Transport Engineering Report

Proposed Conference Centre, 10-12 Campbell Street, Bowen Hills

CFMEU

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1. Introduction

1.1. Purpose

TTM Consulting Pty Ltd (TTM) has been engaged by CFMEU to prepare a Transport Engineering Report (TER) for a proposed conference centre to be located at 10-12 Campbell Street, Bowen Hills. It is understood this report will accompany a Development Application (DA) to be lodged with Economic Development Queensland (EDQ), with referral to Brisbane City Council ('Council') City Planning & Sustainability Development Services.

1.2. Background

Prior to the completion of this report, TTM Consulting has consulted with the development team to identify an efficient design for the site for traffic operations.

1.3. Scope

The scope of the transport aspects investigated includes:

- Reviewing the prevailing traffic and transport conditions surrounding the site.
- Identifying the parking supply required to cater for development demands.
- Assessing the parking layout to provide efficient and safe internal circulation and manoeuvring.
- Assessing the access configuration to provide efficient and safe manoeuvring between the subject site and the public road network for cars, service vehicles, cyclists and pedestrians.
- Identifying the service vehicle needs for the subject site and assessing the internal layout to provide efficiency and safety for on-site service vehicle operations.
- Identification of the likely traffic impacts of development on the surrounding road network.

The development plans have been assessed against the following guidelines and planning documents:

- EDQ Bowen Hills Priority Development Area (PDA) Development Scheme.
- Brisbane City Plan 2014, specifically the Transport, Access, Parking and Servicing (TAPS) Code and Planning Scheme Policy (PSP).
- Australian Standards for Parking Facilities (where required), specifically:
  - Part 1: Off-street car parking (AS2890.1:2004).
  - Part 2: Off-street commercial vehicle facilities (AS2890.2:2018).
  - Part 3: Bicycle parking (AS2890.3:2015).
  - Part 6: Off-street parking for people with disabilities (AS2890.6:2009).
- Department of Transport and Main Roads 'Guide to Traffic Impact Assessment' (GTIA).

2. Site Location

The subject site is located at 10-12 Campbell Street, Bowen Hills, as shown in Figure 2.1.

The subject site has road frontage to both Campbell Street to the north (front of building) and an unnamed laneway to the south (rear of building).

The property description is Lots 4 and 5 on RP10074.

Figure 2.1: Site Location (Immediate Context)

Source: NearMap

The subject site is currently vacant, where it most recently contained a dog day care centre and pet surgery.

Typical cross-sections for the key roads surrounding the subject site are provided in Figure 2.2 overleaf.

Image 1 – Campbell Street (looking west – subject site on left)

Image 2 – Services Laneway (looking east – subject site on left)

Image 3 – Markwell Street (looking south)

Image 4 – Hurworth Street (looking south)

Figure 2.2: Carriageway Cross-Sections

Source: Google StreetView

3. Site Travel Environment

3.1. Public Transport Facilities and Services

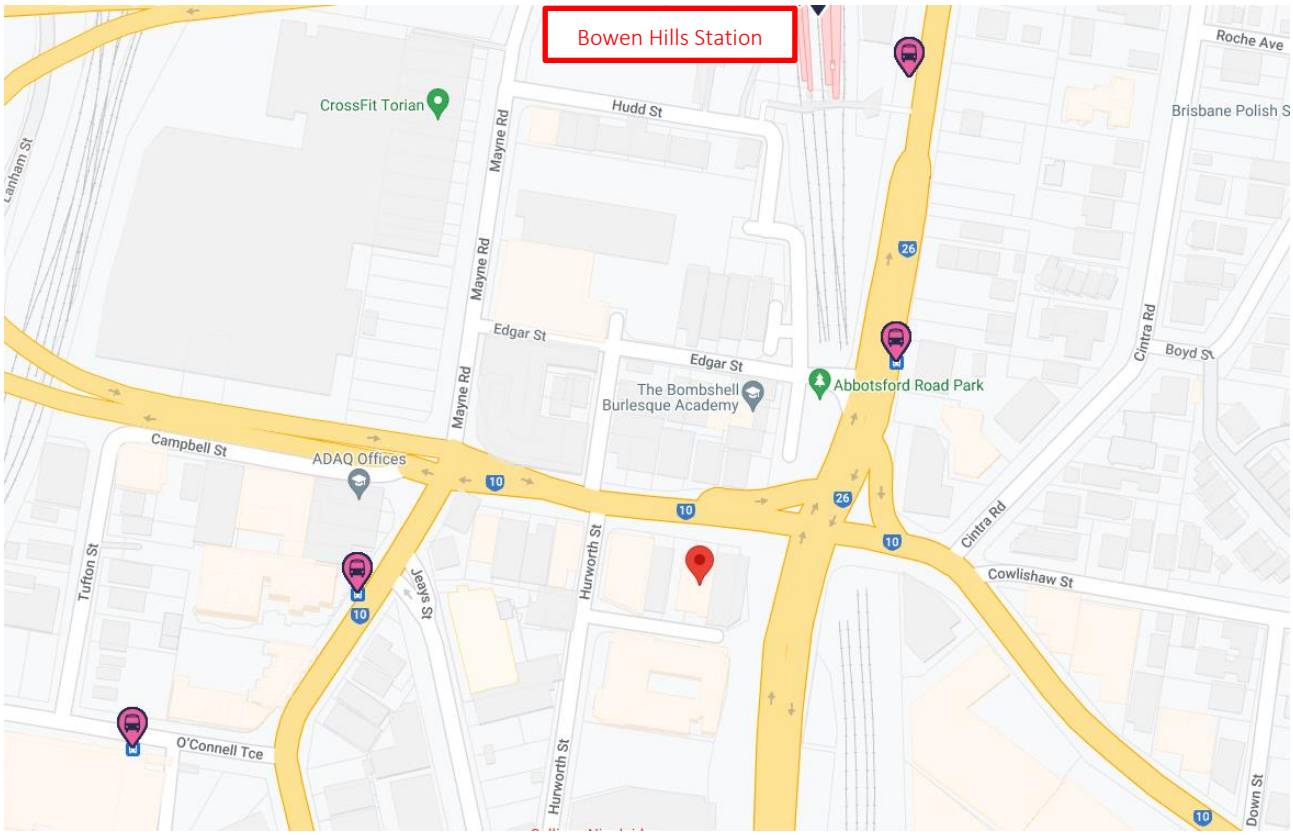
3.1.1. Train Services

The subject site is located in close proximity to rail infrastructure, with the Bowen Hills railway station approximately 250m walking distance from the subject site to the north. This station is serviced by all suburban and interurban lines within the network, with the exception of the Exhibition line – Airport, Beenleigh, Caboolture, Cleveland, Doomben, Ferny Grove, Gold Coast, Ipswich / Rosewood, Redcliffe Peninsula, Shorncliffe, Springfield and Sunshine Coast.

3.1.2. Bus Services

There are several bus services which operate in the Bowen Hills area, in the vicinity of the subject site.

Figure 3.1 identifies TransLink bus stops in the immediate vicinity of the subject site, located along Abbotsford Road, Hamilton Place and O'Connell Terrace.



Source: TransLink

Figure 3.1: TransLink Bus Stops in the Vicinity of the Subject Site

Table 3.1 outlines the routes that service these nearby stops, detailing their respective weekday and weekend headways (peak and off-peak) as well as operating hours. It is noted that several other routes that utilise these stops are school services only (924 and 928 to 931).

Table 3.1: Bus Routes and Operating Hours / Frequency Near the Subject Site

Route	Description	Weekday	Saturday	Sunday + Public Holidays
301	Toombul to City	6:00am to 11:15pm Peaks ~ 30 min Off-peak ~ 60 min	7:30am to 11:15pm All-day ~ 45-60 min	8:30am to 8:15pm All-day ~ 60-90 min
320	Chermside to City	5:15am to 10:15pm Peaks ~ 15-20 min Off-peak ~ 30-45 min	7:00am to 6:45pm All-day ~ 90 min	10:00am to 6:00pm All-day ~ 80 min
393	Teneriffe ferry terminal to Kelvin Grove and RBWH (loop)	6:30am to 6:45pm Peaks ~ 15-20 min Off-peak ~ 60 min	N/A	N/A

In addition to these services, there are a significant number of other services which travel along Breakfast Creek Road and Wickham Terrace / Ann Street, approximately 500m walking distance to the south of the subject site.

3.1.3. Summary

The subject site is generally well serviced by public transport options, particularly train services, which is typical for development in inner-city Brisbane.

