arrangements for waste and recycling management during the construction process.

All traffic control work and excavation, demolition and construction activities must be undertaken in accordance with the approved Construction Management Program and any conditions attached to the approved Program. The approved Construction Management Program must be submitted as part of the documentation lodged with the application for approval of a construction certificate. A copy of the approved Construction Management Program and any conditions imposed on that Program, must be kept on the site at all times and made available to any officer of Council upon request.

Notes:
1) North Sydney Council's adopted fee for certification of compliance with this condition shall be payable on lodgment, or in any event, prior to the issue of the relevant approval.
2) Any use of Council property will require appropriate approvals and demonstration of liability insurances prior to such work commencing.
3) Failure to provide complete and detailed information may result in delays. It is recommended that your Construction Management Plan be lodged with Council as early as possible, as a minimum six (6) weeks notice is required to refer items to the Traffic Committee.
4) Dependent on the circumstances of the site, Council may request additional information to that detailed above.

(Reason: To ensure appropriate measures have been considered for site access, storage and the operation of the site during all phases of the demolition process in a manner that respects adjoining owner's property rights and residential amenity in the locality, without unreasonable inconvenience to the community)

Access and egress

The report states that
"…During excavation, construction vehicles will enter and exit the site via a driveway located on the south-east corner of the site. During the construction stage, a work zone is proposed on William Street, adjacent to the site".

Heavy Rigid and smaller trucks will travel south in Pacific Highway, right into Miller Street then right into Blue Street and right into William Street to access the site. Departure route is traveling north in William Street and left into Pacific Highway.

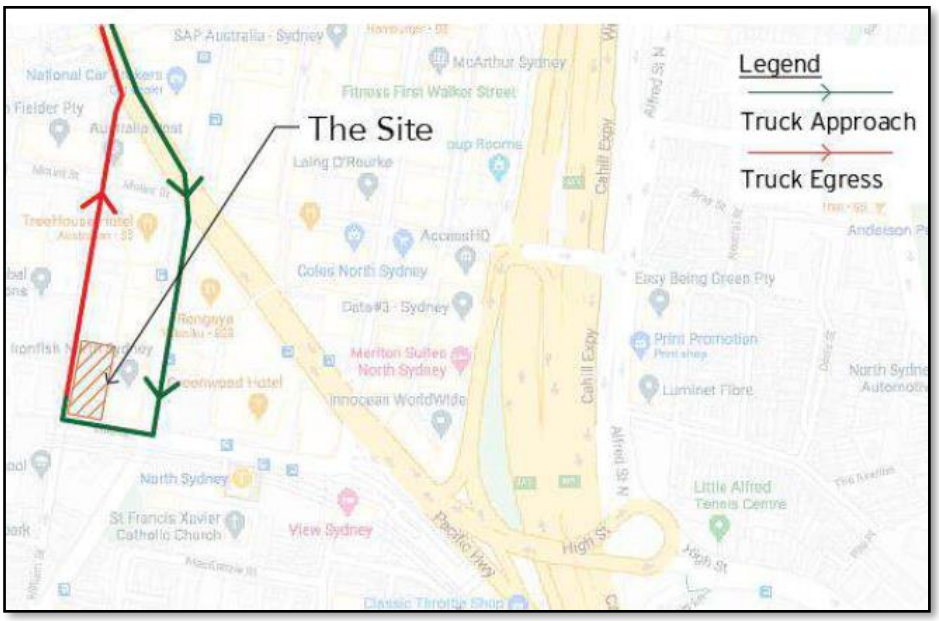

Figure 1: Construction Vehicle Routes (Heavy Rigid Vehicles and Smaller, including Concrete Agitators)

Truck and dog trailers will turn left into Lavender Street from Warringah Freeway, right turn into Blues Point Road, and immediately turn left into William Street then right into Blue Street to access the site's driveway in Blue Street. Due to the swept path of the truck and dog trailers, the trucks will cross onto the opposite side of Blues Point Road when turning from Lavender Street and into William Street as shown in Figure 2.

Figure 25 - Truck and Dog Turning Right from Lavender Street into Blues Point Road then Left into William Street (Managed by Accredited Traffic Controllers)

Figure 2 Swept path for truck and dogs turning from Lavender Street - Blues Point Road - William Street

Departing the site, truck and dogs will turn right into William street from Blue Street and continue travelling north in William Street and left into Pacific Highway.

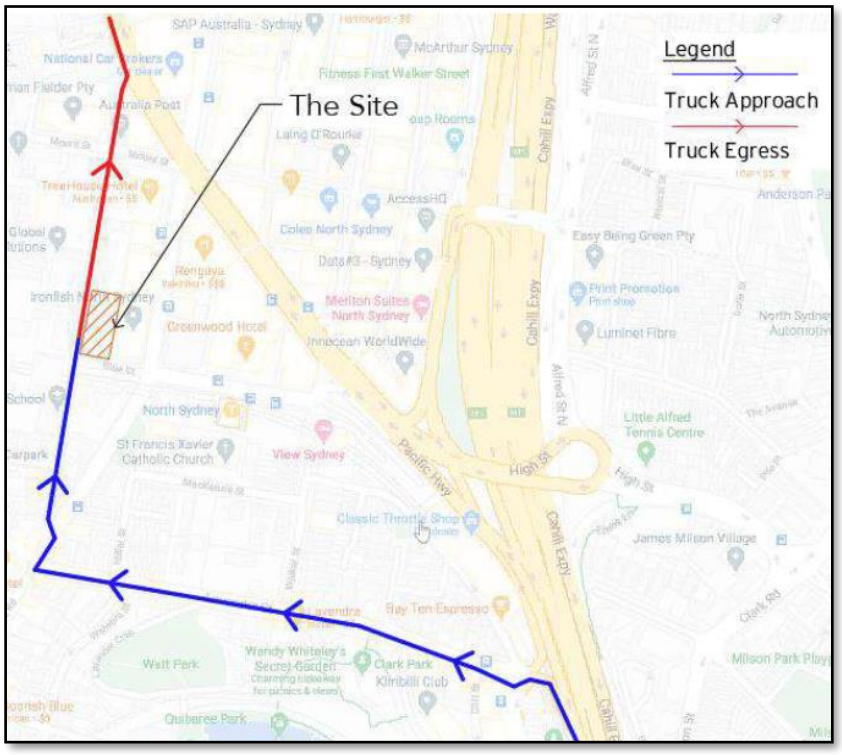

Figure 3: Construction Vehicle Routes (Truck and Dogs and Articulated Vehicles, Semi-Trailers)

Access to neighbouring properties

The report states that:

"Access to all adjoining properties will be maintained throughout the works."

Pedestrian management

"Pedestrian access to and around the site is to be maintained at all times. To provide segregation and protection for pedestrians, a Class B hoarding will be erected along the southern and western boundaries of the site, as shown in Figure 18 and Figure 19."

Construction phases

Stage	Works	Vehicle size	Estimated daily trips	Duration
1	Bulk Excavation / Earthworks	Truck and Dogs, Heavy Rigid Vehicles	40 truck movements per day	12 weeks
2	Construction / Structure	Heavy Rigid Vehicles, Semi-Trailers	Average of 15 truck movements per day, including 3-5 Semi-Trailers per day	34 weeks
		Medium Rigid Vehicles (Concrete Agitators)	Up to 40 concrete trucks per day during a concrete pour	
3	Façade + Fitout	Semi-Trailers, Medium Rigid Vehicles	3-5 Semi-Trailers per day	28 weeks

Stage	Works	Works Zone	Number of On-Street Parking Spaces Lost	Illustration
1	Bulk Excavation / Earthworks	No	4	Figure 36 and Figure 37
2 & 3	Construction and Fitout Stage	Yes	10	Figure 36 and Figure 38

Neighbour notification

The report states that:

"…Prior to commencement of works on site the contractor is to inform neighbouring properties of proposed works and provide site contact information by means of a letter box distribution."

Loading and unloading equipment and materials

The report states that:

"The loading of spoil onto trucks will be carried out on-site in an approved and controlled manner. The management of the on-site materials handling/loading area and the movement of trucks on and off the site will be the responsibility of the contractor."

Site crane

there will be a tower crane located on the eastern side of the site as per the "Establishment & Staging Plans Stage 2 – structure"

Storage of equipment and materials

A site compound has been proposed on top of the B Class hoarding in Blue Street.

Works Zone

The report states that:

"During the construction stage, a work zone is proposed on William Street, adjacent to the site. Because the work zone is proposed to be situated at the eastern side of William Street, the car parking spaces situated on the western side of the road are proposed to be temporarily removed. These spaces are marked on plan and shown in the following figures. In addition, the vehicle paths, as demonstrated in the swept path analysis, will involve the loss of a number of parking spaces to facilitate the turns. A modification of the on-street parking signs is illustrated in the following figures. These plans are also included in this report in Attachment 1"

Provision of a 52m long WZ in William St results in loss of 8 parking spaces on the western side of street, (all eight parking spaces that are utilised for school pick up purposes in the afternoon). Should an 18m long truck and dog trailer is approved for this site, the 52m long WZ seems excessive during the 62 weeks duration of Construction stage.

Therefore, the proposed WZ in the submitted CTMP is not supported. It is recommended to consider a 22m long WZ which results in loss of 5 parking spaces on the western side of William Street.

Staff Parking

The report states that:

"Due to site constraint, there will be limited parking available to site personnel on site. All site personnel are to be advised that they are not to park in the on-street parking in the vicinity of the development site. To minimise the required parking, the contractor will be encouraged to assist in the transportation of workers to the site. Also, site personnel will be advised to car pool (where ever practicable) and site personal will be informed of the public transport options available in the vicinity of the site (refer to Section 4.4) and advised to utilise these facilities (where ever practicable)."

Discussion

The applicant proposes that the use of truck and dog trailers will reduce the excavation phase from 22 weeks to 12 weeks.

Given the impacts on parking and potential impacts on the road network as outlined in this report, it is not recommended that Council support the use of truck and dog trailers for development at 2-4 Blue Street.

Notwithstanding, should the traffic committee support the use of truck and dog trailers, the traffic committee should nominate its preferred measures for safe maneuvering through intersection of Blues Point Road and Lavender Street either under traffic control or removal of parking on the western side of Blues point Road.

CONDITIONS OF APPROVAL

1. All works on any public road are to be undertaken in accordance with AS 1742.3.
2. Use of truck and dog trailers may only be commenced after the approved on-street parking removal are carried out by Council by installation of No Stopping signs as shown on the approved CTMP.
3. Any changes required to parking restrictions in association with the development site shall be subject to approval by the North Sydney Traffic Committee and all costs shall be borne by the applicant.
4. Temporary construction site driveway entrances and exits are subject to separate Temporary Driveway Crossing approval by Council's Development Engineer to accommodate the maximum truck size accessing the site as proposed and approved in this CTMP.
5. If the removal of parking meters and/or in-ground sensors is deemed necessary by Council to protect the infrastructure or for public safety, the applicant shall pay for the cost of removal.
6. GPS tracking and under-guards be considered for truck and dog trailers engaged at 2-4 Blue Street as a safety enhancement measure.
7. Installation of any Work Zone is subject to a separate approval by the North Sydney Traffic Committee with maximum 22m length to minimise loss of street parking and provision of turning path of a Medium Rigid Vehicle (MRV) traveling in William Street and safely passing through the operating WZ and the applicant paying all appropriate Council advertised fees and charges, including the cost of the signage.
8. The existing layback within the proposed work zone must be removed and reinstate to full kerb by the applicant and at the applicant's expense to satisfaction of Council, prior to the Work Zone sings being installed by Council.
9. Construction traffic movements and site material deliveries are not to be carried out during morning student drop-off (8.00am-9.30am) and afternoon student pick-up times (2.30pm-4.00pm). This condition only applies to school days.
10. No convex mirrors may be installed within the public road reserve.
11. Installation of any Hoarding is subject to the applicant paying all appropriate Council advertised fees and charges, including the cost of the signage, and is subject to separate approval from the North Sydney Council and in conjunction with recommendations from the Council's Manager of Parking Meters, in relation to the location of the Parking Meter.
12. Trucks shall enter the construction site in a forward direction only without any impacts on the traffic flow and under the direct supervision of minimum of two RMS accredited traffic controllers, two to direct heavy vehicle movement into the site and one to ensure no pedestrian enters the path of a heavy vehicle. Trucks must leave the site in a forward direction.
13. Access to adjoining residents and businesses are to be maintained at all times.
14. The adjoining residents and businesses are to be updated on a monthly basis and at key construction stages, particularly in relation to construction vehicle movements, and be provided with a phone number to contact the site manager.
15. The applicant shall provide monthly updates and notices at key stages of development particularly in relation to heavy vehicle movements and traffic changes, including monthly updates posted in a prominent position on the site hoarding including contact details of the site manager.
16. At no time shall William Street or any other roads within the North Sydney LGA be blocked by any vehicle or works associated with the construction of the proposed development. Through traffic is to be maintained at all times.

17. William Street or any other roads within the North Sydney LGA are not to be used as a waiting area for trucks delivering to or awaiting pick up of materials etc. from the proposed development.
18. Construction vehicles are not to queue in William Street or any other roads within the North Sydney LGA.
19. Materials are to be stored on-site. At no time, are materials to be stored on any public road or any Council property.
20. Tower cranes shall be located wholly on-site.
21. Mobile cranes shall be located wholly on-site or with an approved Stand Plant Permit.
22. Concrete pumps shall be located wholly on-site or with an approved Stand Plant Permit, unless the pump and trucks can stand wholly within the signposted Work Zone.
23. All pump lines crossing Council footpaths must be ramped over to allow safe pedestrian/ wheelchair traffic at all times.
24. Pedestrian access on William Street must be maintained at all times.
25. Pedestrian access and the diversion of pedestrians shall be carried out in accordance with Australian Standard 1742.3 and 1742.10.
26. If pedestrians are diverted, pram ramps must be provided in accordance with Australian Standard 1428.1.
27. If a Permit to Stand Plant or Temporary Road Closure is required, application must be made to NSW Police, North Shore Local Area command.
28. If a Permit to Stand Plant is required, application must be made to Council a minimum of two business days prior to any proposed works or 3 business days prior to any proposed out of hours works.
29. If a Temporary Road Closure is required, application must be made to Council a minimum of four weeks prior to any proposed works.
30. A traffic route map and conditions are to be made available to truck drivers engaged for this development.
31. A list of truck drivers' names with their licences and vehicle plate numbers and conditions are to be kept on-site by the applicant at all times, and be made available for inspection by Council Officers, Police Officers and Council Rangers.
32. Repeated failure to comply with these conditions will result in removal of any Work Zone under notice.
33. All Traffic Management Plans and Traffic Control Plans must be endorsed with the name of the person preparing the plan along with their level of certified qualification and certificate number. Only persons with current "Select/Modify Traffic Control Plans" or "Design Audit Traffic Control Plans" tickets are qualified to develop and endorse Traffic Management Plans and Traffic Control Plans.

Please note the construction management program is a condition that forms part of the development application for the site. Therefore, any non-compliance with these construction management program conditions of approval constitutes a breach of the conditions of approval for the development application.

report;

2-4 Blue St 1-5 William St, North Sydney CTMP

For FDC

16 February 2021

parking;
traffic;
civil design;
wayfinding;

ptc.

Document Control

2-4 Blue St 1-5 William St, North Sydney CTMP, Report

Issue	Date	Issue Details	Author	Reviewed	For the attention of
1	13.11.2020	For review	DK/DS	SW	Stuart King
2	26.11.2020	1st Submission	DS	SW	Stuart King, Iman Mohammaddi
3	18.12.2020	Revised	JJ	DS	Stuart King, Iman Mohammaddi
4	07.01.2021	Revised	JJ/DS	SW	Matt Hawkins
5	07.01.2021	Revised	DS	SW	Matt Hawkins, Iman Mohammaddi
6	09.02.2021	Revised	DS	SW	Peter Blood
7	09.02.2021	Revised	DS	SW	Peter Blood
8	10.02.2021	Revised	DS	SW	Peter Blood, Iman Mohammaddi, Bikram Singh
9	12.02.2021	Revised	DS	SW	Peter Blood
10	15.02.2021	Revised	DS	SW	Peter Blood, Zach Constantinou
11	16.02.2021	Revised	DS	SW	Peter Blood, Zach Constantinou, Iman Mohammaddi, Bikram Singh

Contact

Steve Wellman
steve.wellman@ptcconsultants.co

Dave Salangsang
dave.salangsang@ptcconsultants.co

Jae Jeon
jae.jeon@ptcconsultants.co

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ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
info@ptcconsultants.co
t + 61 2 8920 0800
ptcconsultants.co

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1. Introduction

1.1 Project Description

ptc. has been engaged by FDC to prepare a Construction Traffic Management Plan (CTMP) in relation to the development of a new ten-storey commercial tower building (2-4 Blue Street and 1-5 William Street) at North Sydney.

The location of proposed site is shown in Figure 1.

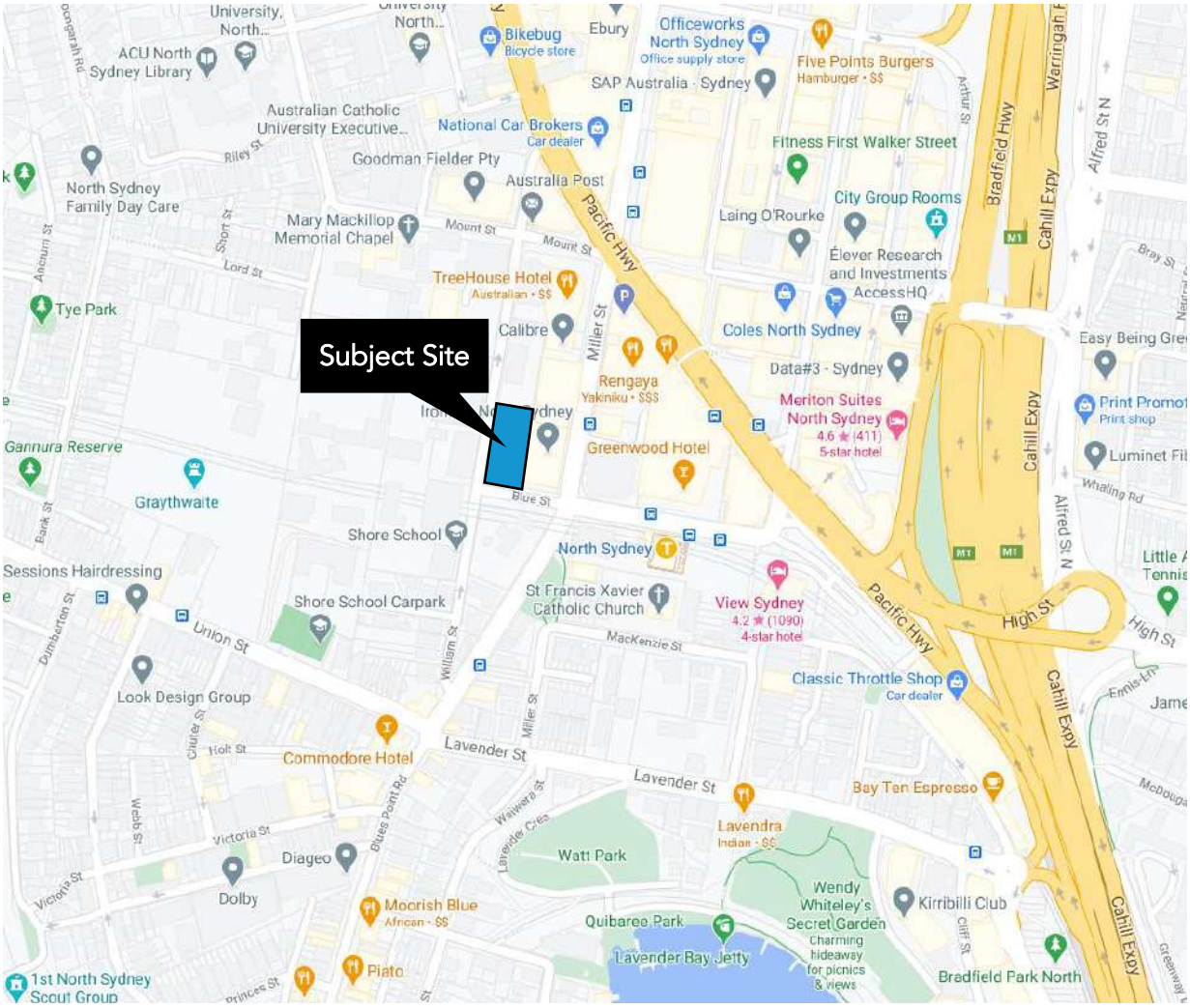

Figure 1 - Subject Site Location (Source: Google Maps)

1.2 Purpose of this Report

This CTMP addresses the following:

- Location of any proposed Work Zones, site boundary, and any site office, crane locations;
- Haulage routes;
- Construction vehicle access arrangements;

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- A heavy vehicle swept path assessment, demonstrating feasibility of any proposed Works Zones or site access;
- Proposed haulage routes;
- Proposed construction hours;
- Estimated number of construction vehicle movements;
- Construction program;
- Any potential impacts to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicle during the construction of the proposed works; and
- Measures proposed to mitigate any associated general traffic, public transport, pedestrian, and cyclist impact.

1.3 Structure of this Report

This report has been prepared to present the traffic management arrangements associated with the construction of the proposed site.