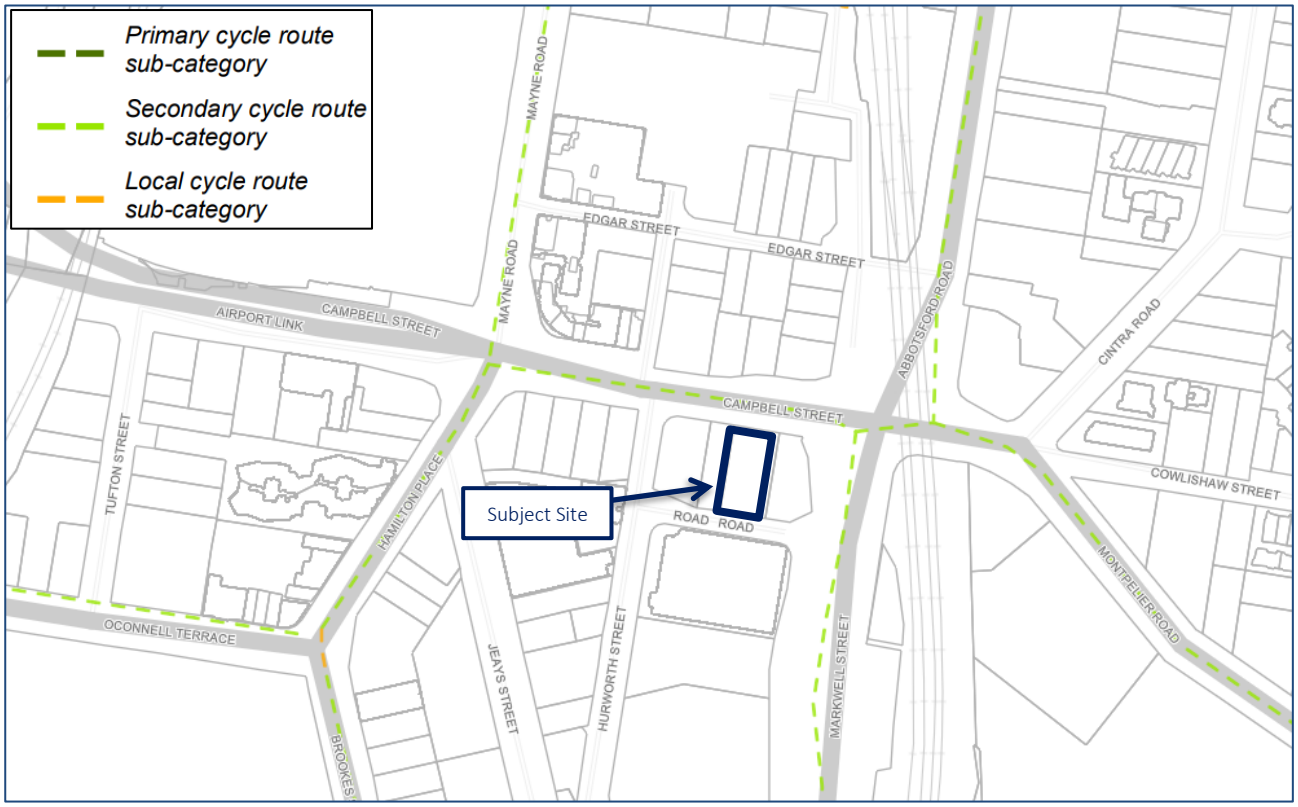
The subject site's location has been assessed using the "Transit Score" location performance tool. This tool assesses the relative "usefulness" of nearby routes, as defined as the distance to the nearest stop on the route, the frequency of the route and type of route. It provides a numerical score between 1 and 100, with 1 being heavily car-dependent.

The site achieves a score of 85 out of 100, which is considered as "Excellent Transit", whereby "transit is convenient for most trips".

3.2. Active Transport Facilities

3.2.1. Bicycles

Figure 3.2 overleaf illustrates the surrounding cycle routes, as defined by Council's Bicycle Network Overlay.



Source: Council's Interactive Mapping – Bicycle Network Overlay

Figure 3.2: Bicycle Network Overlay in the Vicinity of the Subject Site

This overlay identifies that most roads in the surrounding local network are classified as 'secondary cycle routes'.

Cycling accessibility for the subject site is satisfactory, with both on- and off-road cycling infrastructure / facilities surrounding the site.

3.2.2. Pedestrians

Pedestrian footpaths are currently provided within both verges of all roads in the vicinity of the subject site. Connections are provided to public transport infrastructure / facilities. Signalised crossings are provided at all major intersections, to facilitate movement across all major roads and access to these facilities.

Existing walkability surrounding the subject site is reasonably good, with connections also provided to surrounding public transport facilities.

The subject site's location has been assessed using the "Walk Score" location performance tool. This tool considers the number of facilities and amenities in close proximity and provides a numerical score between 1 and 100, with 1 being heavily car-dependent and 100 reflecting a location that is easily accessible to abundant facilities by foot.

The site achieves a score of 92 out of 100, which is considered as a "Walker's Paradise", whereby "daily errands do not require a car".

3.3. Road Network

3.3.1. Road Hierarchy

The characteristics of the existing road network surrounding the subject site are summarised in Table 3.2. It is noted that all roads within the vicinity of the subject site are under Council jurisdiction.

Table 3.2: Characteristics of the Surrounding Road Network

Road	Speed Limit	Road Configuration			Classification
		Reserve Width	Carriageway Width	Lane Configuration	
Campbell Street	60km/h	20.0m-27.0m	12.5m	Two-way, four-lane, undivided	Suburban
Services Laneway	50km/h[1]	10.0m	5.0m	Two-way, two-lane, undivided	N/A
Hurworth Street	50km/h[1]	12.0m-14.0m	8.5m	Two-way, two-lane, undivided	Neighbourhood
Markwell Street	60km/h	N/A	15.0m	Two-way, four-lane, undivided	Arterial
Abbotsford Road	60km/h	25.0m	20.0m	Two-way, six-lane, undivided	Arterial
Montpelier Road	60km/h	20.0m	12.5m	Two-way, two-lane, undivided	Arterial

[1] Default speed limit on unsigned roads in built-up areas in Queensland.

A summary of the various intersection treatments along Campbell Street, Montpelier Road, Abbotsford Road and Hamilton Place, surrounding the subject site, is shown in Figure 3.3.

Figure 3.3: Existing Intersection Treatments

Source: NearMap

3.4. Alternative Parking

In addition to the car parking supply provided on-site, there is a limited supply of kerbside parking within the surrounding road network, which is located within the Brisbane Central Traffic Area. The parking restrictions within this area are active between 7:00am and 6:00pm Monday to Friday, as well as 7:00am and 12:00pm on Saturday, for a two-hour parking limit.

There are also a small amount of off-street paid parking facilities in the vicinity of the subject site, including along Jeays Street and Montpelier Road.

3.5. Transport Planning

Council's Local Government Infrastructure Plan (LGIP) has been reviewed, indicating that there are no planned works in the vicinity of the subject site which will impact upon or be impacted by the proposed development.

3.6. Anticipated Travel Patterns

The proposed development is heavily public and active transport-centric, with its close proximity to major public and active transport infrastructure reflected by its location within the City Frame and subsequent maximum car parking requirements. The site is also in close proximity to the Brisbane CBD and other major attractors.

4. Proposed Development

4.1. Development Profile

The proposed development is comprised of a single building conference centre, with a total GFA of 1,470m^2.

Architectural plans for the proposed development, prepared by nettletontribe, are included in Appendix A.

4.2. Parking

The development plans includes the following car parking supply:

- 18 car spaces, including one (1) PWD space and one (1) destination AC charging bay, located across the Lower Ground Level.
- Capability for implementation of basic AC charging across all car spaces.
- Potential for bicycle parking within Lower Ground Level store.

Further details regarding the proposed parking provisions are included in Section 5.

4.3. Access

The development plans include the following access arrangements:

- A Modified Type C1 (13.3m) crossover along the subject site's services laneway frontage, accommodating separated car and service vehicle movements – all movements / turns permitted – with a central linemarked pedestrian zone.
- Primary pedestrian access via the Campbell Street frontage.
- Primary cyclist access via the services laneway.

Further details regarding the proposed access arrangements are included in Section 6.

4.4. Servicing

The development plans allows for occasional access of vehicles up to the size of a 6.4m Small Rigid Vehicle (SRV) design service vehicle for deliveries and regular access for vehicles up to the size of a 10.24m rear-lift Refuse Collection Vehicle (RCV).

A formal loading bay is also provided on the Lower Ground Level, which is accessible via the services laneway.

Further details regarding the proposed servicing arrangements are included in Section 7.

5. Parking Arrangements

5.1. Parking Supply

5.1.1. Car Parking

The car parking supply requirements for the proposed function facility and educational establishment land uses have been determined in line with Table 13 of Council's TAPS PSP, based on its location within the City Frame. It is noted that, while the subject site is located within the Bowen Hills PDA, the development scheme for the PDA only prescribes varied car parking supply rates for a multiple dwelling land use.

Table 5.1 outlines the car parking requirements for the proposed development and the proposed provisions.

Table 5.1: Council's TAPS PSP Car Parking Requirements and Provisions

Land Use	TAPS PSP Requirement	Extent	Requirement	Provision
Function Facility / Educational Establishment	Maximum 1 space per 100m^2 GFA	1,470m^2 GFA	Max. 15	18 spaces

As seen in Table 5.1, the development scheme proposes a total of 18 car parking spaces. This includes one (1) destination AC charging bay and one (1) PWD bay, with the capability for implement basic AC charging across all car spaces.

This results in a minor exceedance of the maximum Council TAPS PSP supply of 15 car parking spaces. This is a performance solution but deemed as acceptable, given the scale of the proposed development and car parking provided, as well as the car parking supply excess being small and for low turnover parking, thereby not resulting in any additional significant traffic impacts.

As discussed in Section 8.1.2, a peak hour traffic generation of 0.4 vehicles per hour (vph) per space has been adopted for the proposed development's car parking. Provision of an extra three (3) car spaces is therefore only anticipated to result in an additional peak hour traffic generation of 2 vph, one (1) vehicle every 30 minutes.

Therefore, the proposed car parking provision is acceptable and generally consistent with Council's TAPS PSP.

5.1.2. PWD Parking

Council's TAPS PSP identifies the following requirements for PWD parking:

- A provision rate of one (1) PWD space for every 50 'ordinary' spaces, with a minimum of one (1) space.
- PWD spaces are provided as close as possible to the main building entrance.

For the proposed development, the number of 'ordinary' parking spaces is considered to be 18, which is equal to the proposed car parking supply. Based on a total of 18 'ordinary' spaces, a minimum of one (1) PWD space is therefore required.

One (1) PWD space is provided in the Lower Ground Level car park, satisfying the requirements of Council's TAPS PSP.

5.1.3. Motorcycle Parking

Council's TAPS PSP identifies that 2% of the parking provision shall be provided in the form of motorcycle spaces, in car parks with more than 50 spaces. Given the proposed development only provides 18 car spaces, motorcycle parking is not required and therefore not proposed.

5.2. Parking Layout

The proposed development will provide car parking across the Lower Ground Level only.

Table 5.2 overleaf identifies the characteristics of the proposed parking layout, with respect to Council's TAPS PSP design provisions, as identified by the Bowen Hills PDA Development Scheme.

Table 5.2: Council's TAPS PSP Parking Design Requirements and Provisions

Design Aspect	TAPS PSP Requirement	Proposed Provision	Compliance
Parking space length: • Employee space (Class 1) • PWD space (Class 5)	 • 5.4m (min) • 5.4m (min)	 • 5.4m • 5.4m	 TAPS PSP Compliant TAPS PSP Compliant
Parking space width: • Employee space (Class 1) • PWD space (Class 5)	 • 2.4m (min) • 2.4m + 2.4m 'Shared Area'	 • 2.5-2.6m • 2.4m + 2.4m 'Shared Area'	 TAPS PSP Compliant TAPS PSP Compliant
Aisle width: • Parking aisle	 • 6.2m (min)	 • 6.2m	 TAPS PSP Compliant
Parking envelope clearance	Located as per Figure m of TAPS PSP	Located as per Figure 5.2 of AS2890.1:2004	See Parking Design Aspect 1
Maximum Gradient: • PWD parking • Parking aisle	 • 1:40 (2.5%) • 1:20 (5.0%)	 • Flat • Flat	 TAPS PSP Compliant TAPS PSP Compliant
Blind aisle extension	2.0m or 8.0m extension to aisle width beyond final space	1.0m	See Parking Design Aspect 2
Minimum height clearance: • General minimum • Absolute minimum • Over PWD space	 • 2.3m • 2.1m • 2.5m	 • 2.3m (min) • n/a • 2.5m (min)	 TAPS PSP Compliant TAPS PSP Compliant TAPS PSP Compliant

The proposed development's parking layout is generally consistent with the provisions of Council's TAPS PSP. Further details in relation to deemed compliance of required provisions, or justification for design aspects resolved with performance solutions, are provided below.

Parking Design Aspect 1

The development plans make allowance for structure/walls within the allowable envelopes adjacent to car spaces, as per Figure 5.2 of AS2890.1:2004. This differs slightly from the provision of Figure m within Council's TAPS PSP.

Notably, there is only a 50mm difference in acceptable column locations closest to the parking aisle and allowance for additional columns to be located adjacent to bays towards the front/end of the parking spaces. However, this difference is not expected to have any adverse impacts on the ability for vehicles to manoeuvre into or out of car spaces or open doors, the two key considerations driving these design envelopes around car spaces.

The provisions of AS2890.1:2004 are based on extensive research of the particular needs for both front and rear door opening, irrespective of whether vehicles enter in a forward gear or reverse-in. As such, this is considered an acceptable design solution to adopt.

Parking Design Aspect 2

Council's TAPS PSP requires that terminated aisles extend for at least 2m past the last car bay in an aisle, to provide sufficient manoeuvring area for the last bay. While the proposed aisle extension of 1.5m is reduced from Council's minimum requirement, it does exceed the minimum requirement of AS2890.1:2004 (1.0m aisle extension, refer to Figure 2.3) and is therefore considered appropriate.

Overall, the proposed parking layout is generally designed in accordance with Council's TAPS PSP, apart from the identified performance solutions, which are deemed fit-for-purpose.

5.2.1. Bicycle Parking

The Bowen Hills PDA Development Scheme refers to Council's TAPS PSP for the relevant bicycle parking rates. Table 21 of Council's TAPS PSP contains standard cycling provisions for selected land uses.

A bicycle parking supply rate for the proposed conference centre land use is not specified by Council's TAPS PSP. Therefore, the proposed development is not required and does not propose any formal bicycle parking provision on-site.

However, there is a store in the Lower Ground Level car park, which could be utilised for bicycle storage as required.

6. Access Arrangements

6.1. Vehicular Access – Services Laneway

The development plans include a single vehicular access to / from the services laneway – Modified Type C1 (13.3m) crossover at the centre of the site frontage, accommodating separated car and service vehicle movements, with all movements / turns permitted. A central linemarked pedestrian zone is provided between the separate elements.

It is recognised that there are two (2) existing kerbside car spaces provided along the services laneway, both on the subject site side of the laneway. To accommodate the access crossover and movement demands of the access (including turning for larger service vehicles), these spaces will need to be removed and replaced with 'no parking' signs (or yellow linemarking).

While two (2) existing kerbside spaces would need to be removed, this would enable all car parking and service vehicle movements to be contained to the services laneway and away from Campbell Street, where the existing development over the site gains all car parking and servicing access.

The design provisions of the service laneway access and the respective provisions of Council's TAPS PSP are detailed in Table 6.1.

Table 6.1: Services Laneway Access Arrangements

Design Aspect	TAPS PSP Requirement	Proposed Provision	Compliance
Width / crossover type to accommodate: • Cars[1,2] • Service Vehicles[1,3]	 Type B1 Type B2 (6.5m)	 Modified Type C1 (13.3m) Modified Type C1 (13.3m)	 TAPS PSP Compliant TAPS PSP Compliant
Distance from: • Minor intersection[1] • Adjacent driveway[1]	 10m (min) 3m (min)	 ~30m >3m	 TAPS PSP Compliant TAPS PSP Compliant
Sight distance[1,2]	90m (desirable) 70m (minimum)	~30m to the west, clear sight to the Hurworth Street intersection	TAPS PSP Compliant
Driveway sight splays	2.0m wide x 2.0m deep (on each side)	N/A	See Access Design Aspect 1
Minimum queuing provisions	1 vehicle / 6m	0.8 vehicles / 5m	See Access Design Aspect 2
Maximum driveway grade	1:20 (5.0%) maximum within first 6m	Flat	TAPS PSP Compliant

[1] Based on the services laneway being classed as a 'minor road' and a speed limit of 50km/h.

[2] Based on the access servicing low/medium turnover car parking spaces.

[3] Based on the access servicing design service vehicles up to the size of an RCV.

The proposed services laneway access arrangements are generally consistent with the provisions of Council's TAPS PSP. Further details in relation to deemed compliance of required provisions, or justification for design aspects resolved with performance solutions, are provided below.

Access Design Aspect 1

It is not anticipated that pedestrians will be approaching the development via the services laneway, given it is a dead-end road and the preferred pedestrian access is via the Campbell Street frontage, with easy access to the foyer and lifts.

However, convex mirror could be provided in the vicinity of the access, to assist with visibility between egressing vehicles as well as with pedestrians.

Access Design Aspect 2

It is noted that the proposed development scheme does not include sufficient internal queuing provision between the new property boundary (after verge widening) and the first car space for a full car length (6m) of queueing - approximately 5m provided. Notwithstanding, this is considered acceptable, given:

- Car parking for the proposed land use is low turnover and queuing, either ingress or egress, will rarely occur and not impact the overall road network.
- The access crossover connects to the services laneway, which is a dead-end road of which only two (2) additional properties gain access. Therefore, any occasional pause between ingressing and egressing vehicles will be limited to vehicles associated with the subject site and the property immediately opposite, which will not impact the surrounding external road network.
- There is sufficient space within the services laneway for turnaround or corrective manoeuvres.

6.2. Active Transport Access

The primary pedestrian access is provided along the Campbell Street frontage, connecting to the proposed development's foyer (Upper Ground Level).

While cyclists may also use this access, the primary cyclist access point would be provided along the services laneway frontage, given the potential bicycle parking store is likely to be located on the Lower Ground Level.

7. Service Vehicle Arrangements

7.1. Council Requirements

The services laneway at the rear of the subject site does not have a classification in Council's Road Hierarchy Overlay, but would be considered a minor road. Therefore, Council's TAPS PSP permits all vehicles to utilise a reverse manoeuvre at either ingress or egress.

Section 3 of Council's TAPS PSP identifies the following in relation to design service vehicles and loading bays for the proposed development uses as well as the proposed provisions, are summarised in Table 7.1.

Table 7.1: Council's TAPS PSP Service Vehicle Requirements and Provisions

Land Use	Design Vehicle		Loading Bay Requirements	
	Regular Access	Occasional Access	RCV	SRV
Function Facility	RCV	AV	1[1]	-
Educational Establishment	RCV	AV / COACH		-
Proposed Provisions	**RCV**	**SRV**	**Shared use of bay**	

AV = 19m Articulated Vehicle | COACH = 12.5m Bus | SRV = 6.4m Small Rigid Vehicle | RCV = Refuse Collection Vehicle

[1] Section 3.3 of Council's TAPS PSP indicates that a minimum of one (1) loading bay is required for the regular access vehicle, if no specific loading bay provisions are indicated in Tables 2, 3 or 4.