This report presents the following considerations in relation to the CTMP:

- Section 2 – Background;
- Section 3 – A description of the project;
- Section 4 – A description of the road network serving the development site;
- Section 5 – Indicative management of construction vehicles and non-site traffic; and
- Section 6 – Summary

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2. Background

The proposed site is located on the north-eastern corner of the William Street and Blue Street intersection and is approximately three (3) kilometres to the north of Sydney CBD. The suburb is located in Sydney's Lower North Shore, which is generally a mix of residential and commercial use. The nearest train station to the site is North Sydney Train station (140m east to the site). An aerial view of the site location is provided in Figure 2.

Figure 2 - Aerial View of Site

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Figure 3 - Street Frontage - William Street / Blue Street Intersection[1]

The surrounding area is mixed in nature (refer to Figure 4). The areas south and west of the site are primarily low and medium density residential (R2 and R3). The north-east of the site is classified as a commercial core (B3) with mixed use zoning (B4) north of that.

The surrounding land use is provided in Figure 4 and the existing site plan is provided in Figure 5.

[1] Google Street View – image capture Nov 2019

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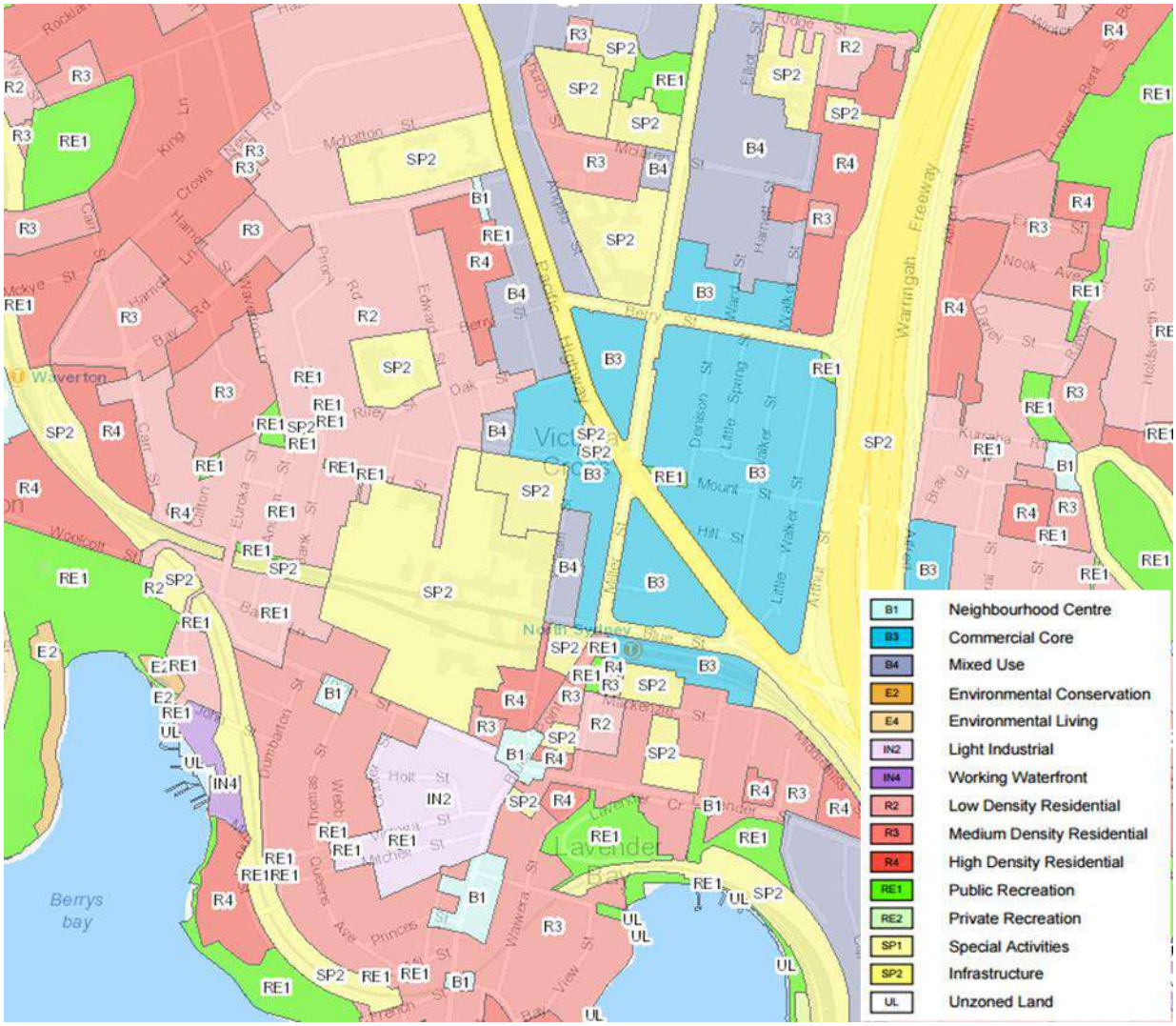

Figure 4 - Surrounding Land Use[2]

[2] https://www.planningportal.nsw.gov.au/

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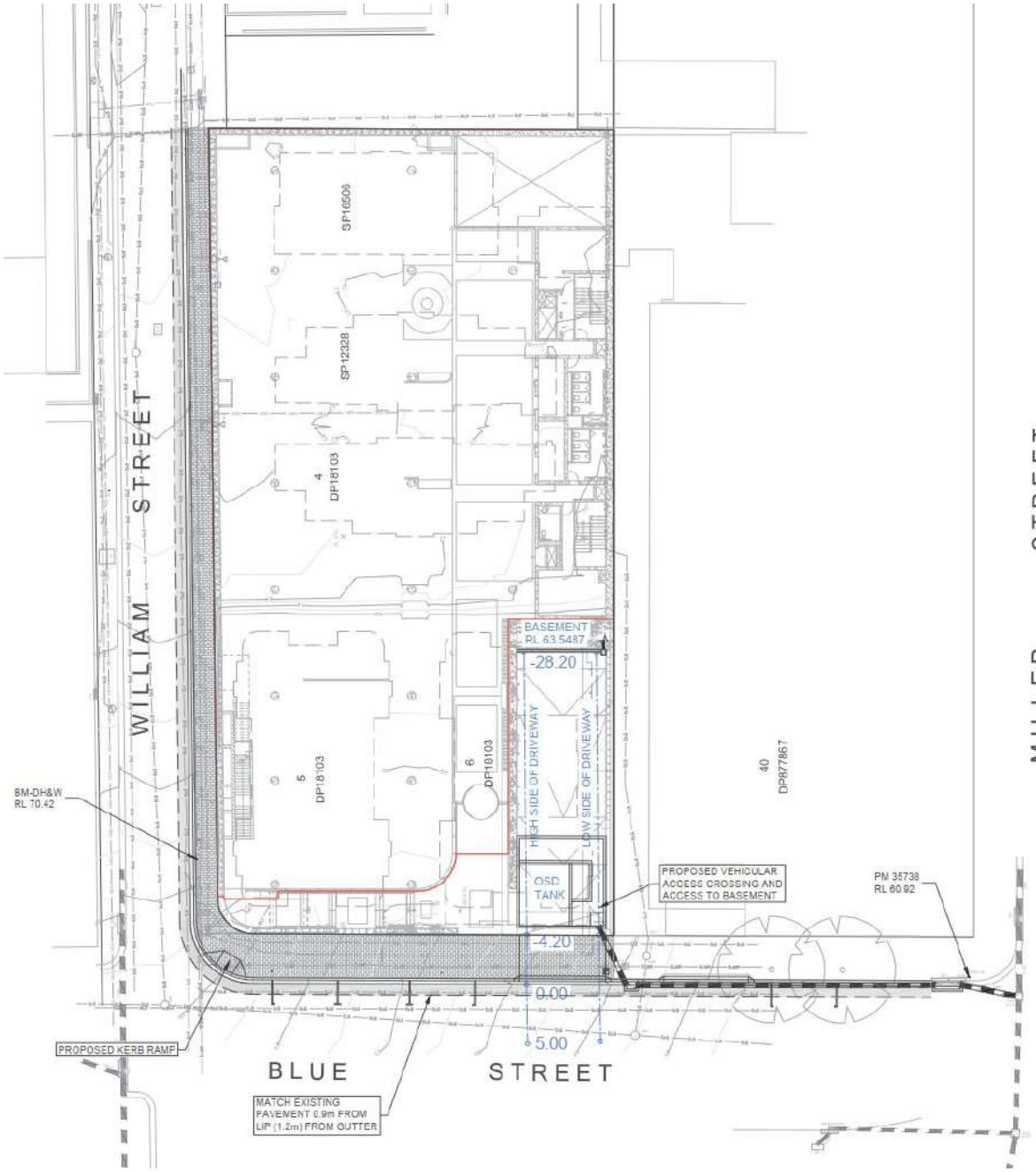

Figure 5 - Site Survey Plan

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3. Development Proposal

The proposed development involves the construction of a new ten-storey commercial building, with car parking provided within the basement. A loading bay will be provided within the lower ground level with two bays accommodating up to two 6.4m Small Rigid Vehicles (SRV).

The construction project will be undertaken in two main stages:

- Bulk Excavation Stage, and
- Construction & Fitout Stage.

Each stage will involve different types of trucks to facilitate construction deliveries, debris, waste removal, and bulk excavation. This Construction Traffic Management Plan discusses the traffic management strategies in relation to the Excavation and Construction & Fitout stages of the project and are elaborated in Section 5 of this report.

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4. Existing Transport Facilities

4.1 Road Hierarchy

The site is located in the suburb of North Sydney. The nearby road network is comprised of a mix of local, state and regional roads. The site is primarily served by the State Roads (M1 Highway and Pacific Highway) with Regional Roads (Miller Street and Blue Street) also providing north-south and east-west access respectively. The site has frontage to William Street and Blue Street.

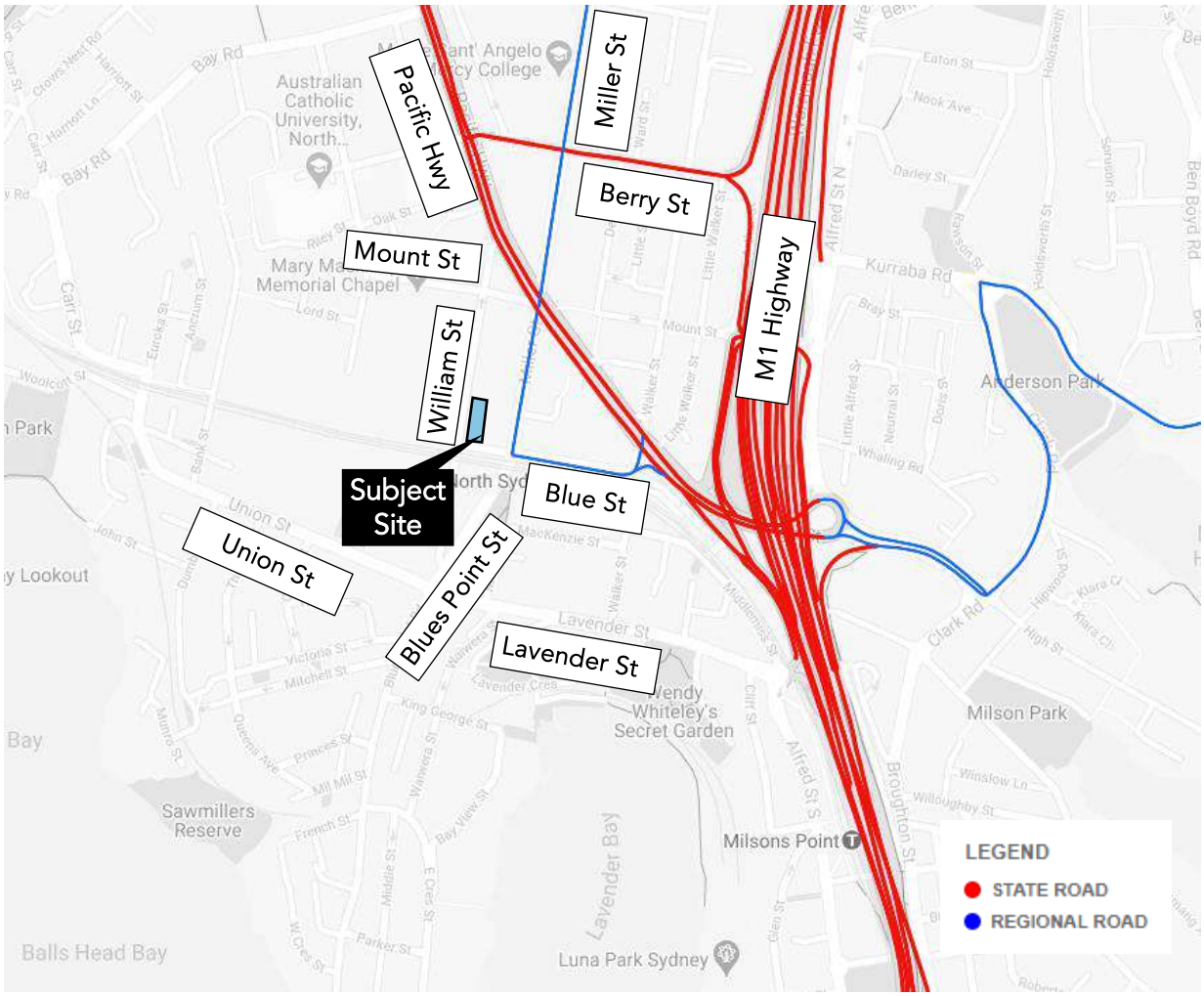

Figure 6 - Existing Road Hierarchy[3]

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

- State Roads – Freeways and Primary Arterials (RMS Managed)
- Regional Roads – Secondary or sub arterials (Council Managed, Part funded by the State)
- Local Roads – Collector and local access roads (Council Managed)

The road network serving the site includes:

[3] https://tfnsw.carto.com/u/transportnsw/

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The M1 Highway	
Road Classification	State Road
Alignment	North – South
Number of Lanes	Typically 3 or 4 lanes in each direction of travel
Carriageway Type	Divided
Carriageway Width	Varies, 25-50m
Speed Limit	Variable Speed Limit – default limit of 70km/h and 80km/h
School Zone	No
Parking Controls	No parking permitted
Forms Site Frontage	No

Figure 7 - M1 Highway (Northbound)

Lavender Street	
Road Classification	Local Road
Alignment	East – West
Number of Lanes	1 lane in each direction, parking lanes on sides
Carriageway Type	Undivided
Carriageway Width	12m
Speed Limit	50km/h
School Zone	No
Parking Controls	2P metered 8:30am-Midnight Mon-Sun
Forms Site Frontage	No

Figure 8 - Lavender Street (Westbound)

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Blues Point Road	
Road Classification	Local Road
Alignment	North – South
Number of Lanes	1 lane northbound (with additional parking lane), 2 lanes southbound
Carriageway Type	Undivided
Carriageway Width	11m
Speed Limit	50km/h
School Zone	No
Parking Controls	1/4P 8:30am-6pm Mon-Fri 8:30am-12:30pm Sat; 1P metered 8:30am-6pm Mon-Fri
Forms Site Frontage	No

Figure 9 - Blues Point Road (Northbound)

William Street	
Road Classification	Local Road
Alignment	North – South
Number of Lanes	1 lane one-way, additional parking lane on side
Carriageway Type	Undivided
Carriageway Width	7m
Speed Limit	40km/h High Pedestrian Activity zone
School Zone	Yes
Parking Controls	1/2P metered 8:30am-6pm Mon-Fri, 1P metered 6pm-12am Mon-Fri 8:30am-12am Sat-Sun
Forms Site Frontage	Yes

Figure 10 - William Street (Northbound)

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Blue Street	
Road Classification	Regional Road
Alignment	East – West
Number of Lanes	1 in each direction with parking lanes on both sides
Carriageway Type	Undivided
Carriageway Width	12m
Speed Limit	40km/h
School Zone	Yes
Parking Controls	Varies: 1/2P, 1P, 2P metered Mon-Sun, Bus Zones towards eastern end of Blue Street
Forms Site Frontage	No

Figure 11 - Blue Street (Eastbound)

Mount Street	
Road Classification	Local Road
Alignment	East – West
Number of Lanes	1 in each direction with parking lanes on both sides
Carriageway Type	Undivided
Carriageway Width	12m
Speed Limit	40km/h High Pedestrian Activity zone
School Zone	No
Parking Controls	1P metered 8:30am – 6pm Mon-Fri
Forms Site Frontage	No

Figure 12 - Mount Street (Westbound)

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Pacific Highway	
Road Classification	State Road
Alignment	North – South
Number of Lanes	Varies, typically 2 lanes in each direction with additional parking lanes on the side. Leftmost northbound lane is a T3 transit lane 3pm-7pm Mon-Fri
Carriageway Type	Divided
Carriageway Width	20m
Speed Limit	60km/h
School Zone	No
Parking Controls	Varies: 1/2P, 2P metered, Clearways, Bus Zones
Forms Site Frontage	No

Figure 13 - Pacific Highway (Northbound)

4.2 Key Intersections

The Key intersections in the vicinity of the subject site and their characteristics are as follows:

- William Street / Pacific Highway – William Street connects to the Pacific Highway at a T-intersection. Traffic from William Street is controlled via a stop sign and are also prohibited from making a right-turn. The left lane of the Pacific Highway leading up to the intersection features parking spaces, discouraging or preventing Pacific Highway traffic from driving along the lane. This could potentially allow William Street traffic to stop further ahead before turning into Pacific Highway.
- William Street / Blue Street – This T-intersection is un-signalised and prioritises the turning movement from Blue Street onto William Street over traffic continuing straight along William Street. Vehicles continuing straight on William Street face a raised pedestrian crossing and a stop sign prior to Blue Street. Note that Blue Street continues straight onto a private road extending into Shore-Sydney Church of England Grammar School.
- Blue Street / Miller Street / Blues Point Road – This intersection is a signalised 4-way intersection which is heavily used by bus services picking up passengers from North Sydney Train Station on Blue Street.
- Mount Street / Miller Street / Pacific Highway – This is a signalised intersection providing a dedicated right turn from South Bound Pacific Highway into Miller Street.

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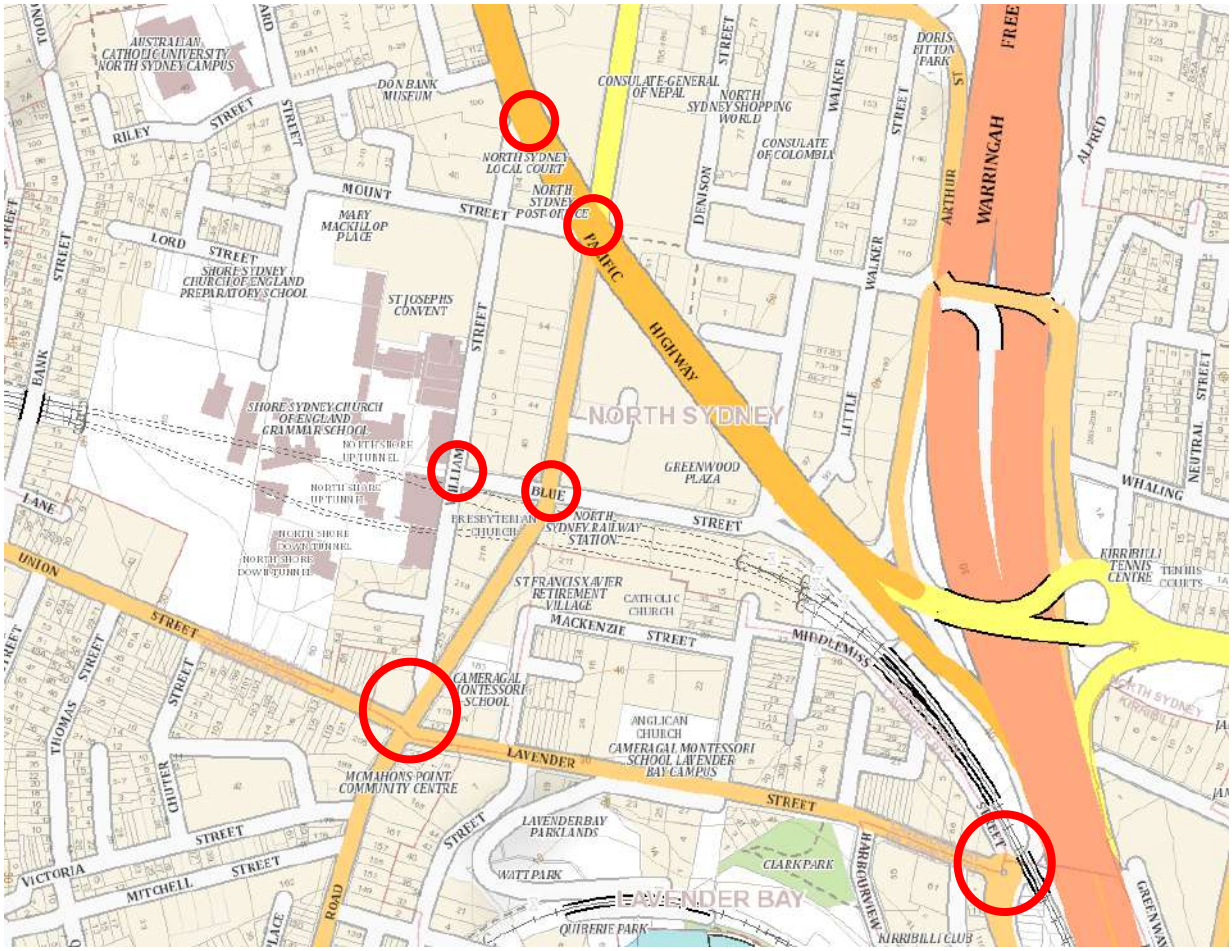

Figure 14 - Key Intersections

4.3 Pedestrian Facilities

Major streets east of the site feature significant amounts of foot traffic due to proximity to the commercial core of North Sydney and a number of high-frequency public transport options (see Section 4.4).