The provision for an AV / COACH design service vehicle for these land uses is primarily for delivery vehicles and student transport to gain access. This is reflected in Table 1 (Column 2) of Section 3.2 of Council's TAPS PSP, which nominates these vehicles as the occasional design vehicles. This is not considered appropriate for the proposed development, for the following reasons:

- An AV would not be able to access the subject site via the services laneway and it is expected that it would experience considerable difficulties accessing the services laneway itself. In the event that a vehicle of this size was required to service the development, this would need to be undertaken by utilising traffic management.
- The size of the subject site and services laneway result in limitations on the length and height of design service vehicles that could potentially access the site.
- Use of a COACH to transport people to the subject site is not expected, with this vehicle size more likely for other types (i.e. larger) of educational establishment.

Council's TAPS PSP also details the following with respect to vehicle manoeuvring and on-site standing:

Occasional Access Service Vehicles

- The design service vehicle can perform a reverse movement, regardless of frontage road classification, for one (1) movement to / from the site.

- The vehicle can stand wholly contained within the site, clear of the verge.
- No formal loading bay provision is required.

Regular Access Service Vehicles

- This vehicle can enter and leave the site in a forward gear.
- This vehicle parks/stands in a dedicated on-site loading bay.
- A minimum of one (1) loading bay is required for the regular access vehicle for each land use.

7.2. Proposed Loading Provisions

7.2.1. Design Vehicles

The development scheme proposes to adopt an SRV as the occasional access service vehicle and a rear-lift RCV as the regular access service vehicle, noting the constraints of the services laneway and subject site on design vehicle length and height.

It is considered appropriate that the largest design service vehicle will be an RCV (Council 10.24m length rear-lift) design vehicle, complimented by an SRV design vehicle for deliveries.

7.2.2. Loading Bay Provisions

The development scheme makes allowance for one (1) loading bay on the Lower Ground Level. This would be shared between the anticipated RCV and SRV design service vehicles. Given the anticipated infrequent demand for service vehicles, this provision / arrangement is considered acceptable.

7.2.3. Refuse Collection Provisions

A site-specific Refuse Management Plan has been developed for this site, which will be submitted to EDQ as part of this Development Application.

Given the nature and scale of the development use, bulk bins serviced by a rear-lift RCV has been considered the optimal strategy for refuse collection. A permanent bin store would be located adjacent to the Loading Bay.

The rear-lift RCV – Council 10.24m design service vehicle – would enter the site in reverse gear to access the loading bay. Once refuse collection has been completed, the vehicle would exit the subject site in a forward gear.

7.3. Proposed Service Vehicle Design Provisions

In terms of service vehicle operations for the proposed development, all vehicles will need to enter with a reverse manoeuvre, before exiting the subject site in a forward gear, all via the services laneway crossover.

Table 7.2 overleaf identifies the service vehicle design provisions, with respect to Council's TAPS PSP requirements.

Table 7.2: Council's TAPS PSP Service Vehicle Design Requirements and Provisions

Design Aspect	TAPS PSP Requirement	Proposed Provision	Compliance
Loading bay length: • SRV bay • RCV bay	 • 7.0m (min) • 10.5m (min) + 1.5m for operations = 12m total	 • >7.0m • 10.5m + 2.34m for operations = 12.84m total	 TAPS PSP Compliant TAPS PSP Compliant
Loading bay width: • SRV bay • RCV bay	 • 3.5m (min) • 3.5m (min)	 • 4.0m • 4.0m	 TAPS PSP Compliant TAPS PSP Compliant
Loading grades: • SRV standing • RCV standing	 • 1:20 (5.0% max) • 1:20 (5.0% max)	 • Flat • Flat	 TAPS PSP Compliant TAPS PSP Compliant
Height clearance: • SRV • RCV (rear-lift)	 • 3.5m (min) • 3.6m (min)	 • >3.5m • >3.6m	 TAPS PSP Compliant TAPS PSP Compliant
Vehicle manoeuvring	Occasional access vehicles can complete reverse-in movement from road for one (1) movement. Regular access vehicles are required to turn around wholly on-site. Demonstrate access to all loading bays for the design vehicles, while maintaining minimum 0.3m manoeuvring clearance to all obstructions.	All service vehicles must enter in reverse gear, before exiting in forward gear. All service vehicles can access the loading bay, while maintaining minimum 0.3m manoeuvring clearance to all obstructions.	See Servicing Design Aspect 1

Swept path analysis for the proposed development's design service vehicles has been undertaken and is provided in Appendix B. Individual manoeuvring figures for the design service vehicles are as follows:

- TTM Figure 24BRT0800-02: 10.24m rear-lift RCV.
- TTM Figure 24BRT0800-03: 6.4m SRV.

The proposed servicing arrangements are therefore considered appropriate and generally consistent with the requirements of Council's TAPS PSP. Further details in relation to deemed compliance of required provisions, or justification for design aspects resolved with performance solutions, are provided below.

Servicing Design Aspect 1

Council's TAPS PSP requires that all regular access service vehicles enter and exit the subject site in a forward gear (on-site turnaround). The regular design service vehicle – rear-lift RCV – must access the site via a reverse-in movement, due to the constraints of the services laneway and subject site.

However, this is considered acceptable given the existing and future conditions within the services laneway. It is a minor road, with limited pedestrian / vehicle activity. Delays and queuing as a result of service vehicle manoeuvring within the laneway would be minor and would not impact the surrounding road network, outside of the services laneway.

8. External Road Network Impact

8.1. Development Traffic Demands

8.1.1. Existing Development Traffic Generation

It is recognised that, within the City Frame where maximum parking provisions are applied to all non-residential uses, a development's on-site car parking provision will dictate its peak hour traffic generations, rather than total floor area, as is typical outside of the City Frame. Therefore, instead of utilising peak hour traffic generation rates based on floor area ('per m^2'), it is considered more appropriate to calculate the peak hour traffic generations of the existing development based on car parking ('per car space').

It is noted that the recently demolished building on-site was most recently operating as a dog day care centre and pet surgery – which would be removed as part of the proposed development. However, this building has generally been leased and operated as office / commercial space.

In order to estimate the traffic generation of the existing development, reference is made to the Roads & Maritime Services (RMS) *Guide to Traffic Generating Developments – Updated Traffic Surveys* (2013) and the relevant survey data taken for office/commercial developments.

A total of ten (10) office blocks were surveyed within the Sydney area. With the peak hour traffic generations and on-site car parking provisions identified for each of the sites surveyed, an equivalent 'per parking space' generation rate can be calculated for each. These calculations are outlined in Table 8.1.

Table 8.1: RMS Peak Hour Traffic Generations for Office Blocks on 'Per Parking Space' Basis

Office Site	Size (m2 GFA)	Parking Supply	Survey Date	AM Road Peak Period				PM Road Peak Period			
				IN	Out	Total	Generation (vph/space)	IN	Out	Total	Generation (vph/space)
100 Arthur Street, North Sydney	31400	136	Dec-09	44	0	44	0.324	0	33	33	0.243
9 Help Street, Chatswood	10214	142	Dec-09	42	0	42	0.296	1	49	50	0.352
2-4 Dawn Fraser Avenue, Sydney	34131	574	Nov-09	155	3	158	0.275	5	122	127	0.221
33 Macmahon Street, Hurstville	3254	66	Dec-09	27	0	27	0.409	0	17	17	0.258
16 Giffnock Avenue, Macquarie Park	5748	269	Dec-09	74	4	78	0.290	7	56	63	0.234
1 Smith Street, Parramatta	27000	252	Feb-10	53	10	63	0.250	10	48	58	0.230
13-15 Moore Street, Liverpool	2817	28	Dec-09	8	1	9	0.321	2	6	8	0.286
10-12 Lexington Drive, Bella Vista	4500	83	Dec-09	16	2	18	0.217	0	6	6	0.072
22 Honeysuckle Drive, Newcastle	12182	200	Feb-10	86	3	89	0.445	4	76	80	0.400
77 Market Street, Wollongong	12921	133	Feb-10	45	0	45	0.338	6	44	50	0.376
Staff parking number only				**Average Generation**			**0.317**	**Average Generation**			**0.267**
				85th Percentile Generation			**0.384**	**85th Percentile Generation**			**0.368**

Based on the information outlined above, it is considered appropriate to adopt a 'per parking space' generation rate of 0.4 vph per car space, for both the weekday AM and PM peak hour periods.

Regarding directional splits, in line with generally accepted transport engineering practice, these are estimated to be:

- Weekday AM Peak Hour: 90% inbound / 10% outbound.
- Weekday PM Peak Hour: 10% inbound / 90% outbound.

Application of the above generation rate and directional splits would result in existing development traffic demand estimates as shown in Table 8.2.

Table 8.2: Traffic Generation Estimate – Existing Development

Yield	Peak Hour Generation Rate	AM Peak Hour (vph)			PM Peak Hour (vph)		
		In	Out	Total	In	Out	Total
10 car spaces	0.4 vph per car space	3	1	4	1	3	4

8.1.2. Proposed Development Traffic Generation

Similar to the existing development, the proposed development's on-site car parking provision will dictate its peak hour traffic generations, rather than floor areas. It is envisaged that all car parking would be utilised by staff or designated. Therefore, the office 'per car space' generation rate identified above would be suitable.

Application of the above generation rate and directional splits would result in the traffic demand estimates for the proposed on-site car parking, as shown in Table 8.3.