The majority of streets near the site have footpaths on both sides of the street, facilitating pedestrian movement around the site and to surrounding transport facilities.

4.4 Public Transport

The development site is served by train and bus services. The NSW Planning Guidelines for Walking and Cycling (2004) suggests a distance of 400m as a walkable catchment to access local amenities. The guide also recommends that an 800m catchment is an acceptable, walkable distance if the development is within an area with public transport links. Furthermore, the document also suggests a distance of 1500m is a suitable catchment for cycling for accessibility to public transport facilities and local amenities.

4.4.1 Train

The site is serviced by North Sydney station, which is approximately 140m or a 2-minute walk up Blue Street from the train station (see Figure 1), making it suitable for walking. This train station is served by the T1 North Shore & T9 Northern Line with services operating seven days a week with city-bound services operating every 3 minutes during peak hour and up to every 10 minutes during early morning and late

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afternoon during weekdays. On weekends, train services are less frequent than weekdays (approximately up to every 10 minutes for most of the day).

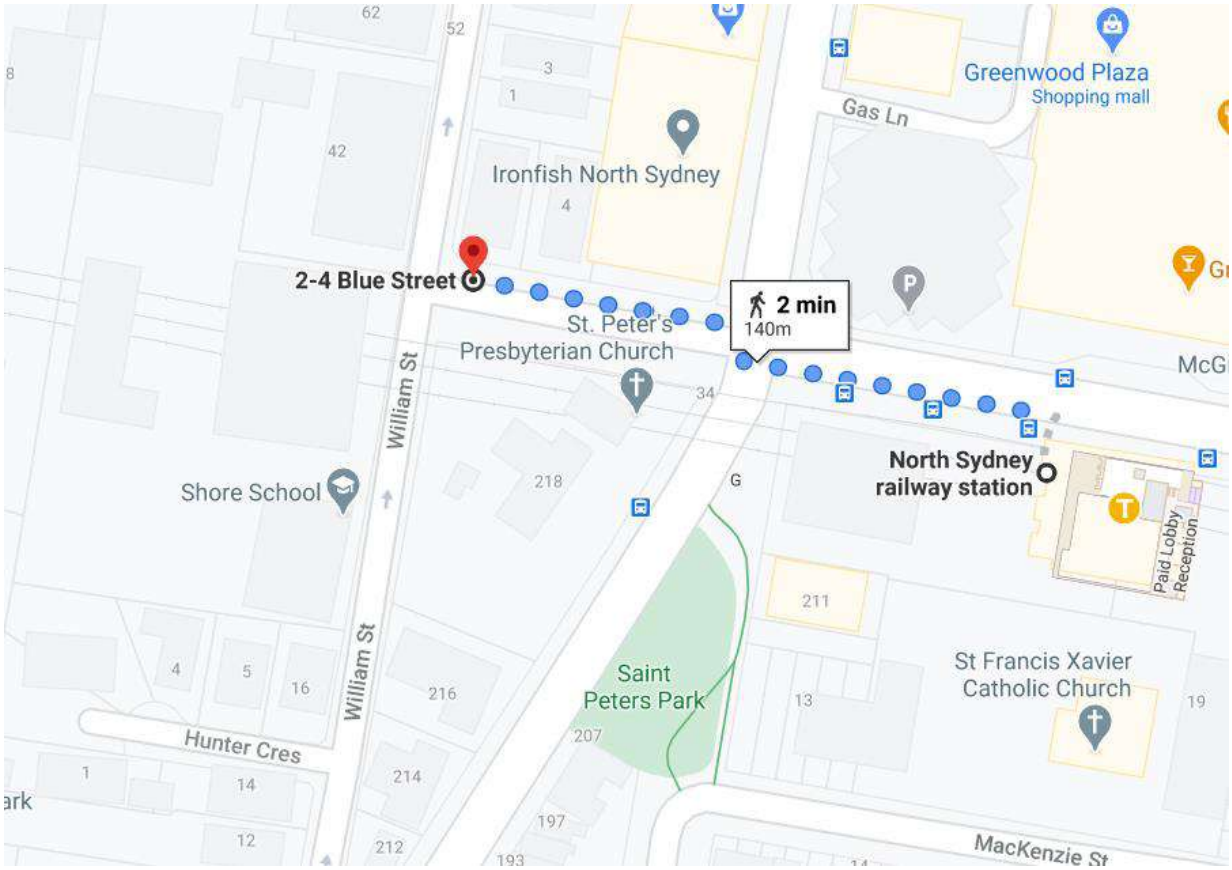

Figure 15 - Pedestrian Access from North Sydney Train Station

Commuters also may travel down from North Sydney to Town Hall Station to transfer to the T1 Western Line, T2 Airport, Inner West & South Line, T3 Bankstown Line or T4 Eastern Suburbs & Illawarra Line for access to much of greater Sydney.

4.4.2 Bus

There are six bus stands within proximity of the site, just outside North Sydney station (as shown in Figure 16). A large number of bus routes serve the region and are summarized in Table 1.

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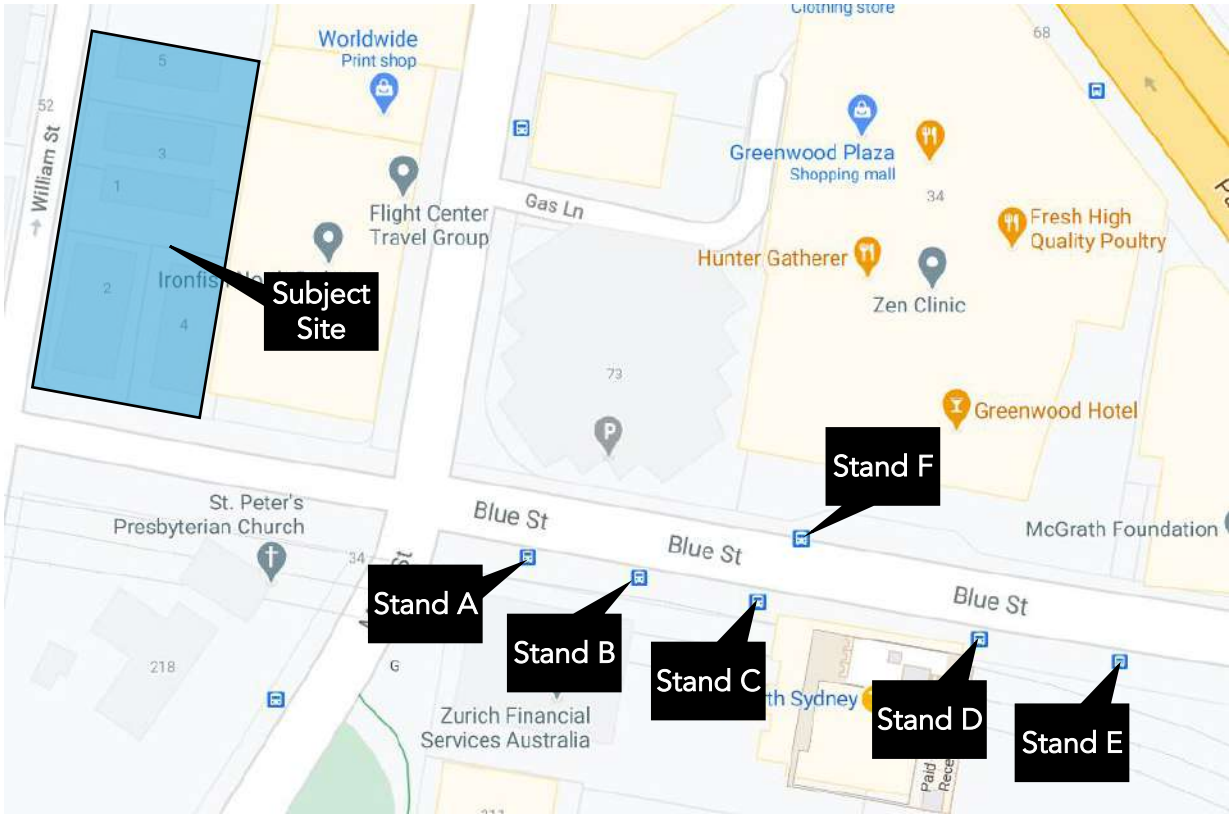

Figure 16 - Bus Stands

Table 1 - Bus Service Summary[4]

Location	Services	Coverage
Stand A	261	City King St Wharf to Lane Cove
	263	City Bridge St to Crows Nest
	343	Kingsford to Chatswood
Stand B	252	City King St Wharf to Gladesville
	286	City/Milsons Point to Denistone East
	287	Milsons Point to Ryde
	290	City Erskine St to Epping
	320	Mascot to Gore Hill
	622	Milsons Point to Dural
Stand C	202	City Loftus St to Northbridge
	203	Milsons Point to Castlecrag
	207	City Loftus St to East Lindfield
	208	City Gresham St to East Lindfield
	209	Milsons Point to East Lindfield
Stand D	150X	Milsons Point to Manly
	151	City QVB to Mona Vale

[4] Bus services – per Google Map

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Location	Services	Coverage
	154X	Milsons Point to Mona Vale
	168	Milsons Point to North Balgowlah
	173	Milsons Point to Narraweena
	227	Milsons Point to Mosman
	228	Milsons Point to Clifton Gardens
	229	Milsons Point to Beauty Point
	230	Milsons Point to Mosman Wharf
	246	City Wynyard to Balmoral Heights
	247	City Wynyard to Taronga Zoo
	N90	City Town Hall to Hornsby
	N91	Bondi Junction to Macquarie Park via City Town Hall
Stand F	254	Riverview to McMahons Point
	260	North Sydney to Terrey Hills
	265	North Sydney to Lane Cove
	269	McMahons Point to Milsons Point

4.4.3 Cycling

There are an extensive range of cycling routes proximate to the site as shown in Figure 17. Multiple separated and shared cycle paths service North Sydney and surrounding suburbs, which makes the site accessible from all directions.

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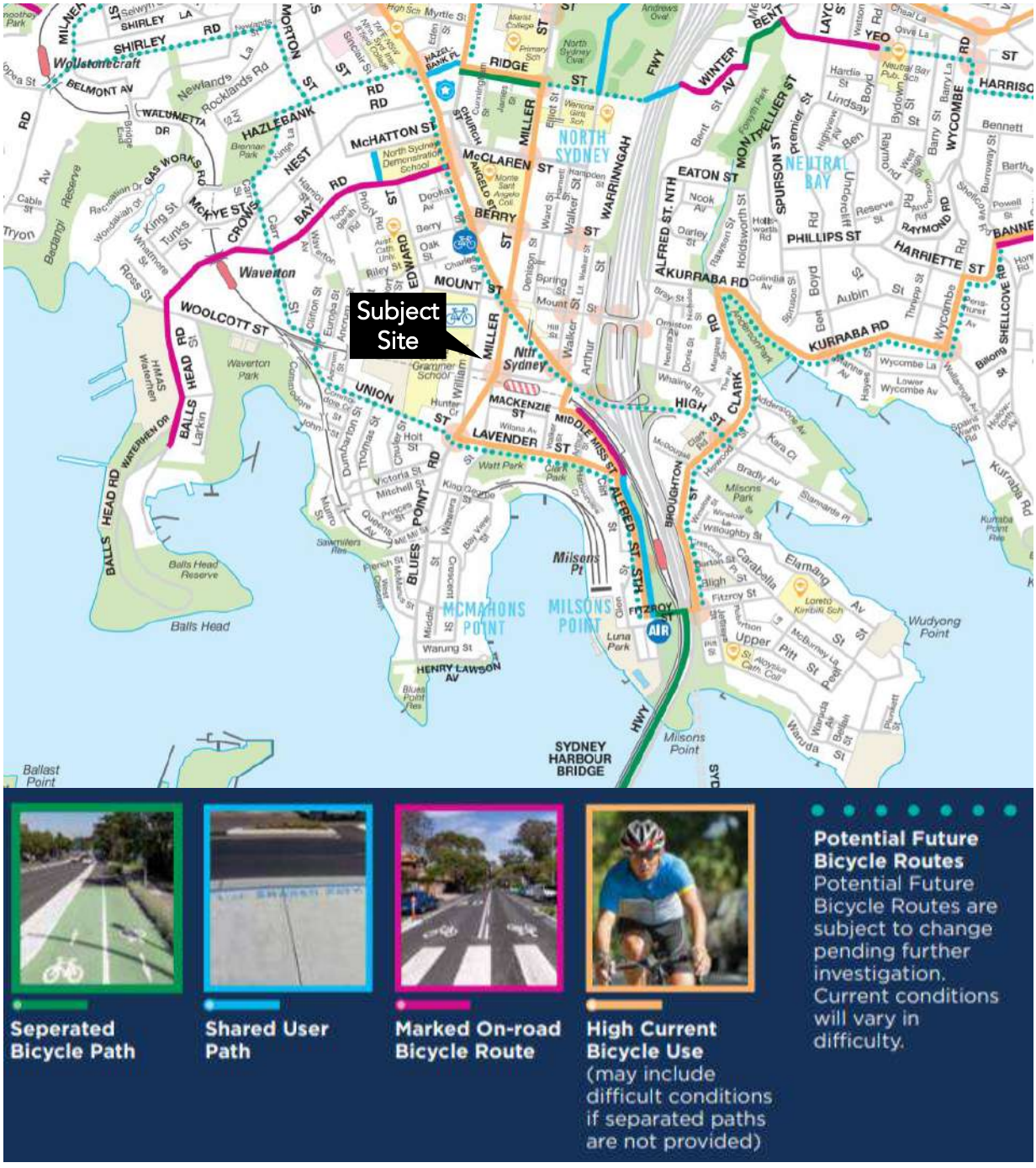

Figure 17 - Cycling Routes[5]

[5] https://www.northsydney.nsw.gov.au/Transport_Parking/Cycling/Cycling_Map

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5. Construction Traffic Management Plan

5.1 Objectives

The traffic management plan associated with the construction activity aims to ensure the safety of all workers and road users within the vicinity of the construction site and the following are the primary objectives:

- To minimise the impact of the construction vehicle traffic on the overall operation of the road network;
- To ensure continuous, safe and efficient movement of traffic for both the general public and construction workers;
- Installation of appropriate advance warning signs to inform users of the changed traffic conditions;
- To provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site;
- To provide information regarding the changed access arrangement and a description of the proposed external routes for vehicles including the construction vehicles accessing the site; and
- Establishment of a safe pedestrian environment in the vicinity of the site.

5.2 Hours of Work

All works associated with the project will be restricted to the time periods stipulated by Condition E19 of the Conditions of Consent. As the conditions of consent have not yet been issued, the development is proposing the following working hours to be associated with the construction activity;

Bulk Excavation Stage

- Monday to Friday — 08:00am to 05:00pm
- Saturday, Sunday, and Public Holidays — No works to be undertaken without prior approval

Construction and Fitout Stage

- Monday to Friday — 07:00am to 05:00pm
- Saturdays — 08:00am to 01:00pm
- Sundays & Public holidays — No works to be undertaken without prior approval

5.3 General Requirements

In accordance with TfNSW requirements, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any items, excess dust or dirt particles depositing onto the roadway during travel to and from the site. All subcontractors shall undergo induction by the lead contractor to ensure all procedures are met for all construction vehicles entering and exiting the construction site. The lead contractors will monitor the roads leading to and from the site and undertake all necessary steps to rectify any road deposits caused by construction activity.

Vehicles operating to, from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration. No tracked vehicles are required nor permitted on any paved roads. Public roads and access points will not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances.

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The applicant/contractor is required to follow and abide the specific standard requirements for construction management.

5.4 Construction Process and Site Establishment Plans

The construction process will be undertaken in two stages, Bulk Excavation and Construction (including Structure, Façade, and Finish). A site establishment plan has been prepared by FDC Construction and Fitout indicating access points and arrangements of the excavation and construction & fitout stages. These are illustrated in Figure 18 and Figure 19 and clearer images of these plans are included in this report as Attachment 3.

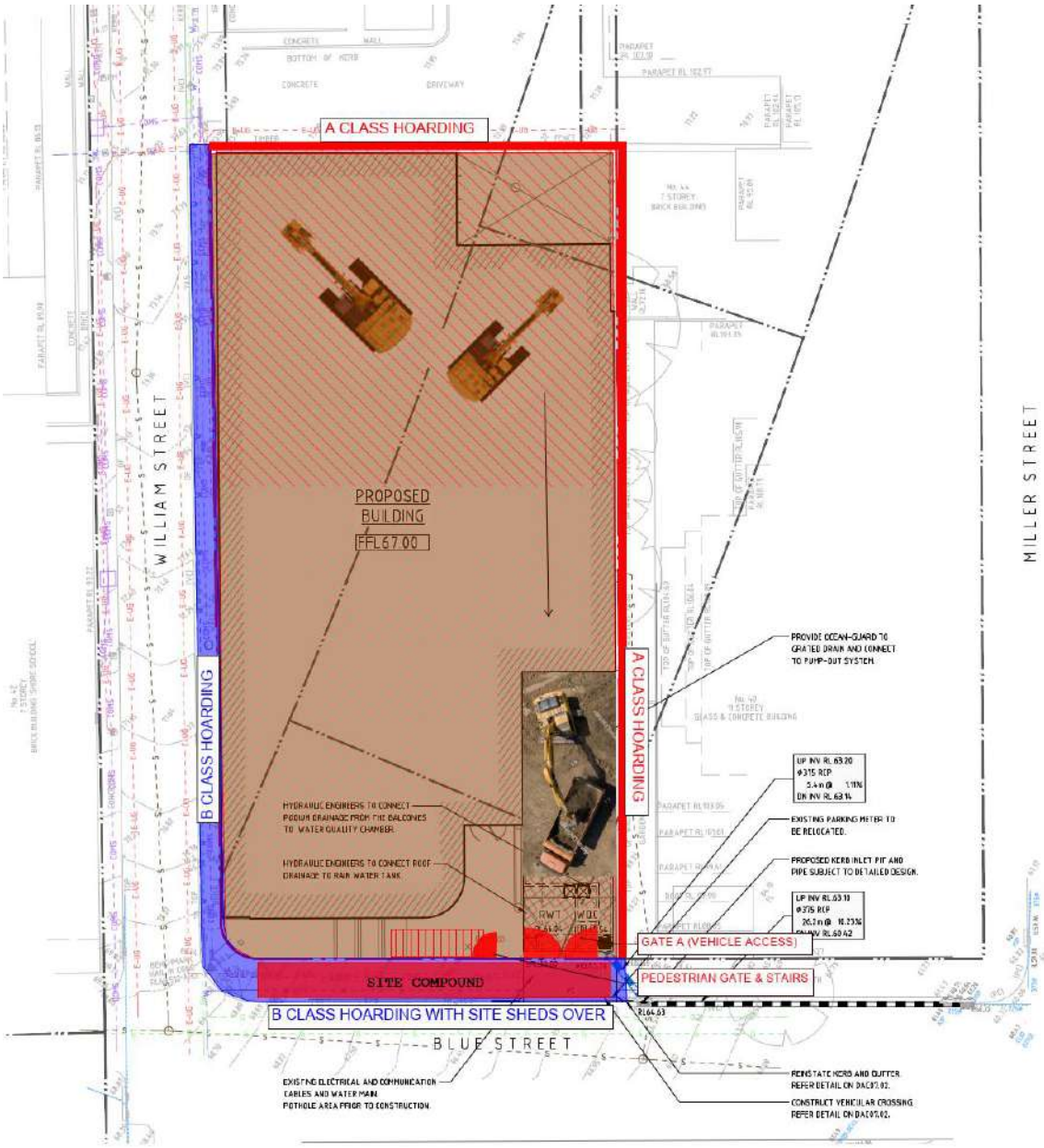

Figure 18 - Excavation Stage Site Establishment Plan

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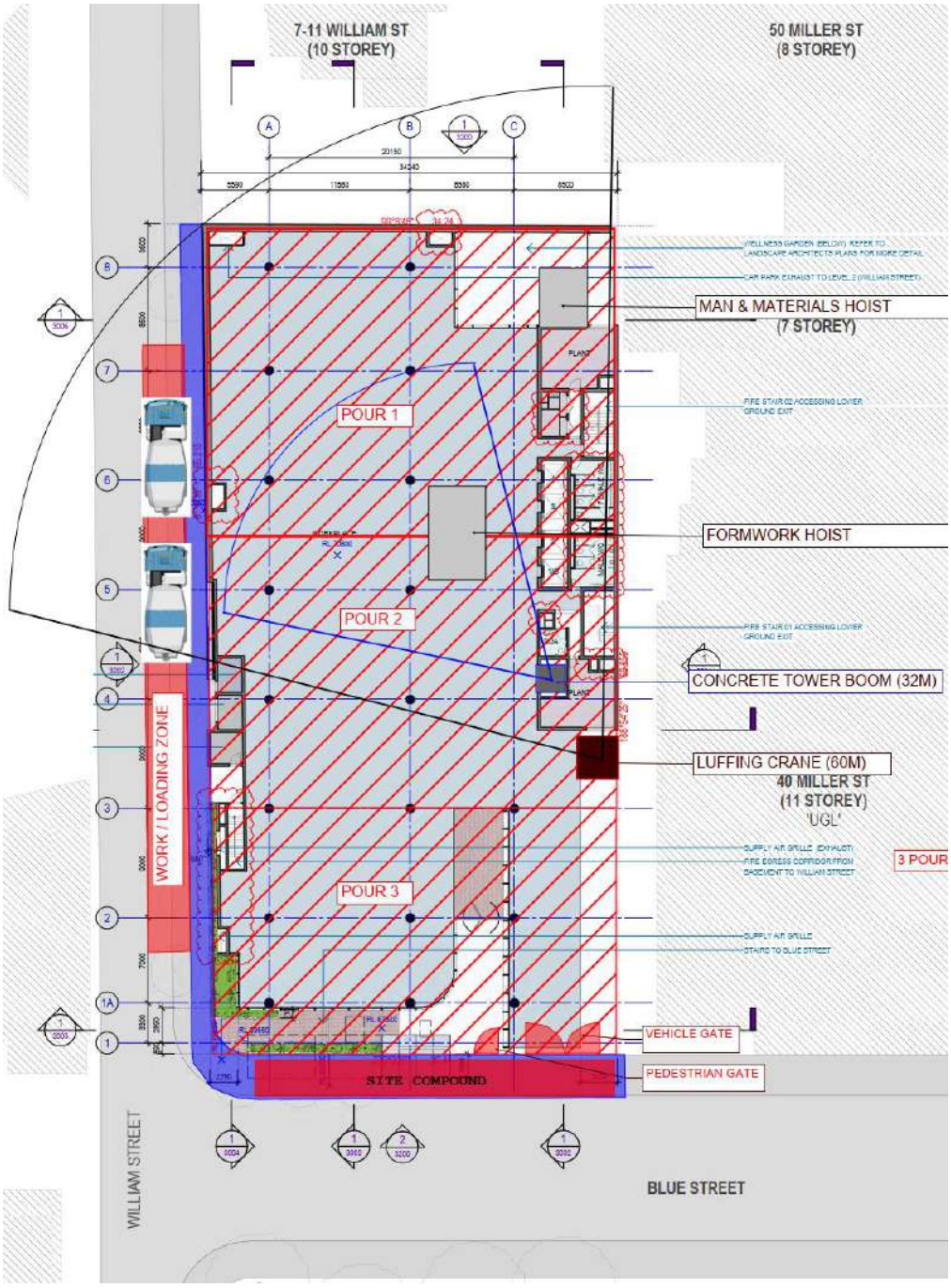

Figure 19 - Construction Stage Site Establishment Plan

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5.5 Construction Vehicle Types

As discussed in Section 5.4, construction will be undertaken in different stages and will require access and egress for various vehicles depending on the stage of construction.

Table 2 - Construction Vehicle Types and Duration of Stages

Stage	Works	Vehicle size	Estimated daily trips	Duration
1	Bulk Excavation / Earthworks	Truck and Dogs, Heavy Rigid Vehicles	40 truck movements per day	12 weeks
2	Construction / Structure	Heavy Rigid Vehicles, Semi-Trailers	Average of 15 truck movements per day, including 3-5 Semi-Trailers per day	34 weeks
		Medium Rigid Vehicles (Concrete Agitators)	Up to 40 concrete trucks per day during a concrete pour	
3	Façade + Fitout	Semi-Trailers, Medium Rigid Vehicles	3-5 Semi-Trailers per day	28 weeks

5.6 Construction Vehicle Routes

The site is located in North Sydney at the corner of William Street and Blue Street. The proposed construction vehicle routes have regard for the surrounding traffic arrangements within the vicinity of the site, as shown in Figure 20 and Figure 21.

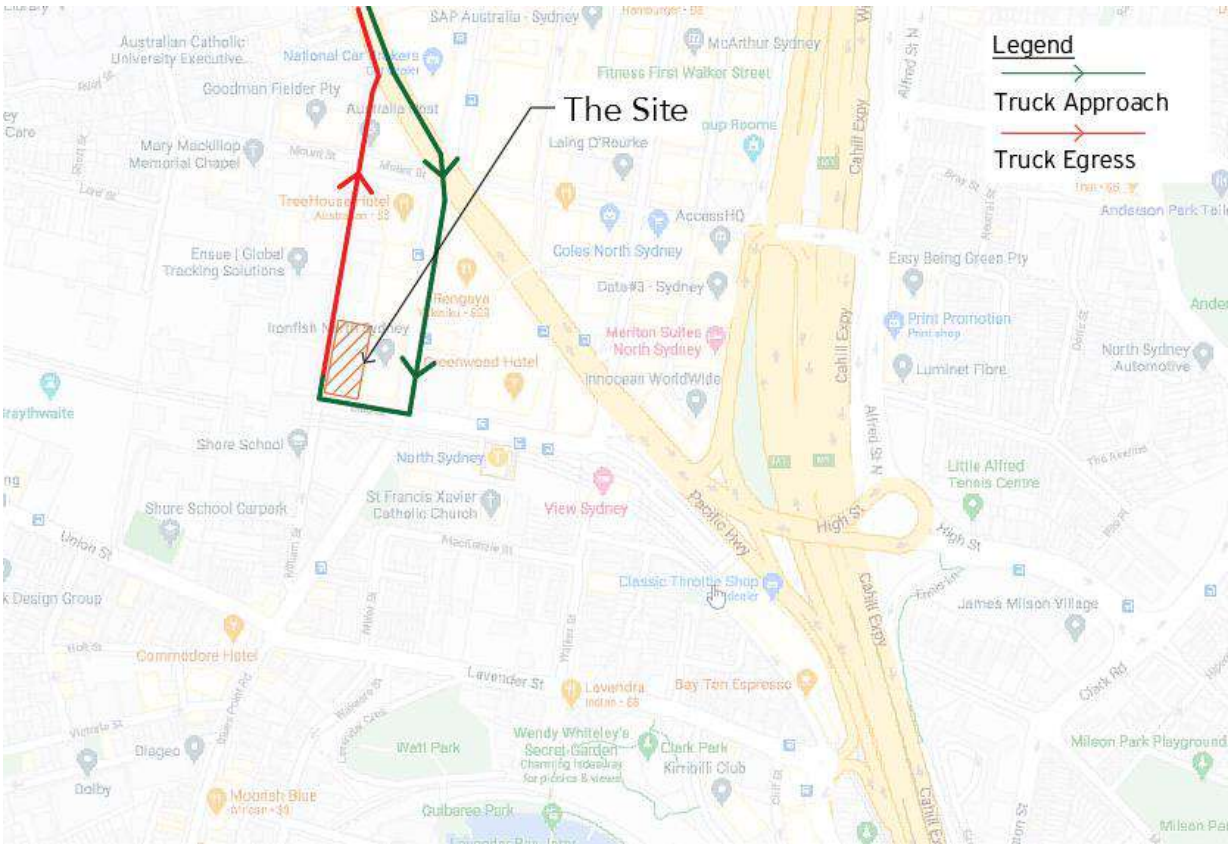

Figure 20 - Construction Vehicle Routes (Heavy Rigid Vehicles and Smaller, inluding Concrete Agitators)

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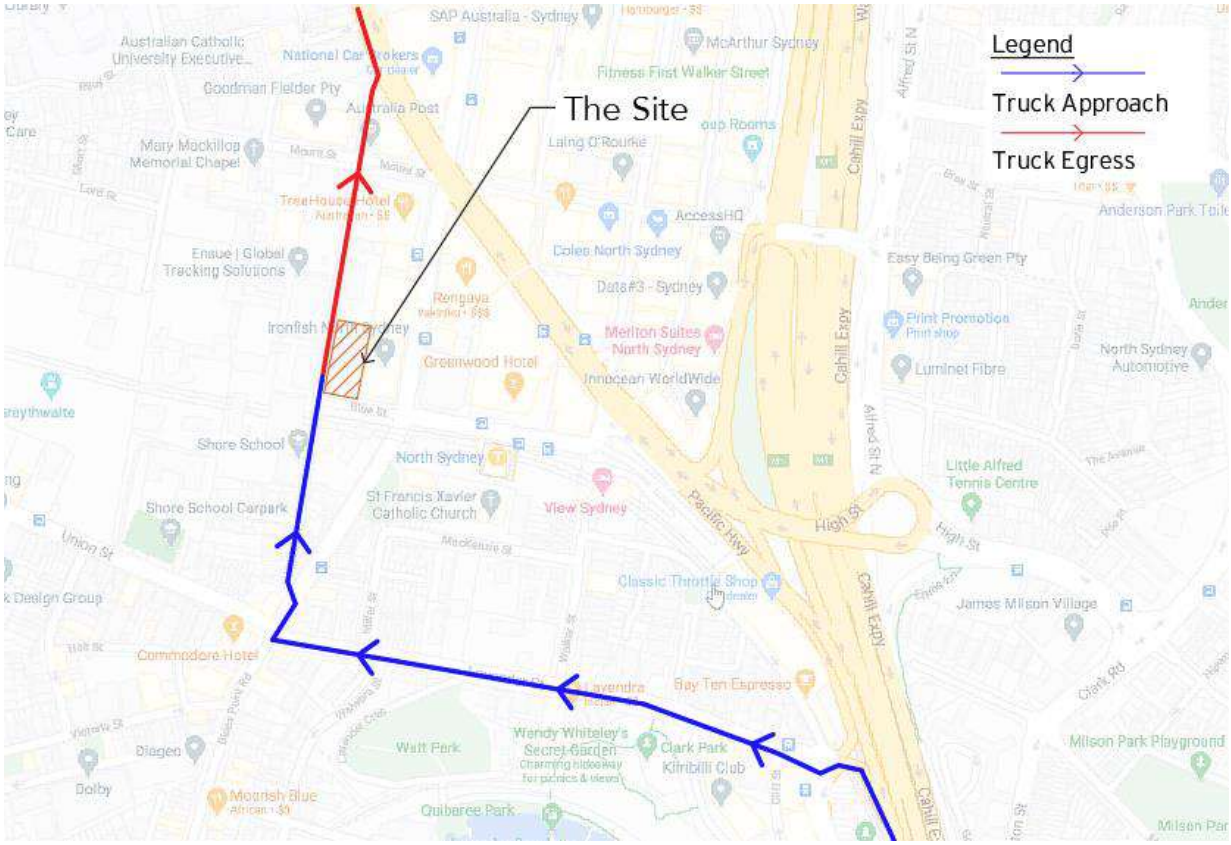

Figure 21 - Construction Vehicle Routes (Truck and Dogs and Articulated Vehicles, Semi-Trailers)

No queuing or marshalling of trucks is permitted on any public road. All vehicle routes are constrained to existing public roads that have the physical geometry to accommodate the turning movements. All access gates to the site will be managed by traffic controllers to ensure the safe management of the access and egress to the site and its interaction with non-construction traffic on the road network.

Swept path analysis has been undertaken utilising various vehicle types anticipated for the project on the key intersections to confirm that the existing intersection layouts can accommodate these vehicle turns. These paths demonstrate the vehicle routes and turns within the key intersections during excavation and construction. It is noted that there will be heavy vehicles delivering machinery to the site, however, this is anticipated to happen on occasion and not on a regular basis (i.e. at the beginning of every stage or when necessary). The full swept path analysis on the intersections is illustrated in the following figures and is included in this report as **Attachment 1**.

It is noted that the proposed truck route passes through School Zones in William Street and Pacific Highway. Therefore, truck movements will be restricted during the morning and afternoon school hours, i.e 8.00am-9.30am and 2.30pm-4.00pm. During these times, construction vehicle access shall be limited to Medium Rigid Vehicles (8.8m MRVs), which includes concrete agitators.

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5.6.1 Swept Paths of Flow Truck (Delivering Machinery)

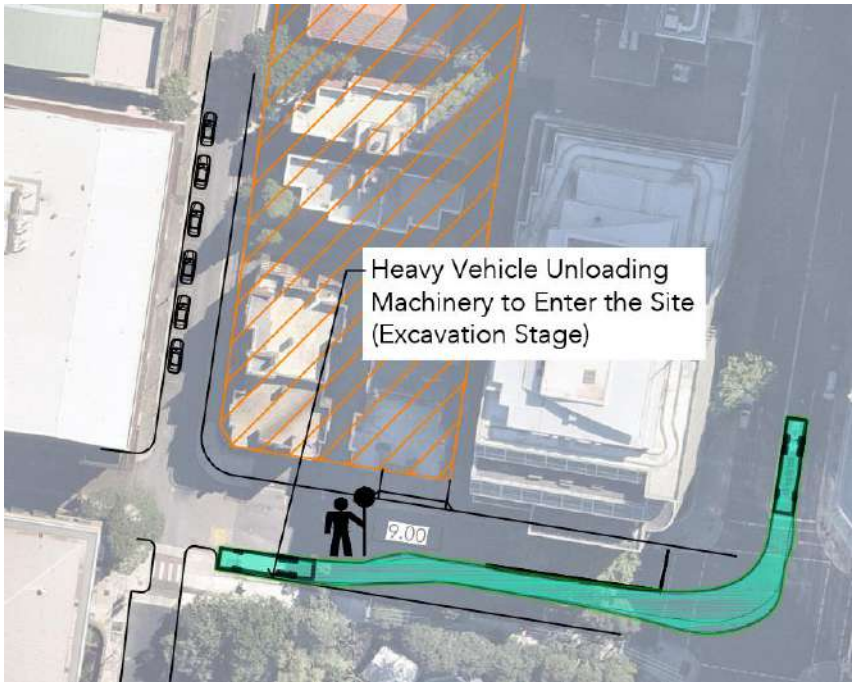

Figure 22 - Delivering Machinery During Excavation Phase

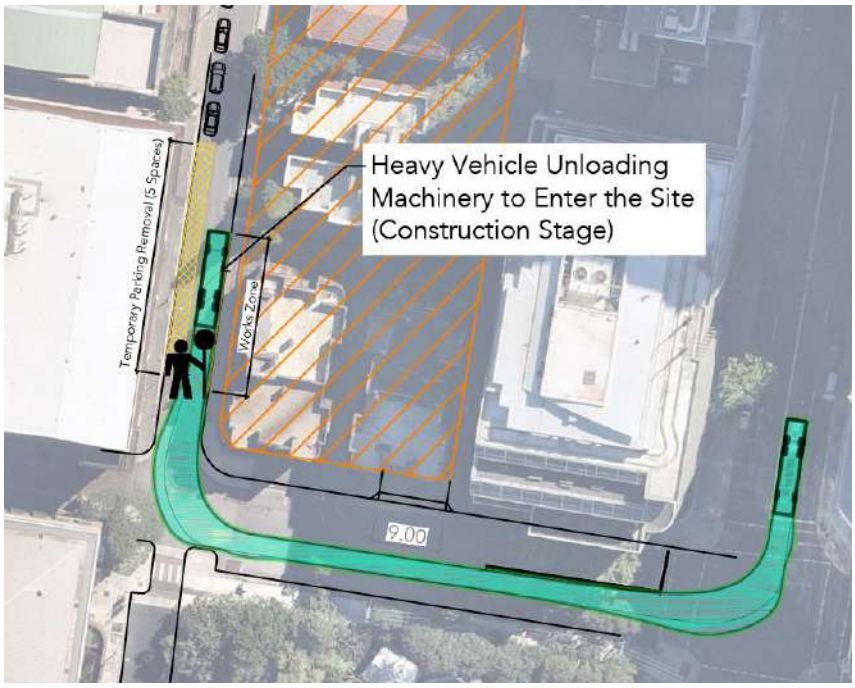

Figure 23 - Delivering Machinery During Construction Phase (unloading within the works zone)

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5.6.2 Excavation Stage Swept Paths

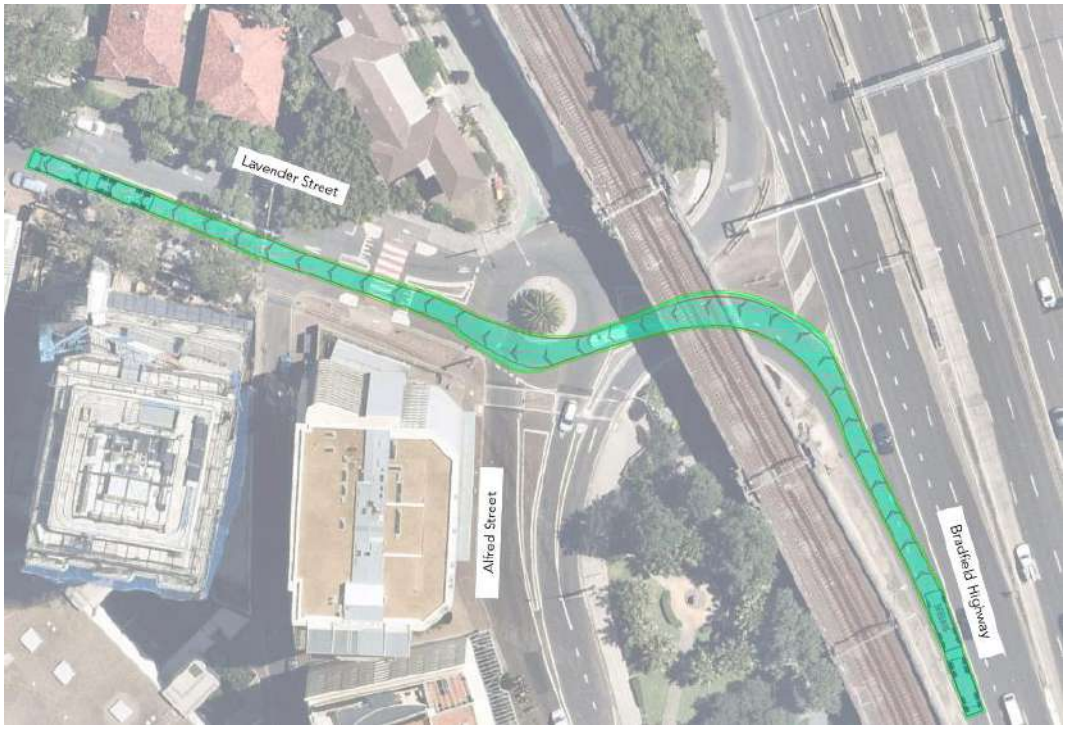

Figure 24 - Truck and Dog Turning Left into Lavender Street from Bradfield Highway

Figure 25 - Truck and Dog Turning Right from Lavender Street into Blues Point Road then Left into William Street (Managed by Accredited Traffic Controllers)

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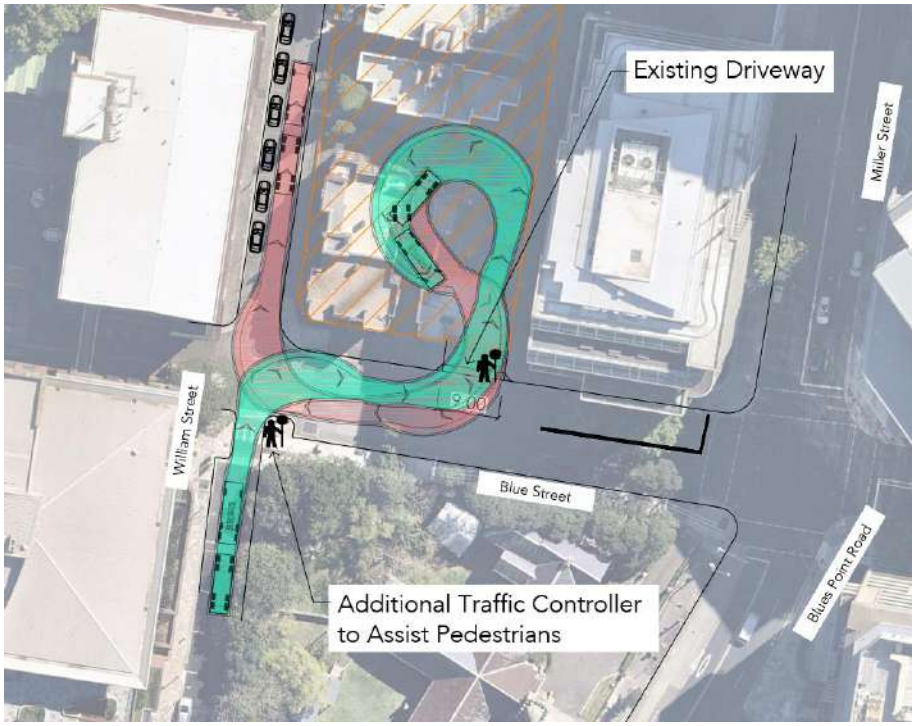

Figure 26 - Truck and Dog Access and Egress into and out of the Site (Assisted by an Accredited Traffic Controller)