Table 8.3: Traffic Generation Estimate – Proposed Development (Typical Day)

Yield	Peak Hour Generation Rate	AM Peak Hour (vph)			PM Peak Hour (vph)		
		In	Out	Total	In	Out	Total
18 car spaces	0.4 vph per car space	7	1	8	1	7	8

This would represent a typical weekday for the proposed development, where typical operational staff would be on-site. However, it is anticipated that the 400-seat capacity theatre would be utilised for the following purposes:

- Infrequent (i.e. fortnightly) use by the CFMEU for presentations / training – close to or full capacity.
- More frequent use by other entities, including the CFMEU, for smaller events where only a portion of the theatre capacity would be utilised. This could include performances, rehearsals and classes.

With visitors for these type of events unlikely to use the on-site car parking, a range of travel modes would be anticipated to be utilised:

- On-street car parking (within Brisbane Central Traffic Area – refer to Section 3.4 for restrictions).
- Off-street car parking at a nearby off-street facility (paid).
- Pick-up / drop-off within the surrounding road network, either within the services laneway (2-minute loading zone is provided for a single vehicle), along Hurworth Street or within the local road network north of Campbell Street (in the vicinity of the Bowen Hills Railway Station).
- Public transport, particularly rail, given the site's proximity to Bowen Hills railway station.
- Active transport.

It is anticipated that these events, including associated travel, would occur outside of the surrounding road peak periods – either in the middle of the day or after the PM peak hour period and be comprised of high levels of public and active transport use. Therefore, typical weekday peak hour period traffic generations only have been calculated.

8.1.3. Warrants for Further Assessment

Acceptable Solution AO2 of the Road Hierarchy Overlay Code identifies that development traffic impacts be quantified and mitigated for an 'assessable development for material change of use' which meets any of the following triggers:

- is classified as a major development – *Council's TAPS PSP defines a 'major development' as one with a total peak hour traffic generation exceeding 25 vph*; or
- involves an access driveway to a major road; or
- involves an access driveway within 100m of a signalised intersection.

The proposed development's only access driveway is provided to the services laneway (a minor road) and is not within 100m of a signalised intersection. The proposed development's traffic generation is typically expected to be up to 8 vph in the weekday peak hours, which indicates that it will not be a 'major development'.

Based on the above information, TTM does not consider a detailed Traffic Impact Assessment (TIA) to be necessary and it is expected the proposed development will have no adverse impacts on the surrounding road network.

9. Summary of Findings

The following is a summary of the findings of the transportation engineering assessment for the proposed conference centre, to be located at 10-12 Campbell Street, Bowen Hills:

9.1. Proposed Development

The proposed development is comprised of a single building conference centre, with a total GFA of 1,470m^2.

9.2. Parking Arrangements

Car parking supply requirements for the proposed development – located in the City Frame – have been determined in accordance with Council's TAPS PSP, as referenced by the Bowen Hills PDA Development Scheme. A maximum rate is applicable to all non-residential development.

The proposed development proposes 18 car parking spaces, which exceeds the TAPS PSP maximum requirement of 15 car spaces by three (3) spaces. This is considered acceptable, given the scale of the development and the additional car parking is not expected to have any significant transport impacts.

One (1) PWD space is provided on the Ground Level, which meets the requirements of Council's TAPS PSP and the BCA.

Car parking is provided across a single level (Ground Level). The proposed car parking layout is generally compliant with the requirements of Council's TAPS PSP and AS2890.1:2004.

9.3. Access Arrangements

The proposed development includes provision of a Modified Type C1 (13.3m) vehicular access to the services laneway. This would be utilised by both service vehicles and cars (separated movements), with a central linemarked pedestrian zone.

To accommodate the access crossover and associated movement demands (including turning for larger service vehicles), the two (2) existing kerbside car spaces along the site's services laneway frontage will need to be removed and replaced with 'no parking' signs (or yellow linemarking).

The proposed vehicular access arrangements are generally consistent with Council's TAPS PSP.

The primary pedestrian and cyclist access points are provided along the site's Campbell Street and services laneway frontages respectively, each connecting to either the Upper Ground Level foyer or the Lower Ground Level car park and lifts.

9.4. Service Vehicle Arrangements

Council's TAPS PSP identifies occasional and regular access for an AV / COACH and RCV respectively.

The development scheme proposes to accommodate a 6.4m SRV and rear-lift RCV for occasional and regular access respectively. A loading bay is also provided on-site, off the services laneway.

All service vehicles will need to enter the subject site via a reverse manoeuvre, followed by forward gear exit.

The proposed service vehicle provisions are generally consistent with Council's TAPS PSP.

9.5. Traffic Impact Assessment

The proposed development is anticipated to typically have weekday AM and PM peak hour traffic generations of 8 vph. The existing development for the site is anticipated to generate 4 vph during the same peak hour periods. Therefore, the proposed development is likely to result in a net increase in traffic generation of 4 vph in peak hours overall.

Noting Acceptable Solution AO2 of the Road Hierarchy Overlay Code, further assessment of the external road network surrounding the proposed development is not considered warranted, given the access driveway is to a minor road and not within 100m of a signalised intersection, with the typical estimated weekday peak hour traffic generations anticipated for the proposed development are in the range of daily fluctuations – one (1) additional vehicle every 15 minutes.

9.6. Conclusion

From the assessments undertaken and outlined in this report and provided that the recommendations identified are adopted, TTM does not see any transport engineering reason that would prohibit approval of the proposed development.

Appendix A Development Plans

Development Summary

The concept design for the **conference centre** at 10-12 Campbell Street has been designed to activate the existing urban streetscape and to provide a flexible event space for its users. Capacity will generally cater 406-478 patrons in flexible seating systems which allow multiple stage and seating configurations. In addition to operating as a function venue, the space can be used as peformance, rehearsal space and more general public uses, for example dance or performance classes, play-reading, meditation, and yoga groups.

Property Address: 10-12 Campbell Street, Bowen Hills, 4006

Lot Plan: Lot 4 of RP10074 and Lot 5 of RP10074

Zone: Bowen Hills Priority Development Area (PDA), Mixed Use Zone

Site Area: ~866 m^2

Maximum Plot Ratio: 2:1

Building Height:	At Campbell St -	17.60m (APPROX. ONLY, REFER TO SECTIONS)
(from kerb to roof)	At Laneway -	21.60m (APPROX. ONLY, REFER TO SECTIONS)

Proposed GFA: 1470 m^2 (REFER TO AREA PLANS, PAGE 31)

Proposed Site Cover: 798.5 m^2 = 92.2% (REFER TO AREA PLANS, PAGE 31)

Proposed Landscape Cover: 194 m^2 = 22.4% (REFER TO AREA PLANS, PAGE 31)

Proposed Carparking

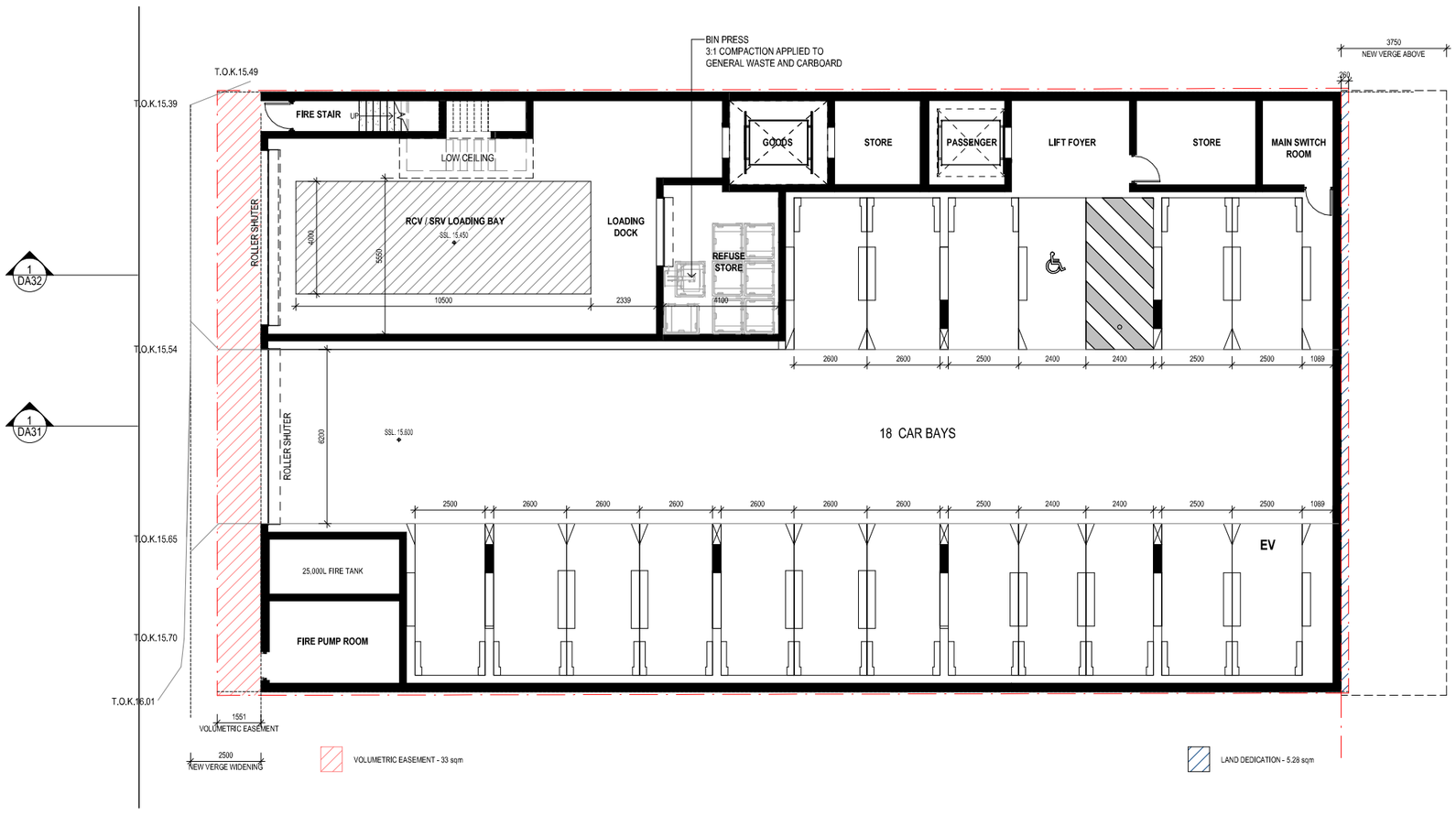
Car Parks: 17 Car Parking Bays + 1 Accessible Car Park

Service Vehicle

Refuse Collection Vehicle (RCV)

Small Rigid Vehicle (SRV)

Van Bay



1 LOWER GROUND
1 : 100

Client

CFMEU QLD/NT

Issue	Description	Date
5	Refuse	2024.04.09
4	Development Application	2024.04.08
3	For Information	2024.04.05
2	Draft for Coordination	2024.03.27
1	For Information	2024.03.13

DEVELOPMENT APPLICATION

Builder

Project Name
Bowen Centre - Auditorium and Conference Centre

Project Address
10-12 Campbell Street, Bowen Hills

Key Plan
0 2000 5000

Drawing Title:
LOWER GROUND FLOOR PLAN

Author:	Checker:	Sheet Size:	Scale:
TT	RM	A1	1:100

Drawing Number: **13190_DA01**

Issue: **5**

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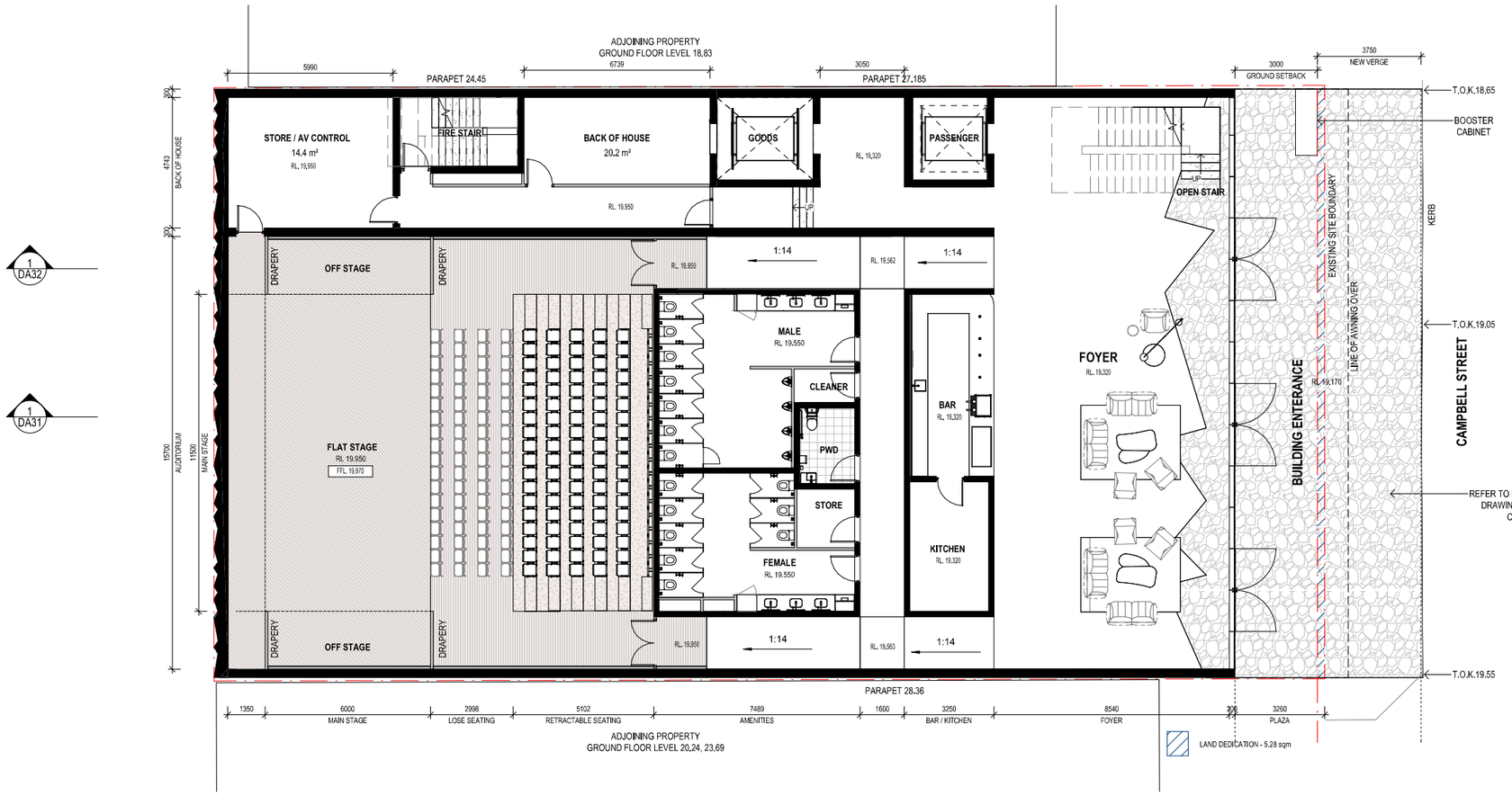
e: sydney@nettletontribe.com.au w: nettletontribe.com.au



1 DA32

1 DA31

1 Upper Ground Level
1 : 100

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4/8/2024 2:10:57 PM

Client

CFMEU QLD/NT

Issue	Description	Date
4	Development Application	2024.04.08
3	For Information	2024.04.05
2	Draft for Coordination	2024.03.27
1	For Information	2024.03.13

DEVELOPMENT APPLICATION

Builder

Project Name
Bowen Centre - Auditorium and Conference Centre

Project Address
10-12 Campbell Street, Bowen Hills

Key Plan
0 2000 5000

Drawing Title:
UPPER GROUND FLOOR PLAN

Author:	Checker:	Sheet Size:	Scale:
TT	RM	A1	1:100

Drawing Number: **13190_DA02**

Issue: **4**

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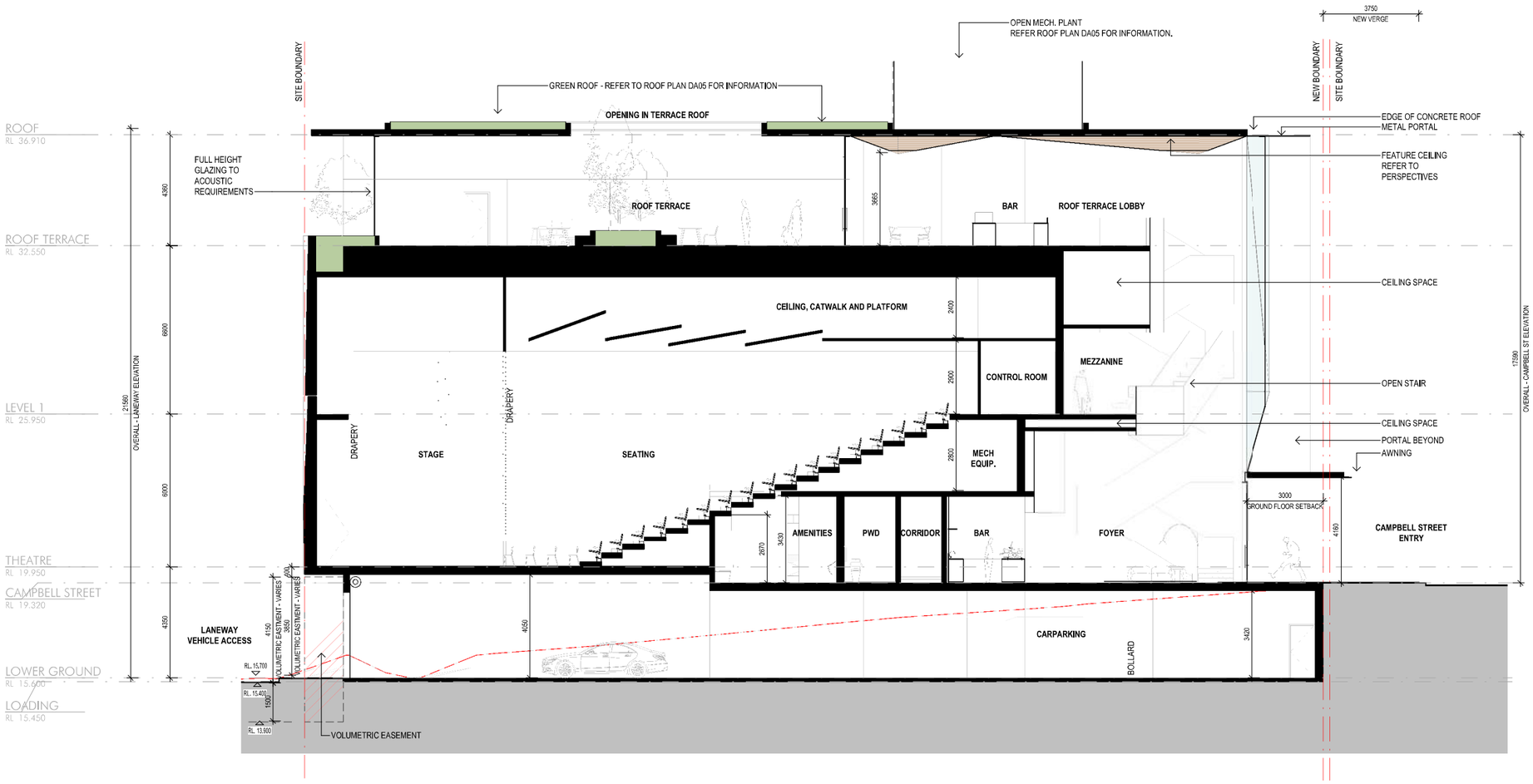