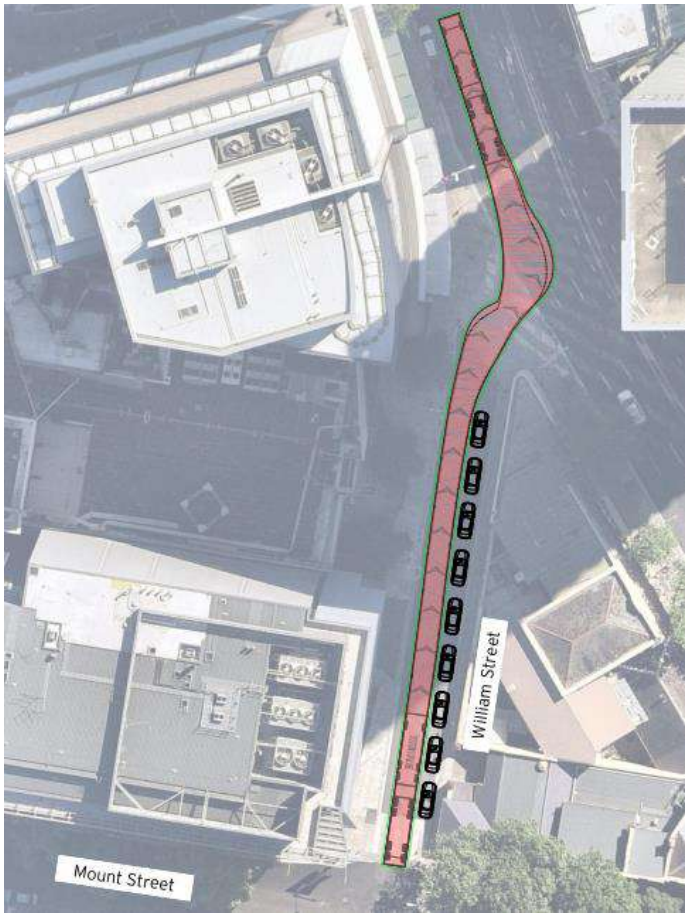

Figure 27 - Truck and Dog Exiting from William Street onto Pacific Highway

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5.6.3 Construction Stage Swept Paths

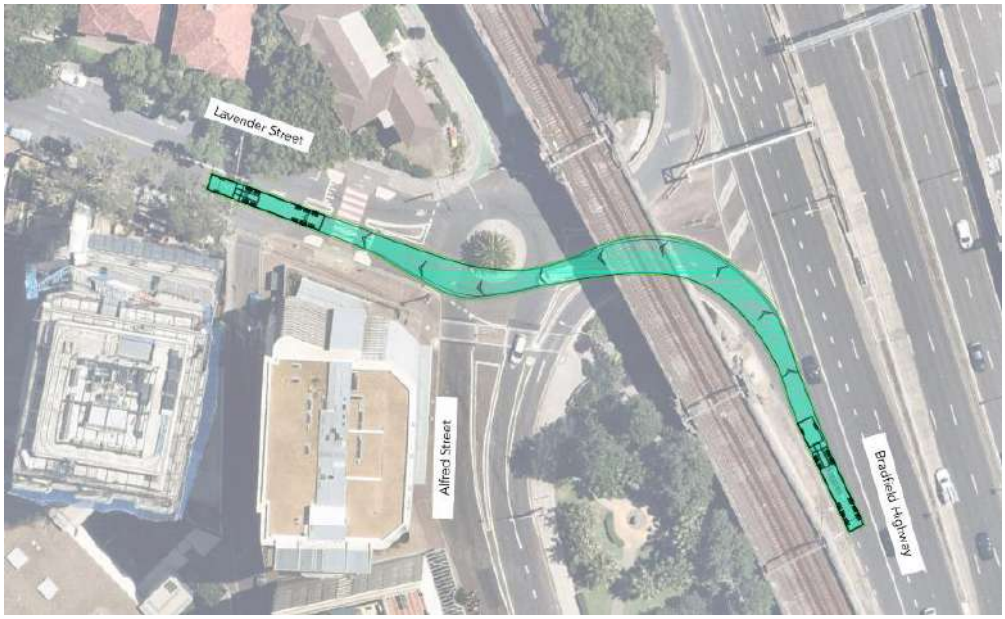

Figure 28 - 19m AV (Sem-Trailer) Turning Left into Lavender Street from Bradfield Highway

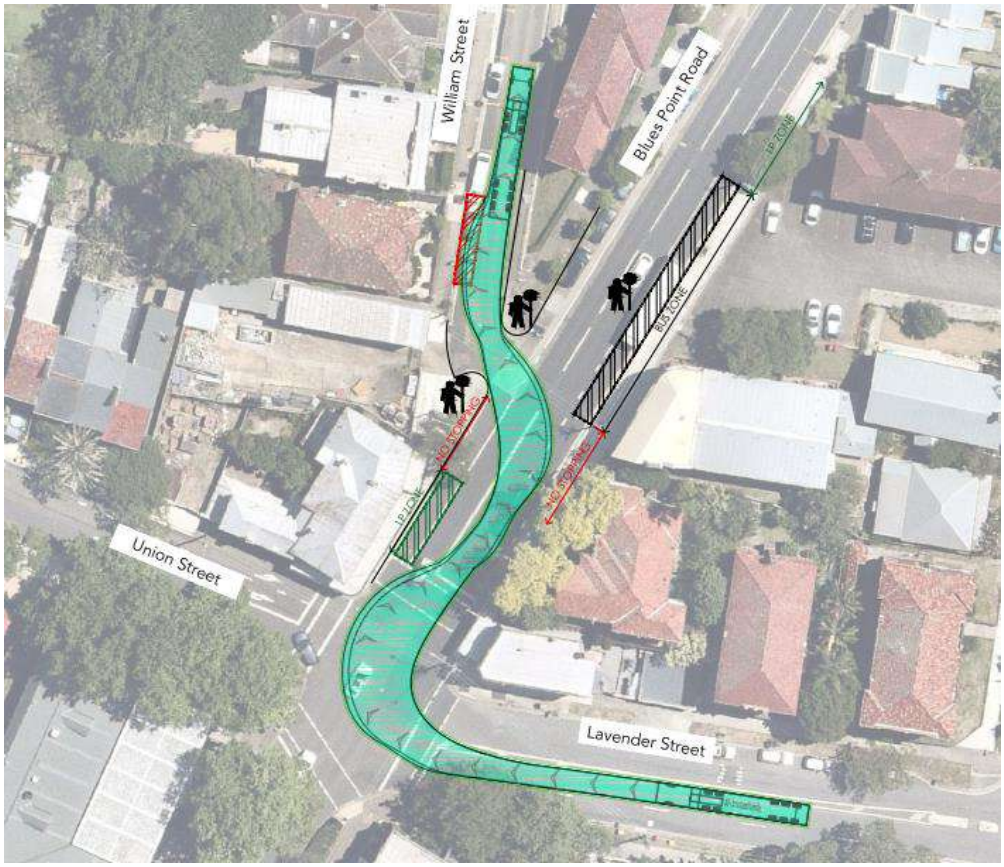

Figure 29 - 19m AV (Sem-Trailer) Turning Right from Lavender Street into Blues Point Road then Left into William Street (Managed by Accredited Traffic Controllers)

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Figure 30 - AV (Sem-Trailer) Access into the Works Zone on William Street

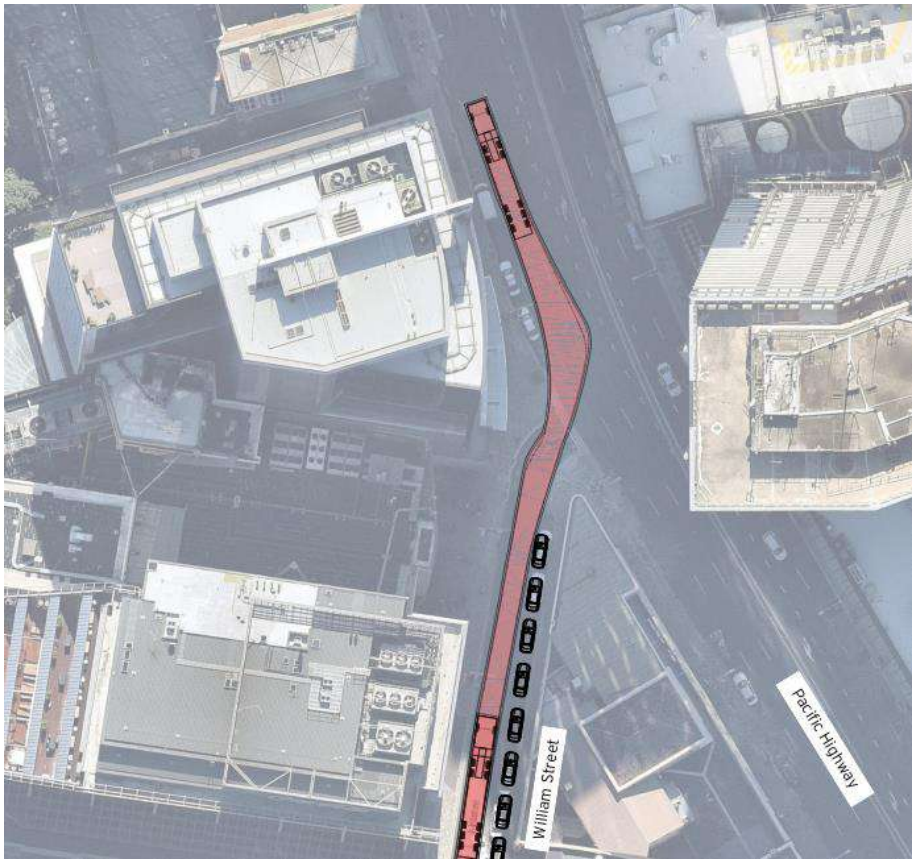

Figure 31 - AV (Sem-Trailer) Exiting from William Street onto Pacific Highway

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5.6.4 Traffic Management

As shown in Figure 21, Truck and Dogs and Articulated Vehicles will utilise the Lavender Street route from Bradfield Highway. To negotiate a truck and dog's turn into William Street from Blues Point Road, the heavy vehicle shall use the inner south bound lane of Blues Point Road. The swept path analysis is illustrated in Figure 25 and Figure 29. Under traffic control measures, this path can be achieved without considerable impact to the vehicular traffic and pedestrian safety. Accredited Traffic Controllers will be utilised to manage traffic to accommodate the truck movements. It is noted that this manoeuvre is expected to occur within a maximum of 30 seconds.

With this arrangement, the opposing lane being described above (Blues Point Road inner southbound lane) will need to be clear of traffic. The approaching truck will have to radio in to inform the traffic controllers of its approach so the traffic controllers will be able to temporarily stop the traffic prior to approaching the intersection. Figure 25 and Figure 29 illustrates where the traffic controller should be positioned to manage this manoeuvre.

In addition to the traffic control along Blues Point Road, traffic controllers shall be in place to hold pedestrians on the footpath on the western side of Blues Point Road. This is to maintain the safety of pedestrians along Blues Point Road while construction vehicles are facilitating their turn into William Street.

A traffic control plan has been prepared showing the location of signage and traffic controllers, in accordance with traffic control at worksites manual v6 and is included in this report as Attachment 2.

The truck route shown in Figure 21 has been utilised for Truck and Dog and Articulated Vehicles to be able to access the site. It is noted that while the intersection of Blue Street and Miller Street is able to accommodate the heavy vehicles' turning paths from Miller Street's southbound lane into Blue Street's westbound lane (right turn), the signalised intersection phasing allows an opposing right turn from Blues Point Road (northbound) into Blue Street (eastbound) to filter simultaneously with the opposing traffic. In this instance, the intersection is not able to accommodate two opposing right turns simultaneously.

In this regard, the route shown in Figure 21 is demonstrated to be the safest possible route into the site for heavy vehicles and without considerable impact to pedestrian and vehicular traffic within the North Sydney CBD. It should be noted that this arrangement has been utilised for a previous project, Shore School, which is located across the street from the subject site. As discussed in Section 5.6, heavy construction vehicle movements and deliveries will be restricted to outside school drop off times (8:00am to 9:30am and 2:30pm to 4:00pm) as to minimise interaction between school children pedestrian traffic and construction traffic. During school hours, the largest construction vehicle to access the site shall be limited to Medium Rigid Vehicles (8.8m MRVs), which includes concrete agitators.

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5.6.5 Truck Route to Circle Back

In the unlikely event that a vehicle is already sitting in front of the intersection, heavy vehicles shall continue north on Blues Point Road (swept path on Figure 32), left onto Pacific highway, and stay on the State Roads to circle back around into approach again through Lavender Street from Bradfield Highway. The proposed route is illustrated in Figure 33.

Figure 32 - Truck and Dog Swept Path in the Event that the Southbound Lane is Occupied

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Figure 33 - Truck Route to Circle Back

Moreover, in this scenario, the truck that is not able to turn into William Street will re-join back at the back of the queue of trucks and the subsequent truck will be called upon to approach the site. This methodology will not impact any of the council roads nor increase the truck movements and will maintain the efficiency of truck movements in and out of the site.

5.7 Construction Vehicle Access and Work Zone Provision

Depending on the stage of the project, construction vehicle access will be provided on a certain location within the site. During excavation, construction vehicles will enter and exit the site via a driveway located on the south-east corner of the site.

During the construction stage, a work zone is proposed on William Street, adjacent to the site. Because the work zone is proposed to be situated at the eastern side of William Street, the car parking spaces situated on the western side of the road are proposed to be temporarily removed. These spaces are marked on plan and shown in the following figures. In addition, the vehicle paths, as demonstrated in the swept path analysis, will involve the loss of a number of parking spaces to facilitate the turns. A modification of the on-street parking signs is illustrated in the following figures. These plans are also included in this report in **Attachment 1**.

It is noted that all construction vehicles will enter and exit the site in a forward direction. Traffic Controllers will be utilised to safely manage access and egress from the site at all times.

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Figure 34 - Existing Signage Plan William St and Blues Point Road Intersection (Excavation and Construction Stages)

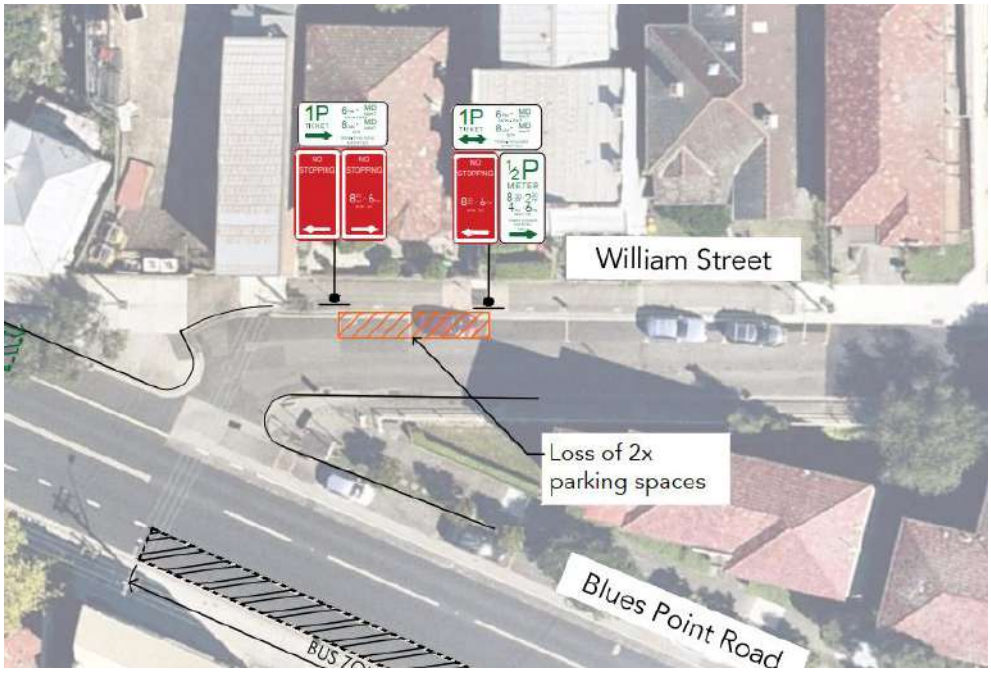

Figure 35 - Proposed Signage Plan in William Street and Blues Point Road Intersection (Excavation and Construction Stages)

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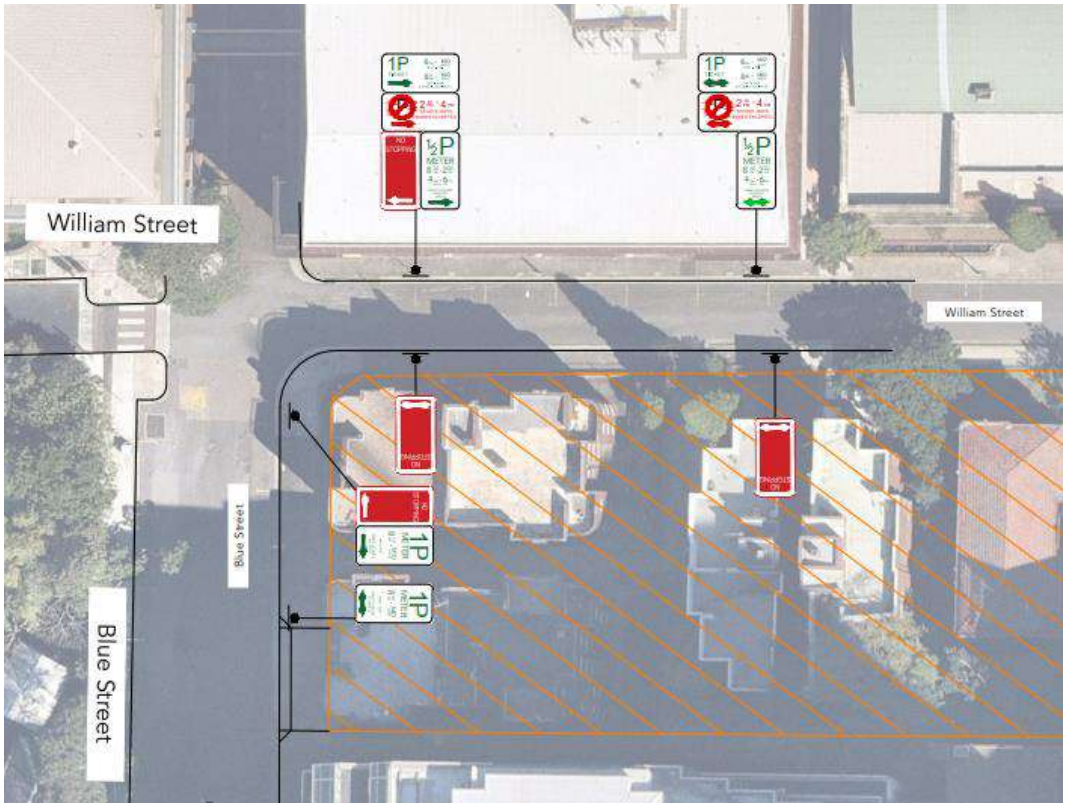

Figure 36 - Existing Signage Plan in William Street and Blue Street Intersection

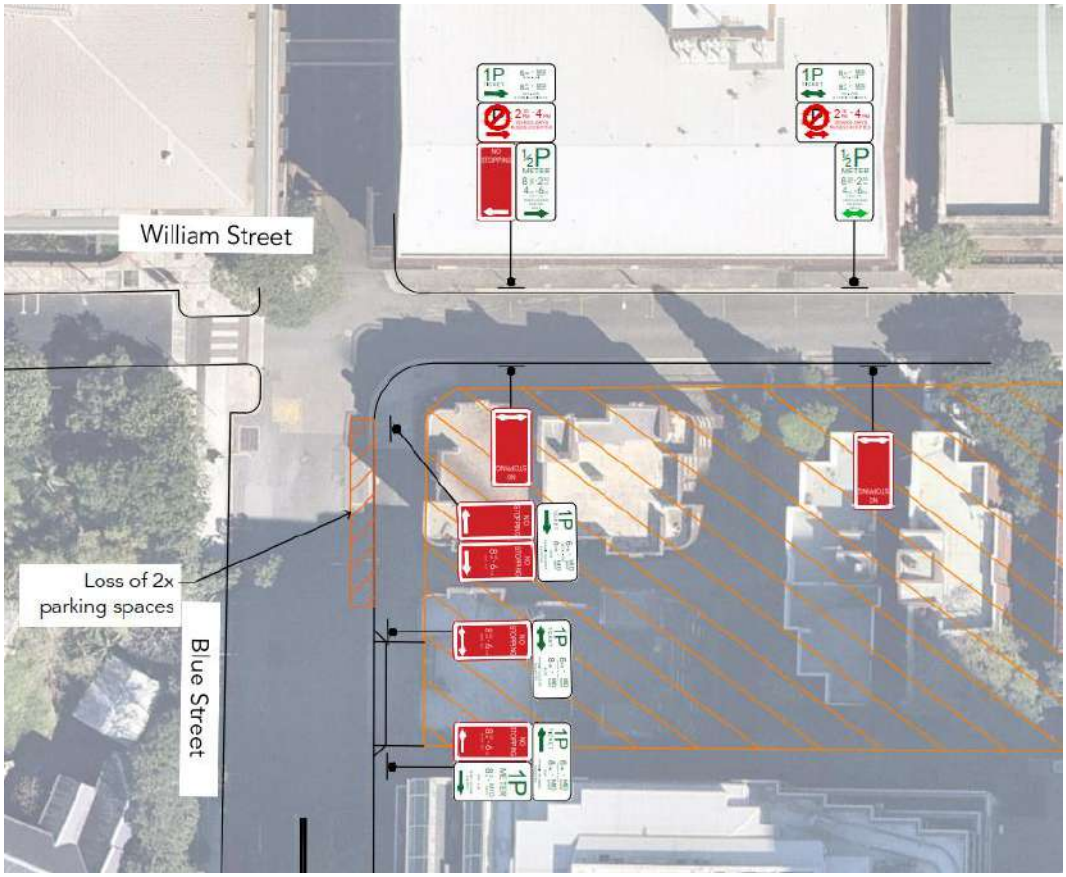

Figure 37 - Proposed Signage Plan in William Street and Blue Street Intersection (Excavation Only)

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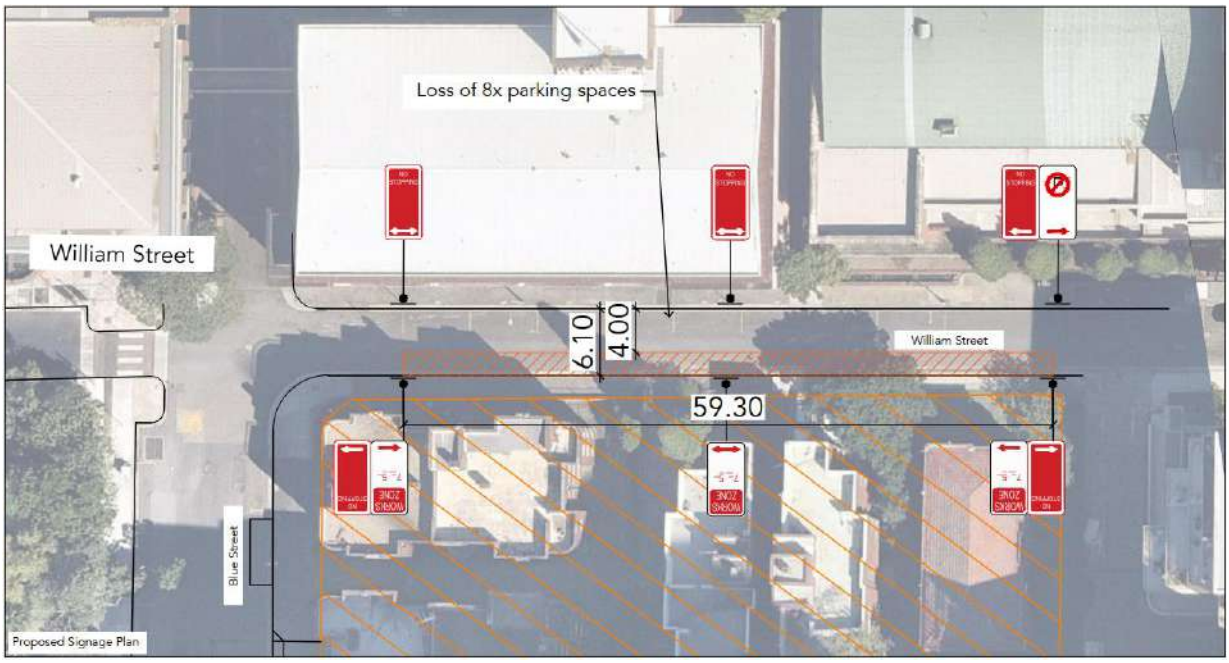

Figure 38 - Proposed Signage Plan in William Street and Blue Street Intersection (Construction and Fitout Only)

Table 3 - Summary of On-Street Parking Spaces Affected

Stage	Works	Works Zone	Number of On-Street Parking Spaces Lost	Illustration
1	Bulk Excavation / Earthworks	No	4	Figure 36 and Figure 37
2 & 3	Construction and Fitout Stage	Yes	10	Figure 36 and Figure 38

5.8 Traffic Control Measures

The Traffic Control Plan (TCP) outlines the proposed traffic management to inform road users of the changed traffic conditions in the vicinity of the works site. Traffic Control Plans have been prepared to show locations of traffic signage ad traffic controllers and is included in this report as Attachment 2. The TCPs has been set out in accordance with the RMS Traffic Control at Works Site manual.

5.9 Pedestrian Access

Pedestrian access to and around the site is to be maintained at all times. To provide segregation and protection for pedestrians, a Class B hoarding will be erected along the southern and western boundaries of the site, as shown in Figure 18 and Figure 19.

5.10 School Zone Safety

Whilst providing an efficient construction methodology and service, FDC appreciates that the safety of pedestrians and the general public is paramount, especially with school children. We note that the school adjacent to the subject site, Shore School, has recently constructed a separate pick up and drop off location within the campus, which coincidentally has also been delivered by FDC. This provides a level of separation between the school children and the construction traffic. Moreover, as emphasised in Section 5.6.4, no

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Truck and Dogs shall approach or leave the site during school zone hours (8:00am to 9:30am and 2:30pm to 4:00pm), which will reduce the road safety risk. It is also noted that on the corner of William Street and Blues Point Road, two (2) traffic controllers will assist and guide pedestrians when a construction vehicle is turning in the intersection. The contractor shall ensure that all the necessary measures shall be put in place to ensure safety of the community.

5.11 Special Deliveries

Whilst not anticipated, any oversized vehicle that is required to travel to the site will be dealt with separately, with the submission of required permits to and subsequent approval by North Sydney Council and Traffic Committee prior to any delivery.

5.12 Standing Plant Permit

The loss of parking for heavy vehicles standing in Blue Street as well as turning into William Street from Blue Street for the purpose of unloading machinery to the site is only to be performed upon submission of a Stand Plant permit to and subsequent approval by North Sydney Council as a one-off activity.

5.13 Staff Parking

Due to site constraint, there will be limited parking available to site personnel on site. All site personnel are to be advised that they are not to park in the on-street parking in the vicinity of the development site. To minimise the required parking, the contractor will be encouraged to assist in the transportation of workers to the site. Also, site personnel will be advised to car pool (where ever practicable) and site personal will be informed of the public transport options available in the vicinity of the site (refer to Section 4.4) and advised to utilise these facilities (where ever practicable).

5.14 Work Site Security

As discussed in Section 5.9, to provide security to the works site and protection to the general public, it is proposed that a Type B hoarding is to be erected along the western and southern site boundary. This fencing will define the extent of the works site. All access points are to be securely locked when construction activities are not in progress. The exact location of this fence is to be agreed on site.

5.15 Plant / Equipment Management

At the commencement of construction, plant and equipment, including construction hoarding/scaffolding material, site sheds, mobile cranes and machinery will be required to be delivered to the site. The delivery and removal of plant and equipment to and from the site will be undertaken from the on-site materials handling/loading area, via the use of machine floats.

It is also noted that loading platforms will be used throughout the construction stage for the removal of waste and delivery of material to higher levels as construction progresses.

5.16 Spoil Management

Contaminated material will be checked, sorted and treated prior to the removal from the site. Contaminated material will be classified in accordance with the provisions of the Protection of the 'Environment Operations Act 1997 and the NSW DECC Waste Classification Guidelines, Part 1: Classifying Waste (April 2008)'.

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All construction work involving the removal and disposal of asbestos cement will be undertaken by appropriately qualified contractors duly licensed with SafeWork NSW, holding either a Friable (Class A) or a Non-Friable (Class B) Asbestos Removal License whichever applies.

During the removal of asbestos material from the site, signs containing the words 'DANGER ASBESTOS REMOVAL IN PROGRESS' will be erected in prominent visible positions on the site. The signs will be in accordance with AS1319-1994 Safety signs for the occupational environment for size, illumination, location and maintenance.

All trucks removing spoil from the site will be loaded to prescribed weight limits and loose material will be covered during transport from the site. Loose material will be removed from all vehicles and/or machinery before leaving the site and entering the road system.

All vehicles leaving the site will be cleaned. The construction contractor will be responsible for locating a truck wash facility or other appropriate cleaning mechanism adjacent to the construction access driveways. Any run-off from the washing down of vehicles will be directed to the sediment control system to be located within the site.

The loading of spoil onto trucks will be carried out on-site in an approved and controlled manner. The management of the on-site materials handling/loading area and the movement of trucks on and off the site will be the responsibility of the contractor.

5.17 Staff Induction

All staff and subcontractors engaged on site will be required to undergo a site induction. The induction will include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, OH&S, driver protocols and emergency procedures. Additionally, the lead contractor will discuss TMP requirements regularly as a part of toolbox talks and advise workers of public transport and car-pooling opportunities.

5.18 Emergency Vehicle Access

The proposed traffic control arrangements do not propose closure of any local roads.

Any emergency vehicle requiring access to the project site will do so via the site access on William Street.

5.19 Access to Adjoining Properties

Access to all adjoining properties will be maintained throughout the works.

5.20 Occupational Health and Safety

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold TfNSW accreditation in accordance with Section 8 of Traffic Control at Worksites.

5.21 Method of Communicating Traffic Changes

Traffic control plans in accordance with Australian Standards (AS 1742.3 – Traffic Control Devices for Works on Roads) and RMS Traffic Control at Worksites manual will advise motorist of upcoming changes in the road network.

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During construction the contractor shall each morning, prior to work commencing, ensure all signage is erected in accordance with the TCP and clearly visible. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required. Sign size is to be size "A".

No deviation from the approved TCP shall be permitted, unless otherwise approved by Council and certified by an RMS accredited personnel.

The associated TCP road signage will inform drivers of works activities in the area including truck movements in operation.

Prior to commencement of works on site the contractor is to inform neighbouring properties of proposed works and provide site contact information by means of a letter box distribution.

5.22 Contact Details for On-Site Enquiries and Site Access

The principal contractor is FDC Construction and Fitout and all on-site enquiries can be addressed to the onsite Project Manager Peter Blood, 0405 732 621.

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6. Summary

This CTMP has been prepared to outline the construction traffic measure to maintain safety to the general public and construction site workers in relation to the proposed development within 2-4 Blue Street and 1-5 William Street, North Sydney. This report presents the construction process associated with the proposed development and with the measures described in this CTMP in place, the construction activity is anticipated to have minimal disruption to the daily activities within the vicinity of the site.

It is envisaged that this document will be continually reviewed and amended if required, due to changes in design, TfNSW, Council's or any other authority requirements.

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Attachment 1 Swept Path Analysis and Proposed Signage Plans

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A1

William Street

Class B Hoarding

Class A Hoarding

Blue Street

Class B Hoarding

Class A Hoarding

9.00

rev	date	comment / description	drawn	reviewed
10	15.02.21	Revised as per NSC Comments	DS	SW
9	11.02.21	revised as per nsc comments	DS	SW
8	10.02.21	Revised as per agreement with NSC and TfNSW	DS	SW

project

Blue St And William St North Sydney

drawing title

Site Vehicular Access Plan

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

client	FDC
drawing #	PTC-001
project #	2918
scale	1 : 100 @ A1

PRELIMINARY

rev 10

A1

PEDESTRIANS
WATCH YOUR
STEP

William Street

Class B Hoarding

Blue Street

Class B Hoarding

Class A Hoarding

Class A Hoarding

9.00

PEDESTRIANS
WATCH YOUR
STEP

LEGEND

Pedestrian Path

rev	date	comment / description	drawn	reviewed
10	15.02.21	Revised as per NSC Comments	DS	SW
9	11.02.21	revised as per nsc comments	DS	SW
8	10.02.21	Revised as per agreement with NSC and TfNSW	DS	SW

project

Blue St And William St North Sydney

drawing title

Pedestrian Management Signage Plan

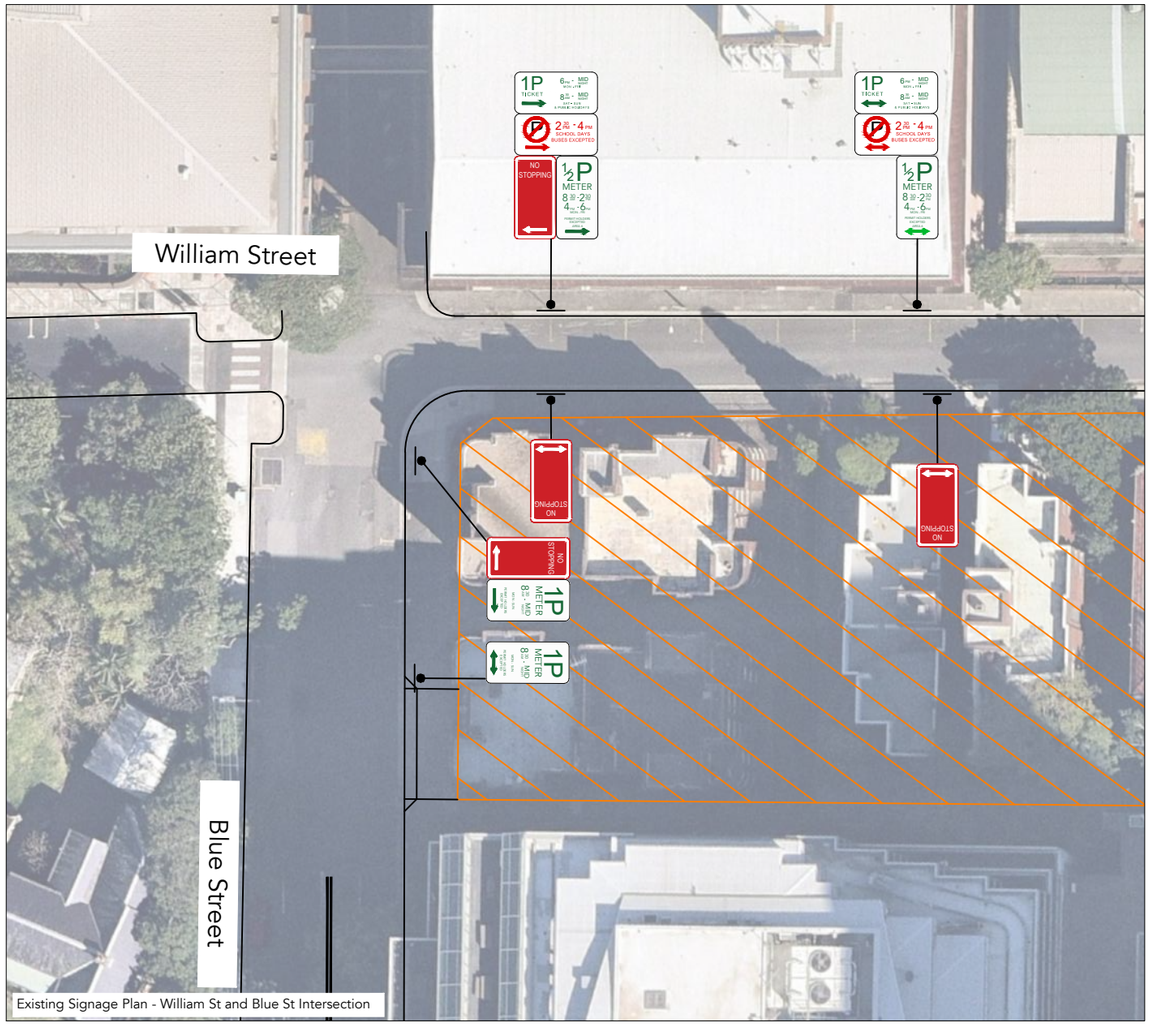
ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

client	FDC
drawing #	PTC-002
project #	2918
scale	1 : 100 @ A1

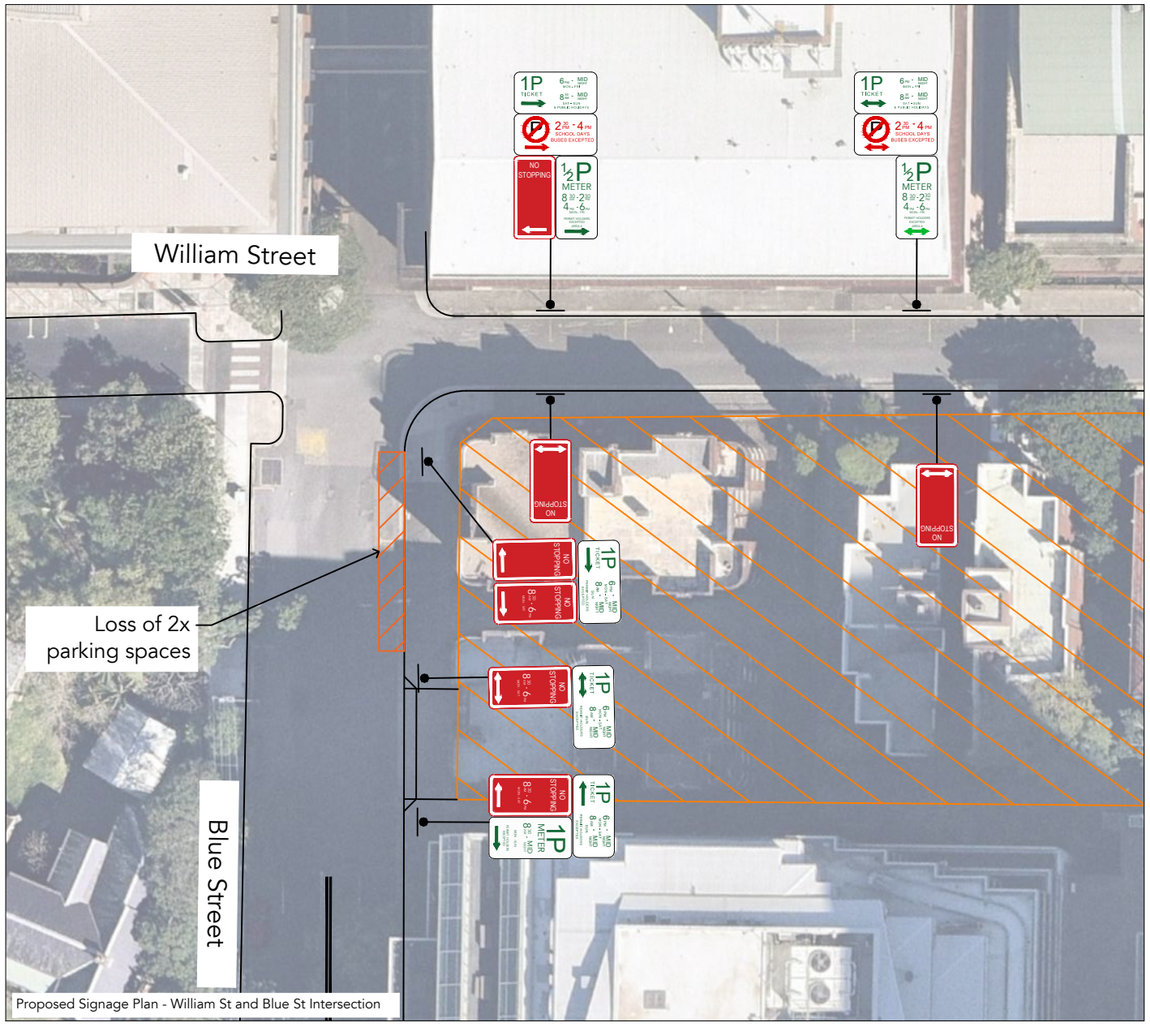
PRELIMINARY

rev 10

A3

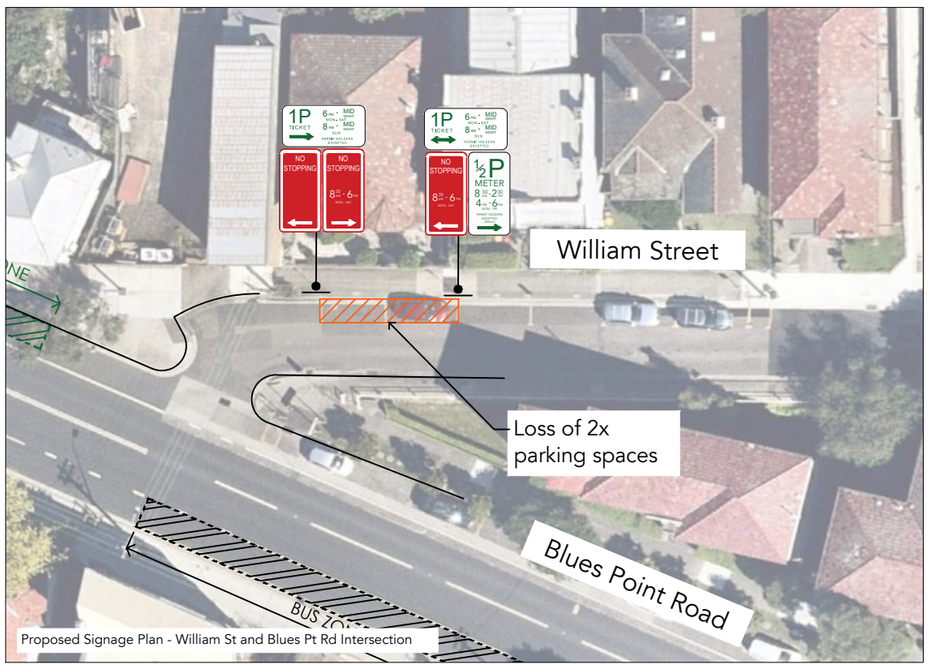


Existing Signage Plan - William St and Blue St Intersection



Proposed Signage Plan - William St and Blue St Intersection

Existing Signage Plan - William St and Blues Pt Rd Intersection



Proposed Signage Plan - William St and Blues Pt Rd Intersection

rev	date	comment / description	drawn	reviewed
10	15.02.21	Revised as per NSC Comments	DS	SW
9	11.02.21	revised as per nsc comments	DS	SW
8	10.02.21	Revised as per agreement with NSC and TfNSW	DS	SW