1 Auditorium Section 01 (Seating)
1 : 100

Client

Issue	Description	Date
4	Development Application	2024.04.08
3	For Information	2024.04.05
2	Draft for Coordination	2024.03.27
1	For Information	2024.03.13

DEVELOPMENT APPLICATION

Builder

Project Name
Bowen Centre - Auditorium and Conference Centre

Project Address
10-12 Campbell Street, Bowen Hills

Key Plan
0 2000 5000

Drawing Title:
AUDITORIUM SECTION - SHEET 1

Author:	Checker:	Sheet Size:	Scale:
TT	RM	A1	1:100

Drawing Number: **13190_DA31**

Issue: **4**

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117 Willoughby Road, Crows Nest, NSW 2065
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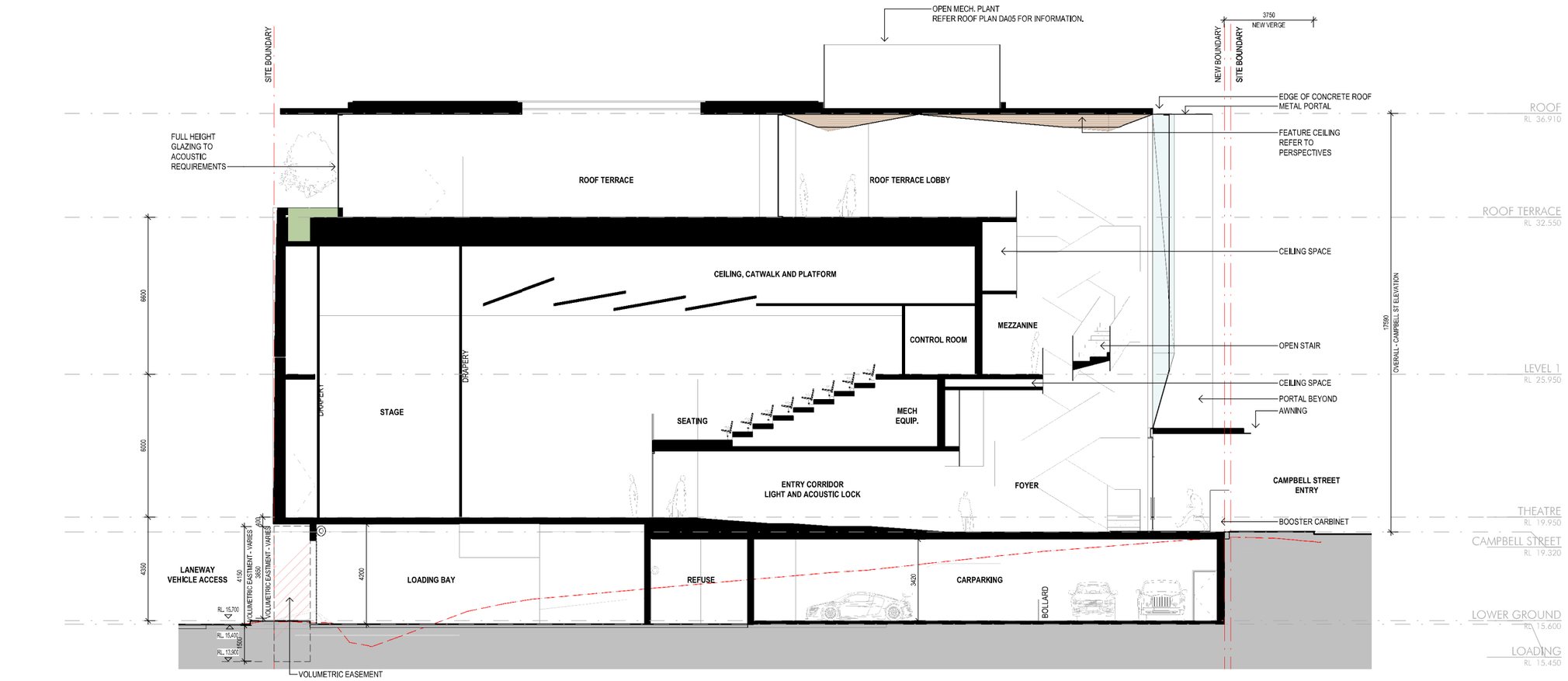

1 Auditorium Section 02 (Loading Bay)
1 : 100

Client

CFMEU QLD/NT

Issue	Description	Date
3	Development Application	2024.04.08
2	For Information	2024.04.05
1	Draft for Coordination	2024.03.27

DEVELOPMENT APPLICATION

Builder

Project Name
Bowen Centre - Auditorium and Conference Centre

Project Address
10-12 Campbell Street, Bowen Hills

Key Plan
0 2000 5000

Drawing Title:
AUDITORIUM SECTION - SHEET 2

Author:	Checker:	Sheet Size:	Scale:
TT	RM	A1	1:100

Drawing Number: **13190_DA32**

Issue: **3**

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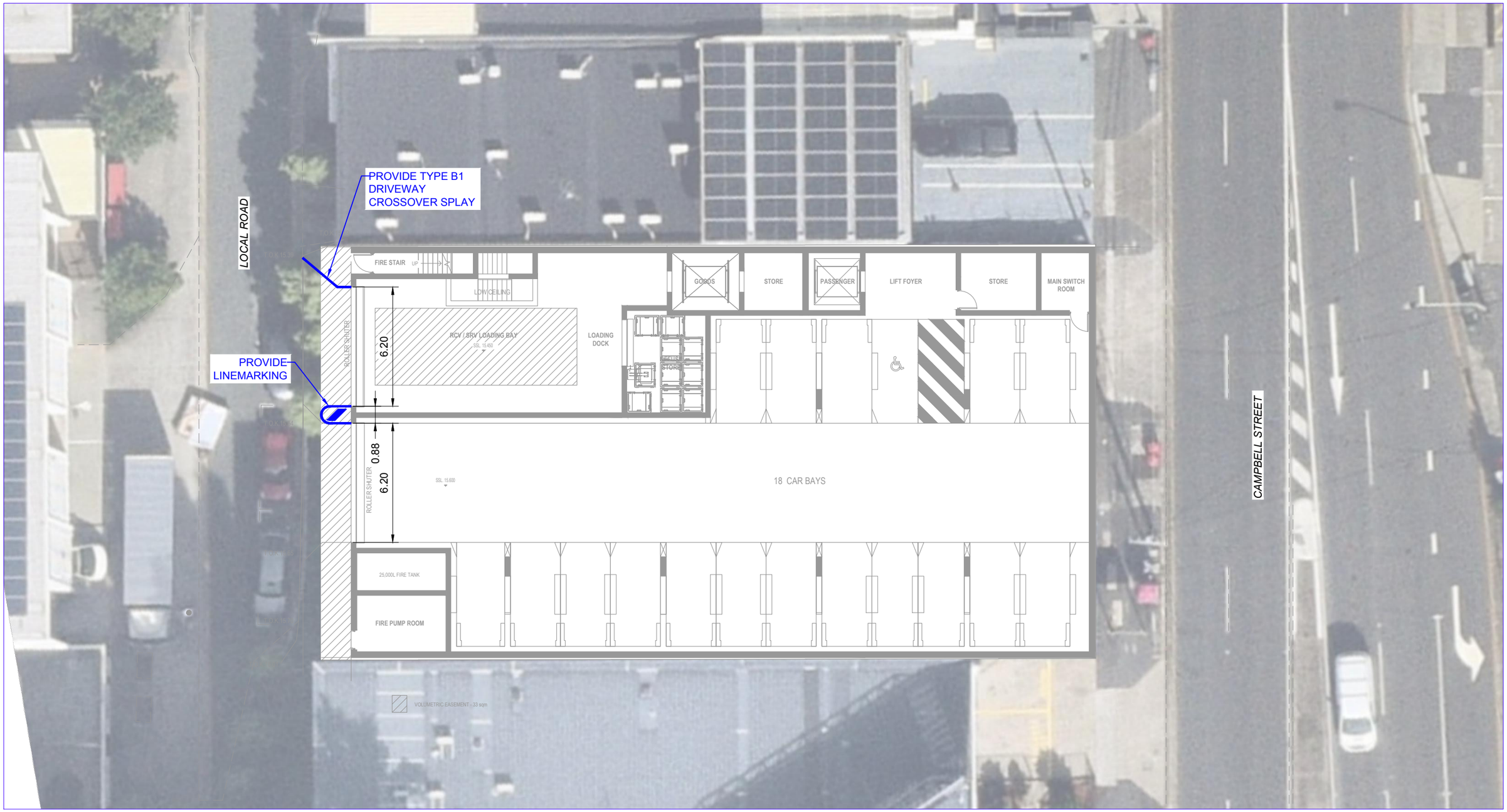
Appendix B TTM Figures