project

Blue St And William St North Sydney

drawing title

Existing and Proposed Signage Plan
Bulk Excavation Stage

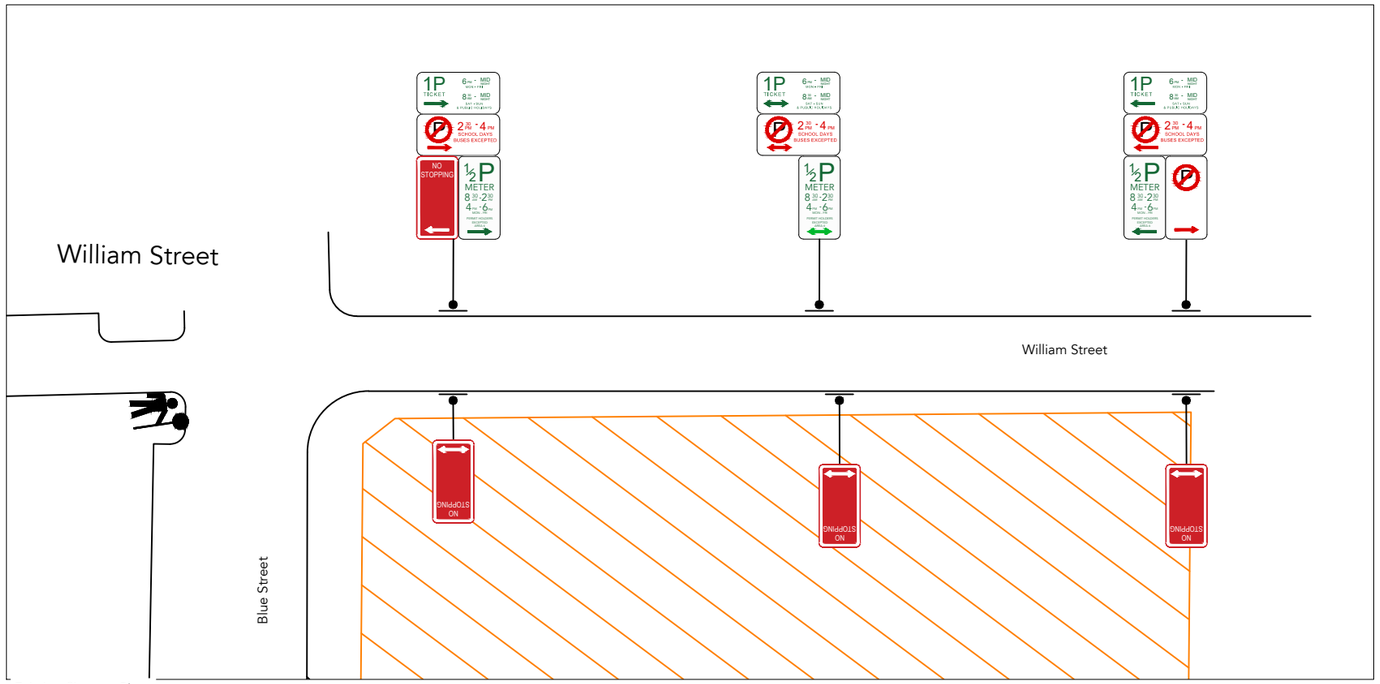
ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

client	FDC
drawing #	PTC-003
project #	2918
scale	1 : 1000

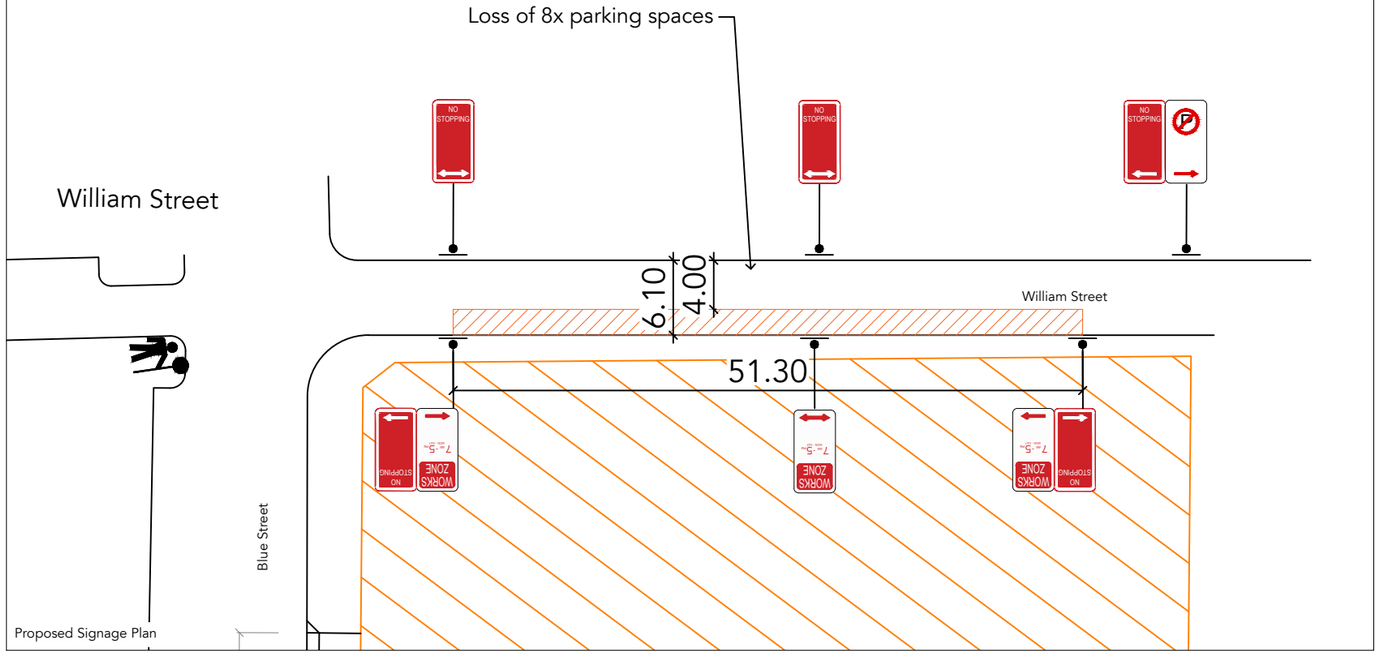
PRELIMINARY

rev 10

A3



Existing Signage Plan



Proposed Signage Plan

rev	date	comment / description	drawn	reviewed
10	15.02.21	Revised as per NSC Comments	DS	SW
9	11.02.21	revised as per nsc comments	DS	SW
8	10.02.21	Revised as per agreement with NSC and TfNSW	DS	SW

project

Blue St And William St North Sydney

drawing title

Existing and Proposed Signage Plan
Construction and Fitout Stage

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

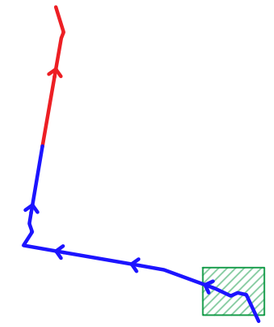
client	FDC
drawing #	PTC-004
project #	2918
scale	1 : 1000

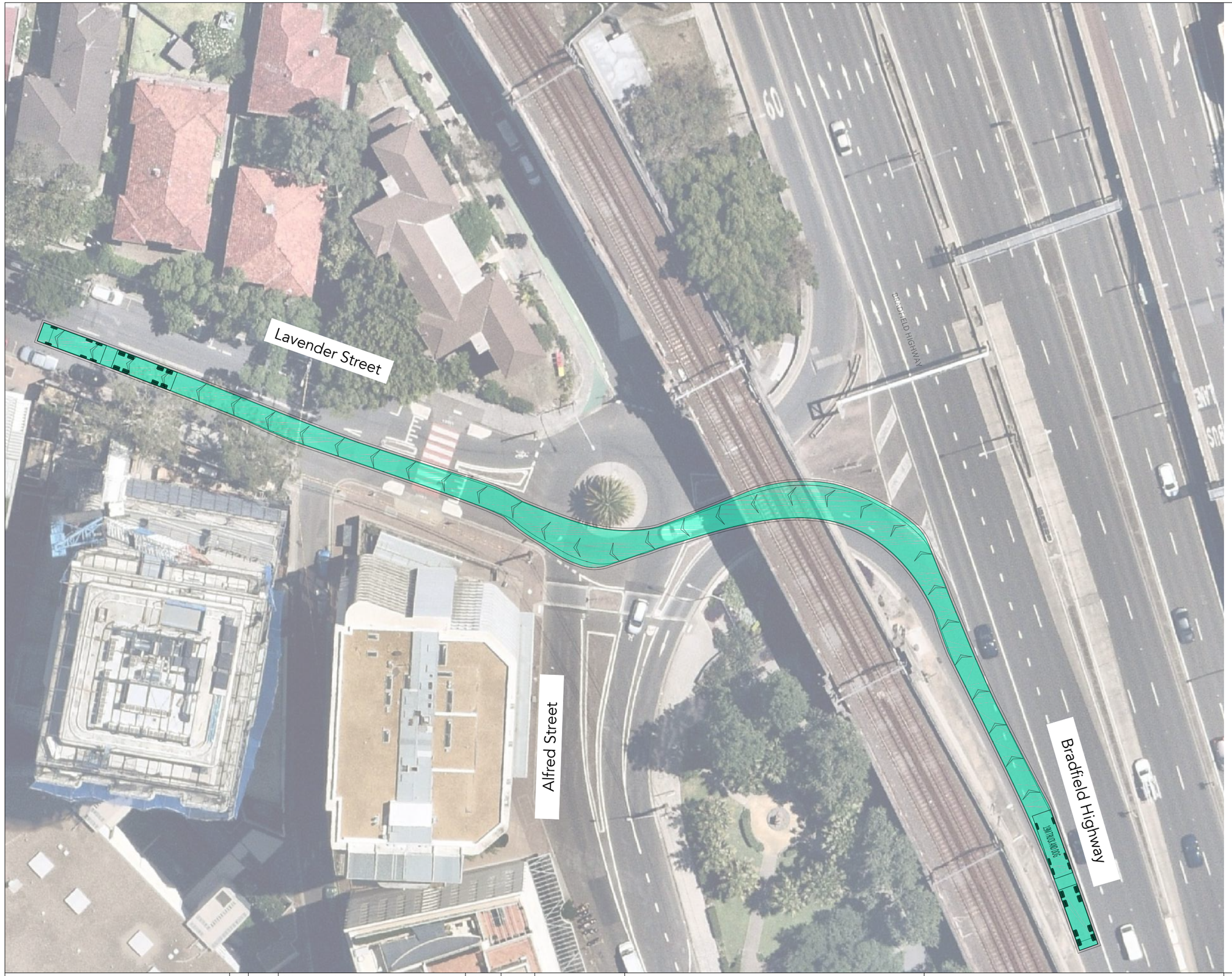
PRELIMINARY

rev 10

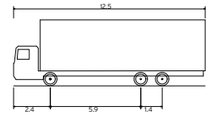
A3

Truck Route (AV's and T&D's)



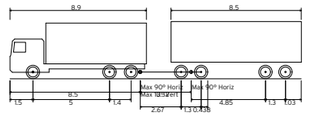


Vehicle Profiles



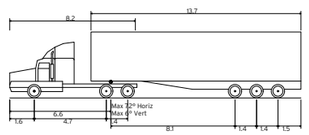
HRV - Heavy Rigid Vehicle

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

B99 Vehicle (Realistic min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
10	15.02.21	REVISED AS PER NSC COMMENTS	DS	SW
9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path Analysis
19m Truck and Dog Access Route
Bulk Excavation Stage

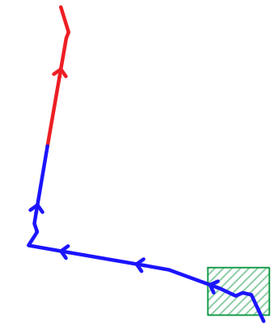
CLIENT	FDC
DRAWING #	PTC-501
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

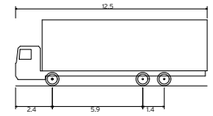
REV 10

A3

Truck Route (AV's and T&D's)

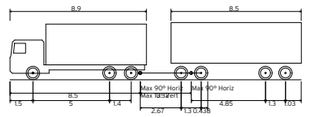


Vehicle Profiles



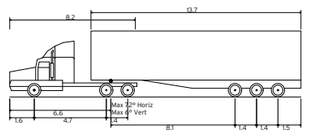
HRV - Heavy Rigid Vehicle

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

B99 Vehicle (Realistic min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
10	15.02.21	REVISED AS PER NSC COMMENTS	DS	SW
9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path Analysis
19m Articulated Vehicle (AV) Access Route
Construction and Fitout Stage

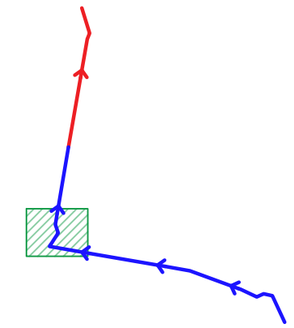
CLIENT	FDC
DRAWING #	PTC-502
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

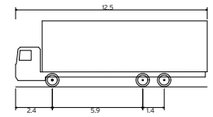
REV 10

Truck Route (AV's and T&D's)

A3

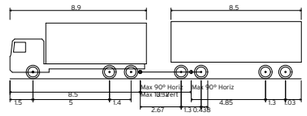


Vehicle Profiles



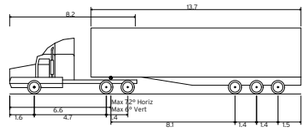
HRV - Heavy Rigid Vehicle

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

B99 Vehicle (Realistic min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
10	15.02.21	REVISED AS PER NSC COMMENTS	DS	SW
9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path Analysis
19m Truck and Dog Access Route
Bulk Excavation Stage

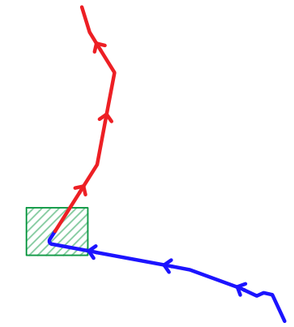
CLIENT	FDC
DRAWING #	PTC-503
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

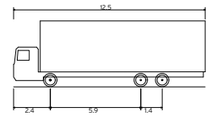
REV 10

A3

Truck Route (AV's and T&D's)

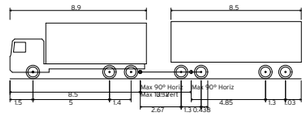


Vehicle Profiles



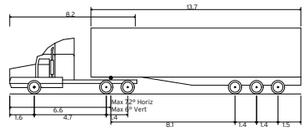
HRV - Heavy Rigid Vehicle

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

B99 Vehicle (Realistic min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
10	15.02.21	REVISED AS PER NSC COMMENTS	DS	SW
9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

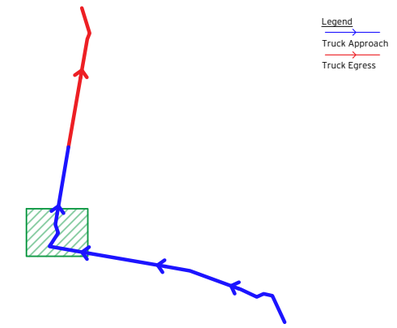
DRAWING TITLE
Vehicle Swept Path Analysis
19m Truck and Dog Route to Join Back of Queue

CLIENT	FDC
DRAWING #	PTC-503.1
PROJECT #	2918
SCALE	1 : 500

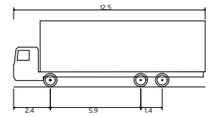
PRELIMINARY

REV 10

Truck Route (AV's and T&D's)



Vehicle Profiles



HRV - Heavy Rigid Vehicle

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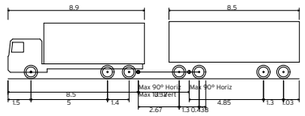
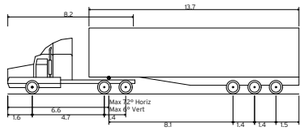
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

B99 Vehicle (Realistic min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

ptc.
Suite 502, 1 James Place
North Sydney NSW 2060
t +61 2 8920 0800
ptcconsultants.co

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
10	15.02.21	REVISED AS PER NSC COMMENTS	DS	SW
9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path Analysis
19m AV Access Route
Construction and Fitout Stages

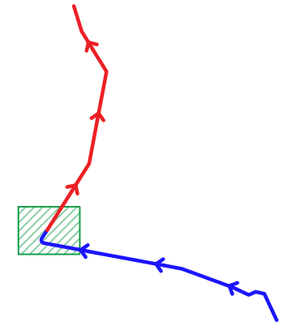
CLIENT	FDC
DRAWING #	PTC-504
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

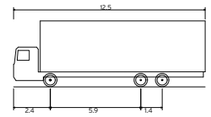
REV 10

A3

Truck Route (AV's and T&D's)

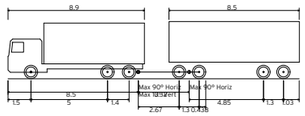


Vehicle Profiles



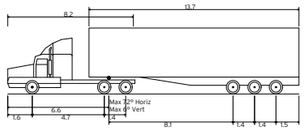
HRV - Heavy Rigid Vehicle

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

B99 Vehicle (Realistic min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

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Suite 502, 1 James Place
North Sydney NSW 2060
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REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
10	15.02.21	REVISED AS PER NSC COMMENTS	DS	SW
9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path Analysis
19m AV Route to Join Back of Queue

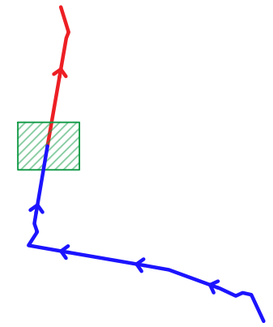
CLIENT	FDC
DRAWING #	PTC-504.1
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

REV 10

A3

Truck Route (AV's and T&D's)



Existing Driveway

Miller Street

William Street

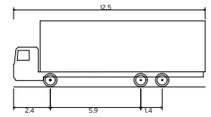
Blue Street

Blues Point Road

9.00

Additional Traffic Controller
to Assist Pedestrians

Vehicle Profiles



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Min Body Ground Clearance	0.417m
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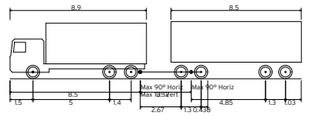
Curb to Curb Turning Radius	12.500m



19M TRUCK AND DOG

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Lock-to-lock time	4.00s
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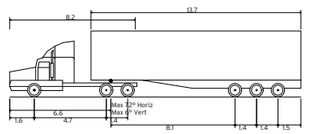

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Curb to Curb Turning Radius	6.250m

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8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
19m Truck and Dog Access into the Site

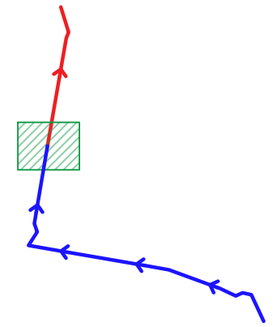
CLIENT	FDC
DRAWING #	PTC-505
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

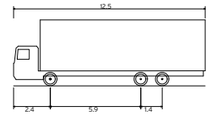
REV 10

A3

Truck Route (AV's and T&D's)



Vehicle Profiles



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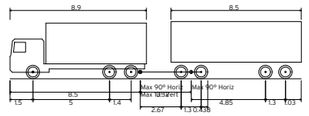

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Track Width	2.500m
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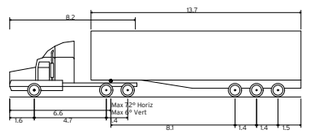

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Track Width	1.840m
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Curb to Curb Turning Radius	6.250m

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8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
19m AV Access into the Works Zone

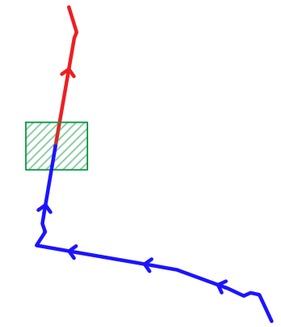
CLIENT	FDC
DRAWING #	PTC-506
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

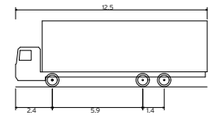
REV 10

A3

Truck Route (AV's and T&D's)



Vehicle Profiles



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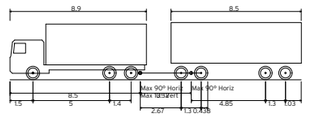

19M TRUCK AND DOG

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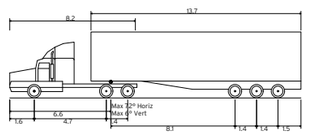

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Overall Body Height	1.878m
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Track Width	1.840m
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Curb to Curb Turning Radius	6.250m

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8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
B99 Passing Through Works Zone

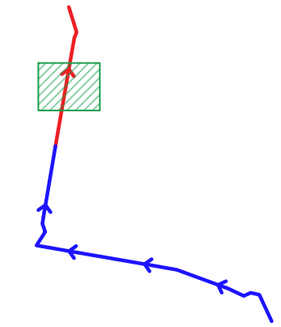
CLIENT	FDC
DRAWING #	PTC-506.1
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

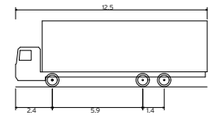
REV 10

Truck Route (AV's and T&D's)

A3



Vehicle Profiles



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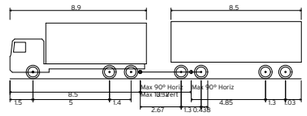

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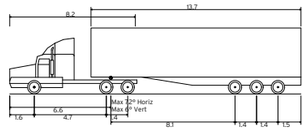

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Track Width	1.840m
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Curb to Curb Turning Radius	6.250m

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9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
T&D Passing Through
Works Zone of 7-11 Mount St Development

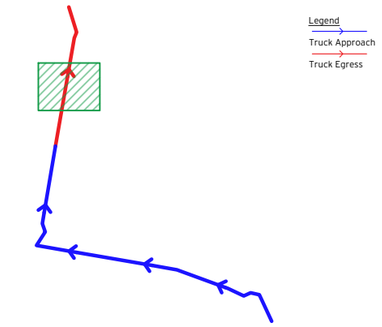
CLIENT	FDC
DRAWING #	PTC-507
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

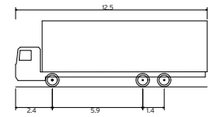
REV 10

Truck Route (AV's and T&D's)

A3



Vehicle Profiles



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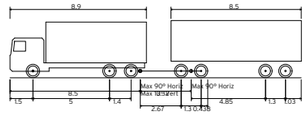

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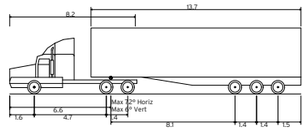

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PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
AV Passing Through 7-11 Mount St Works Zone

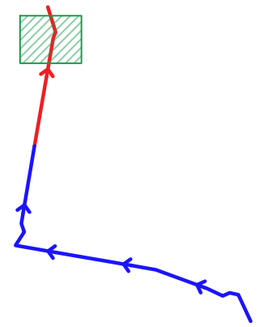
CLIENT	FDC
DRAWING #	PTC-508
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

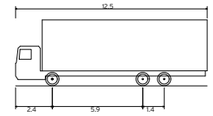
REV 10

Truck Route (AV's and T&D's)

A3



Vehicle Profiles



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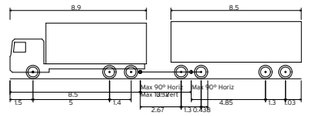

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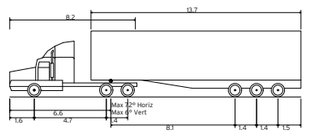

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9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
Truck & Dog
Egress Route

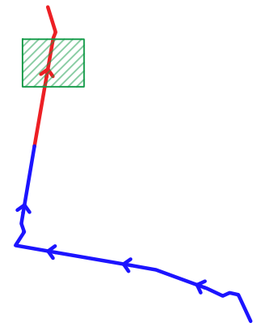
CLIENT	FDC
DRAWING #	PTC-509
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

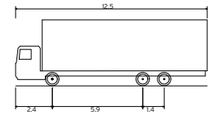
REV 10

Truck Route (AV's and T&D's)

A3

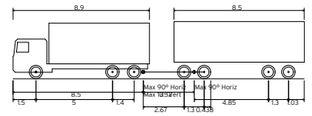


Vehicle Profiles



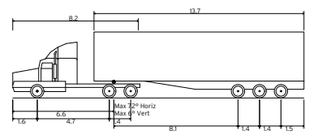
HRV - Heavy Rigid Vehicle

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



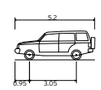
19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



B99 Vehicle (Realistic min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

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REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
10	15.02.21	REVISED AS PER NSC COMMENTS	DS	SW
9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
Articulated Vehicle (AV)
Egress Route

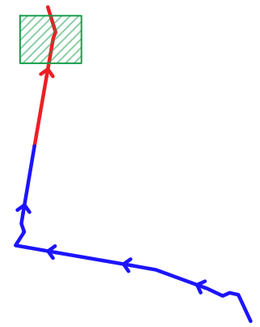
CLIENT	FDC
DRAWING #	PTC-510
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

REV 10

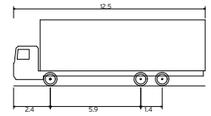
A3

Truck Route (AV's and T&D's)



Legend
Truck Approach
Truck Egress

Vehicle Profiles



HRV - Heavy Rigid Vehicle

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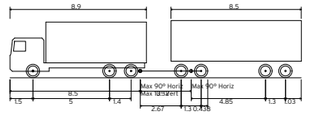
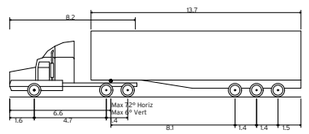
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

William Street

Pacific Highway

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10	15.02.21	REVISED AS PER NSC COMMENTS	DS	SW
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8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
Articulated Vehicle (AV)
Egress Route

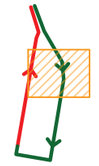
CLIENT	FDC
DRAWING #	PTC-511
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

REV 10

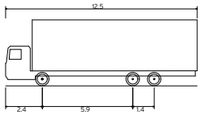
Truck Route (HRV's and Smaller Trucks)

A3



Legend
Truck Approach
Truck Egress

Vehicle Profiles



HRV - Heavy Rigid Vehicle

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Overall Width	2.500m
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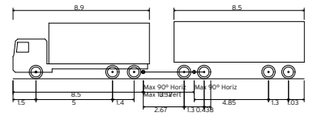
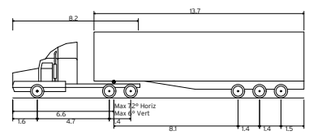
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



19M TRUCK AND DOG

Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



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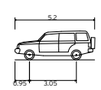
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



B99 Vehicle (Realistic min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

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8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

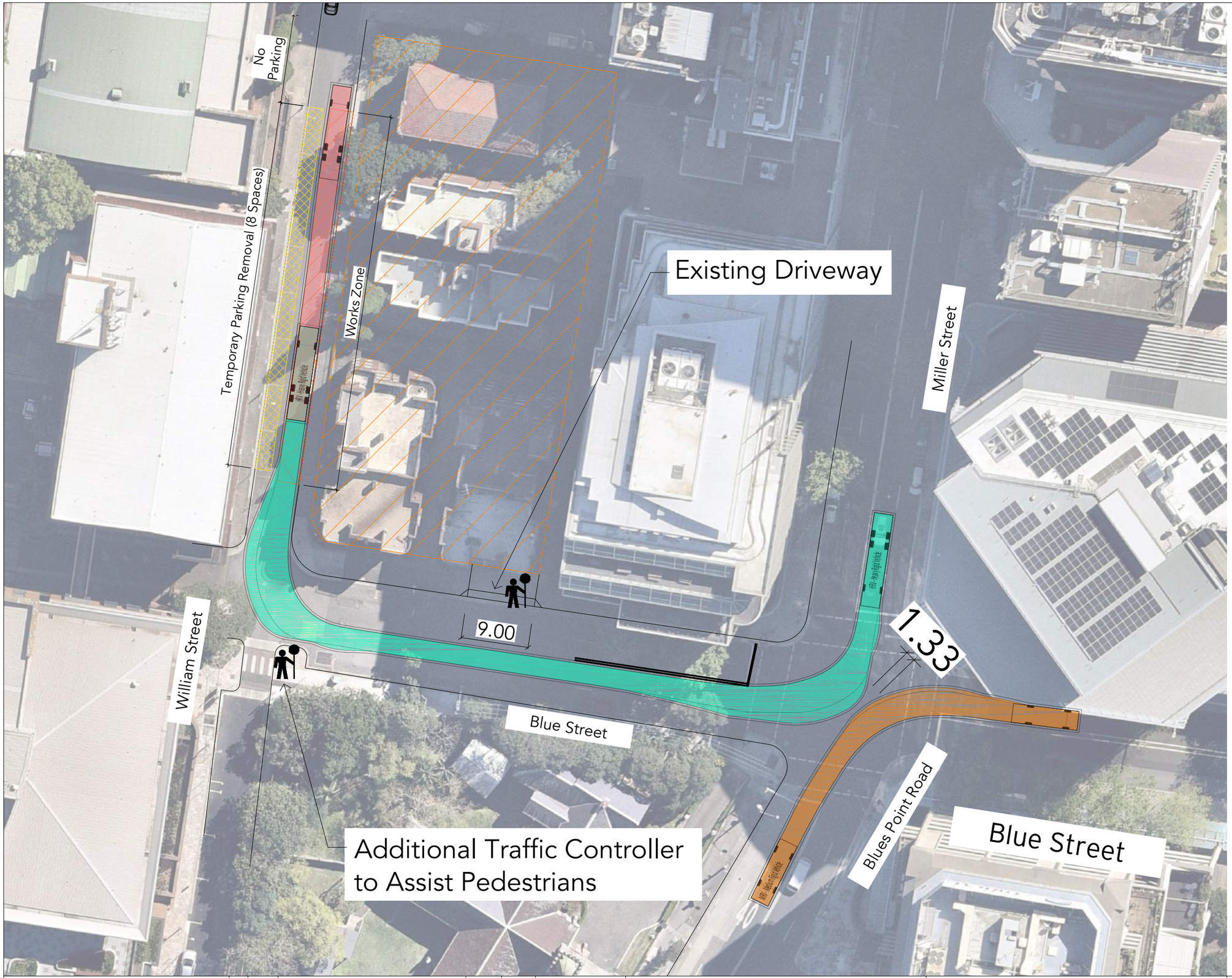
PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
12.5m HRV Access Route

CLIENT	FDC
DRAWING #	PTC-601
PROJECT #	2918
SCALE	1 : 500

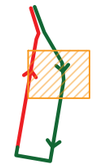
PRELIMINARY

REV 10



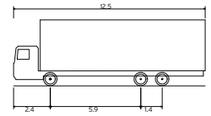
Truck Route (HRV's and Smaller Trucks)

A3



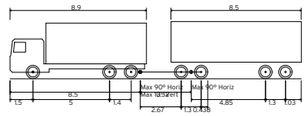
Legend
Truck Approach
Truck Egress

Vehicle Profiles



HRV - Heavy Rigid Vehicle

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



19M TRUCK AND DOG

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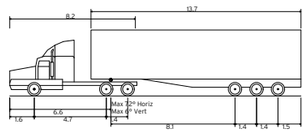
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV - Articulated Vehicle

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Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

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9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
12.5m HRV Access and Egress Route

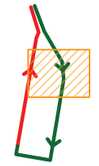
CLIENT	FDC
DRAWING #	PTC-602
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

REV 10

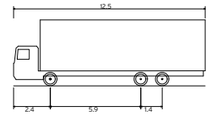
Truck Route (HRV's and Smaller Trucks)

A3



Legend
Truck Approach
Truck Egress

Vehicle Profiles



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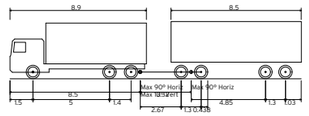

19M TRUCK AND DOG

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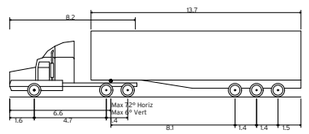

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Overall Body Height	1.878m
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Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

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10	15.02.21	REVISED AS PER NSC COMMENTS	DS	SW
9	11.02.21	REVISED AS PER NSC COMMENTS	DS	SW
8	10.02.21	REVISED AS PER AGREEMENT WITH NSC AND TFNSW	DS	SW

PROJECT
BLUE ST AND WILLIAM ST NORTH SYDNEY

DRAWING TITLE
Vehicle Swept Path
12.5m HRV Egress Route

CLIENT	FDC
DRAWING #	PTC-603
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

REV 10

Attachment 2 Traffic Control Plans

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A3

REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED
7	15.02.21	FOR APPROVAL	DS	SW
6	09.02.21	FOR APPROVAL	DS	SW
5	06.01.21	FOR APPROVAL	DS	SW

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PROJECT
2-4 Blue St and 1-5 William St North Sydney

DRAWING TITLE
Traffic Control Plan for Lavender Street, Blues Point Road, Union Street and William Street Intersection

CLIENT	FDC
DRAWING #	TCP-001
PROJECT #	2918
SCALE	1 : 1000

PRELIMINARY

REV 7

A3

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7	15.02.21	FOR APPROVAL	DS	SW
6	09.02.21	FOR APPROVAL	DS	SW
5	06.01.21	FOR APPROVAL	DS	SW

PROJECT
2-4 Blue St and 1-5 William St North Sydney

DRAWING TITLE
Traffic Control Plan for Blue Street, Blues Point Road and Miller Street Intersection

CLIENT	FDC
DRAWING #	TCP-002
PROJECT #	2918
SCALE	1 : 500

PRELIMINARY

REV 7

Attachment 3 Site Establishment Plan

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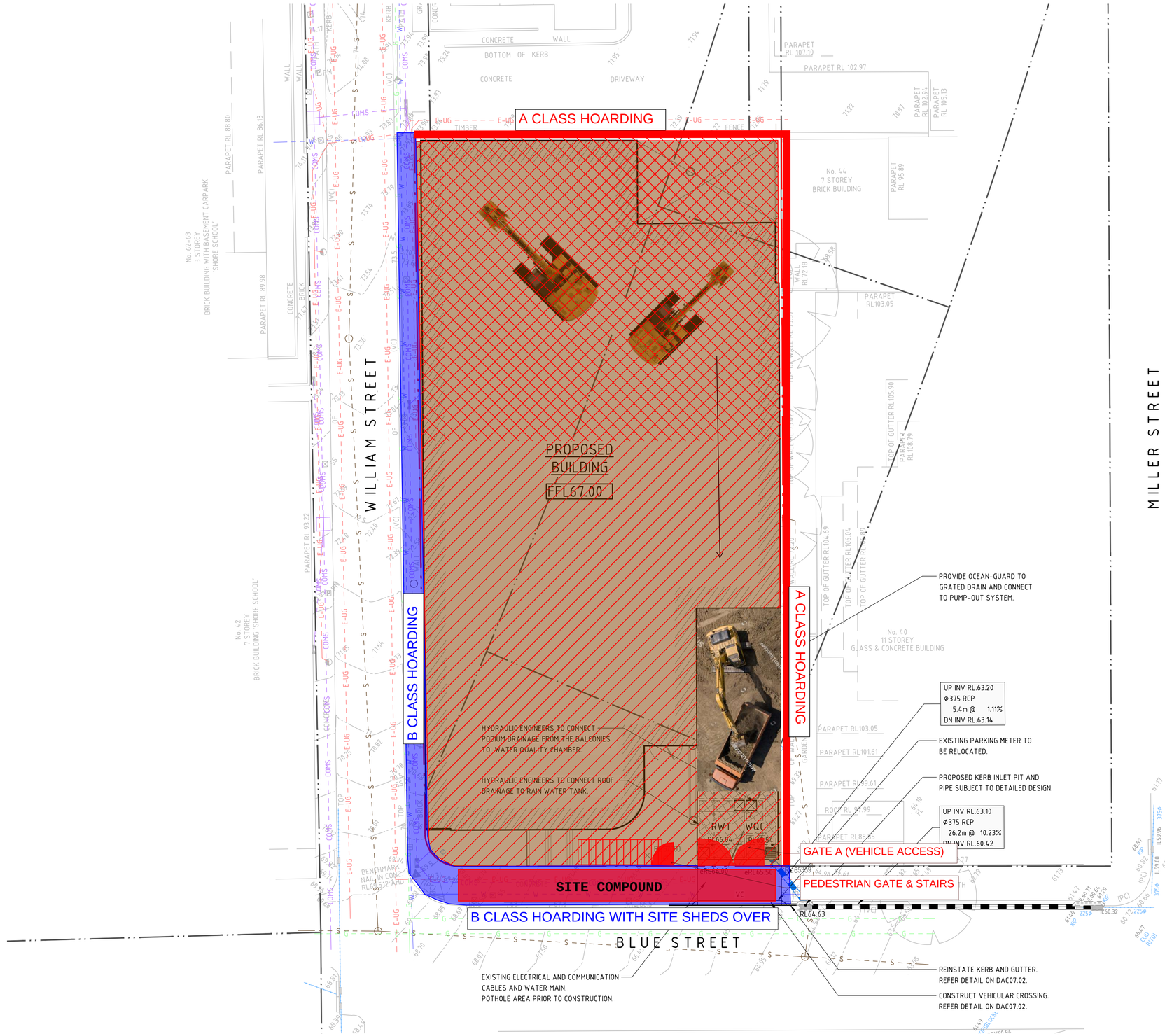

FDC SITE ESTABLISHMENT PLAN
STAGE 1B - EXCAVATION

2 - 4 BLUE ST

THIRDi

DRAWN: U. MANDAL
DESIGNED: S. NOBLE
JOB MANAGER: S. NOBLE
VERIFIER:

CLIENT
THIRD GROUP
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Plotted By: ALINE CARVALHAES
Date : 15.02.2019 11:24 AM

CRANE STUDY

7-11 WILLIAM ST
(10 STOREY)

50 MILLER ST
(8 STOREY)

62-68 WILLIAM ST
(3 STOREY)
'SHORE SCHOOL'

42 WILLIAM ST
(7 STOREY)
'SHORE SCHOOL'

40 MILLER ST
(11 STOREY)
'UGL'

WILLIAM ST
'SHORE SCHOOL'

21 BLUES POINT ROAD
'ST. PETER'S PRESBYTERIAN CHURCH'

WILLIAM STREET

BLUE STREET

WORK / LOADING ZONE

SITE COMPOUND

POUR 1

POUR 2

POUR 3

WELLNESS GARDEN (BELOW). REFER TO LANDSCAPE ARCHITECTS PLANS FOR MORE DETAIL

CAR PARK EXHAUST TO LEVEL 2 (WILLIAM STREET)

MAN & MATERIALS HOIST
(7 STOREY)

FIRE STAIR 02 ACCESSING LOWER GROUND EXIT

FORMWORK HOIST

FIRE STAIR 01 ACCESSING LOWER GROUND EXIT

CONCRETE TOWER BOOM (32M)

LUFFING CRANE (60M)

SUPPLY AIR GRILLE (EXHAUST)

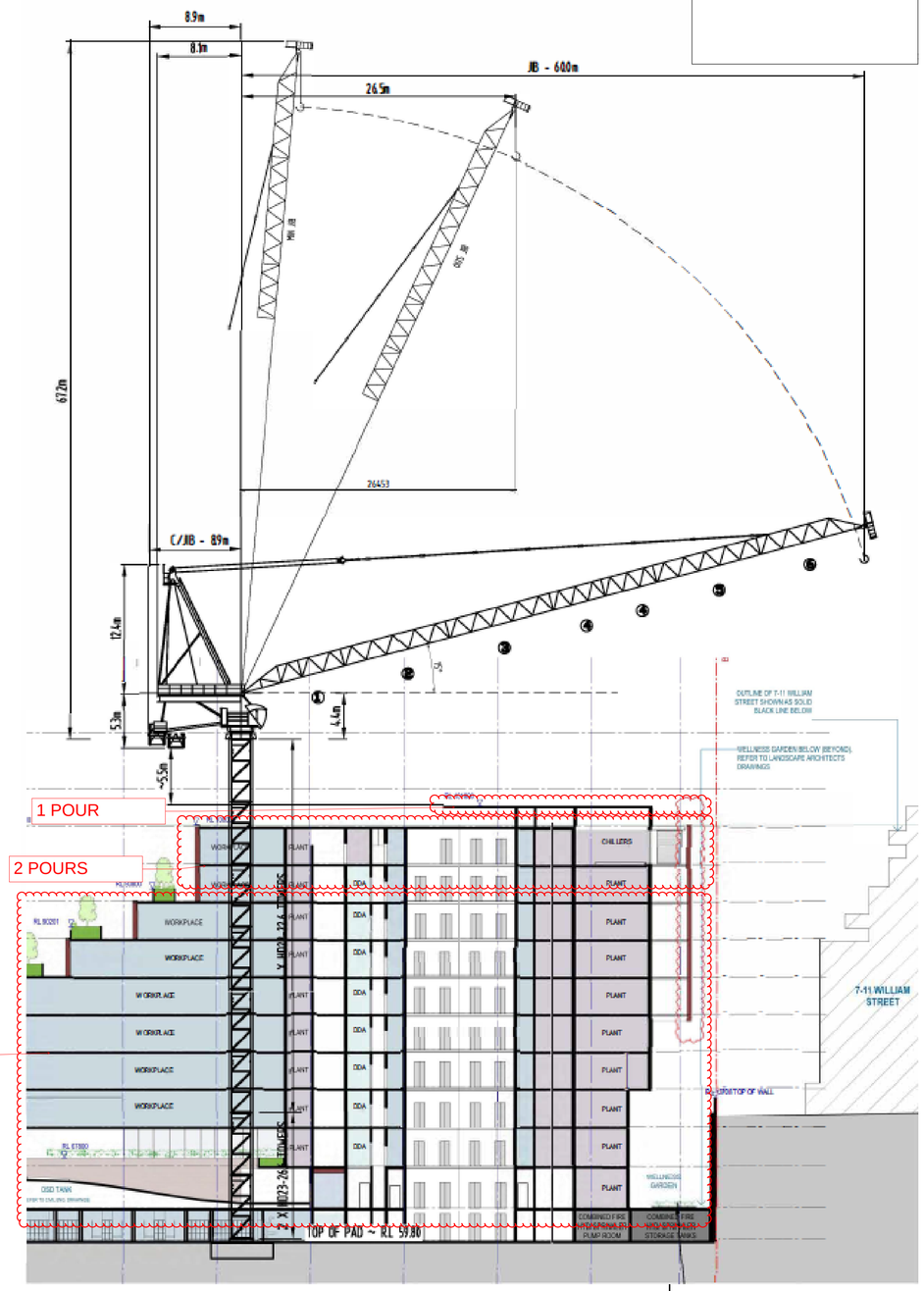
FIRE EGRESS CORRIDOR FROM BASEMENT TO WILLIAM STREET

SUPPLY AIR GRILLE

STAIRS TO BLUE STREET

VEHICLE GATE

PEDESTRIAN GATE



FDC ESTABLISHMENT & STAGING PLANS
STAGE 2 - STRUCTURE

2 - 4 BLUE ST, NORTH SYDNEY

THIRDi

Client
Union Street Develop

Issuer
WOODS BAGOT

Project number 121315
Size check 25mm
Checked DS
Approved SM
Sheet size A1
Scale 1 : 200

Sheet title
LEVEL 01

Sheet number DA 2203
Revision H
Status FOR D.A

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