PRELIMINARY
ADVICE ONLY
9 April 2024

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	09-04-24	ORIGINAL ISSUE	DSF	RNB	GR

SCALE 0 2 4 6 8 10m
SCALE 1:200 AT ORIGINAL SIZE

NORTH

CLIENT
CFMEU
QLD/NT

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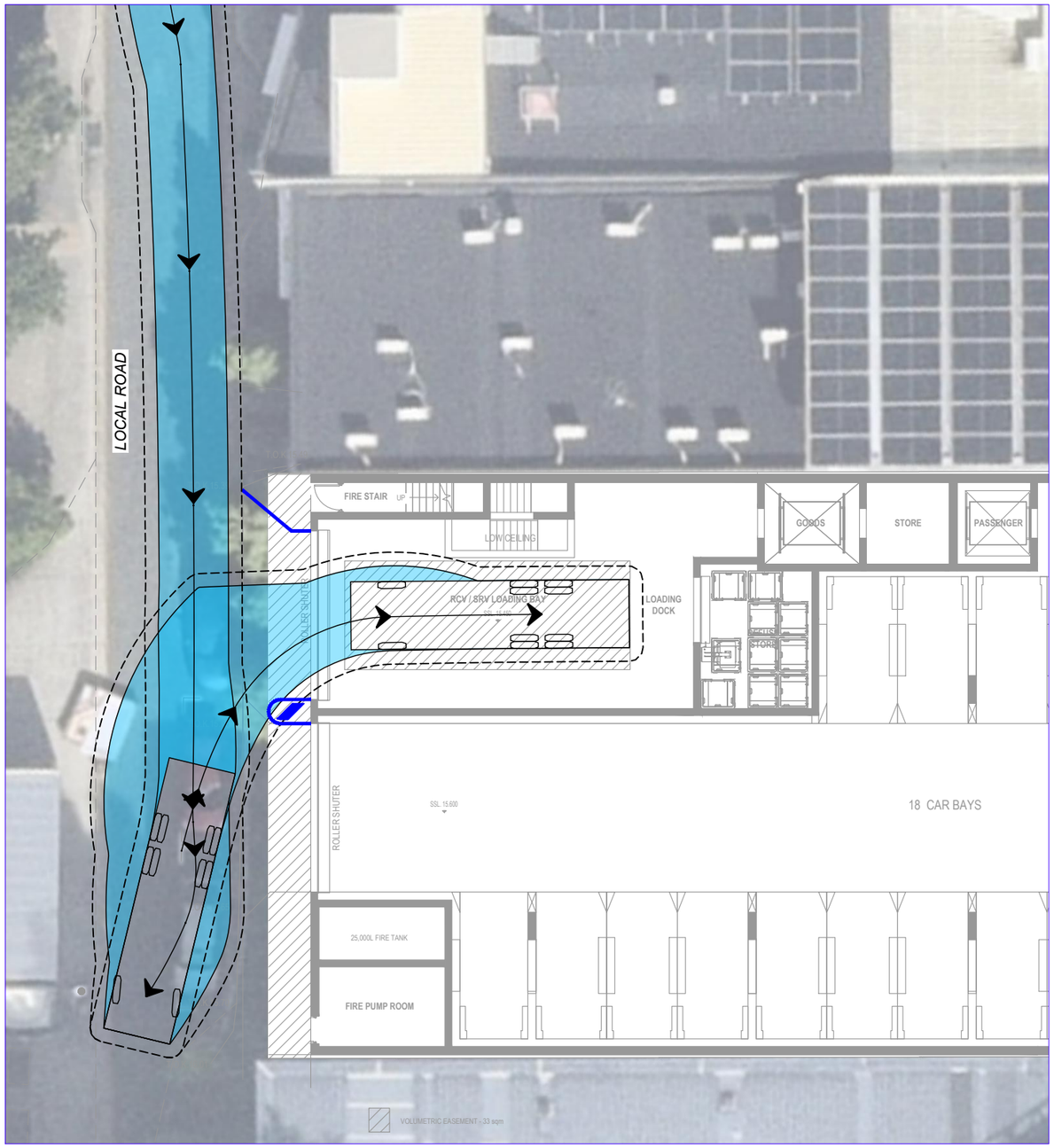
PROJECT
BOWEN CENTRE - AUDITORIUM AND CONFERENCE CENTRE AT 10-12 CAMPBELL STREET, BOWEN HILLS

DRAWING TITLE
LAYOUT REVIEW - RECOMMENDED LINEMARKING
GROUND LEVEL LAYOUT

PROJECT NUMBER	ORIGINAL SIZE
23BRT0800	A3
DRAWING NUMBER	REVISION
23BRT0800-01	A
DATE	SHEET
9 Apr 2024	1 OF 1

23BRT0800-F03A V00 RCV ACCESS.DWG



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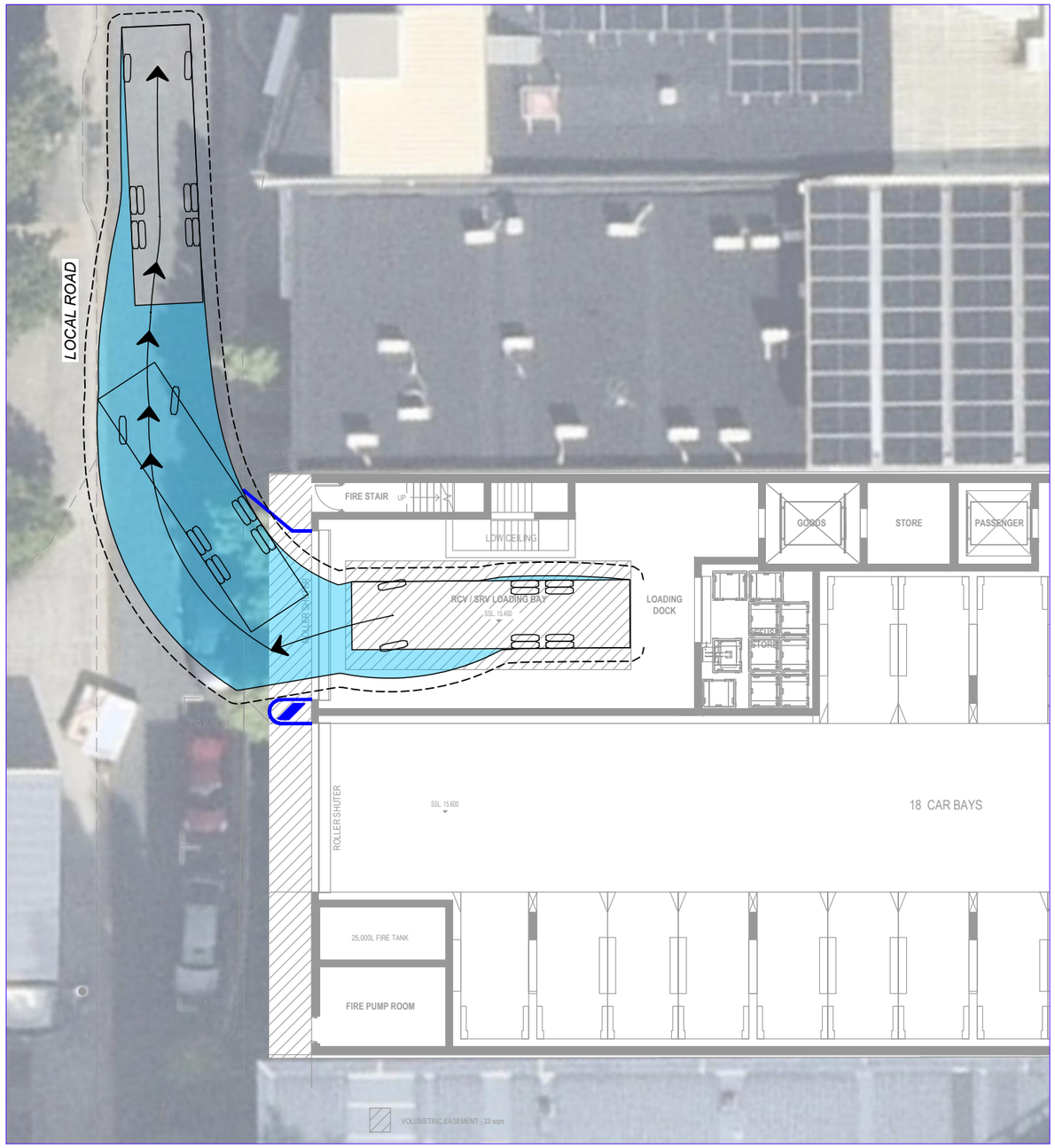

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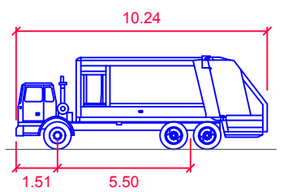

BCC Rear Loading	
Overall Length	10.240m
Overall Width	2.500m
Overall Body Height	3.600m
Min Body Ground Clearance	0.150m
Track Width	2.500m
Lock-to-lock time	6.00s
Steering Angle	38.9°
Design Speed Forward	5.00km/h
Clearance Envelope	0.500m

D.S Watkins
SENIOR ASSOCIATE DIRECTOR
DARRYL WATKINS RPEQ 23854
APPROVED 9 April 2024

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	09-04-24	ORIGINAL ISSUE	DSF	RNB	GR

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NORTH
CLIENT: CFMEU QLD/NT

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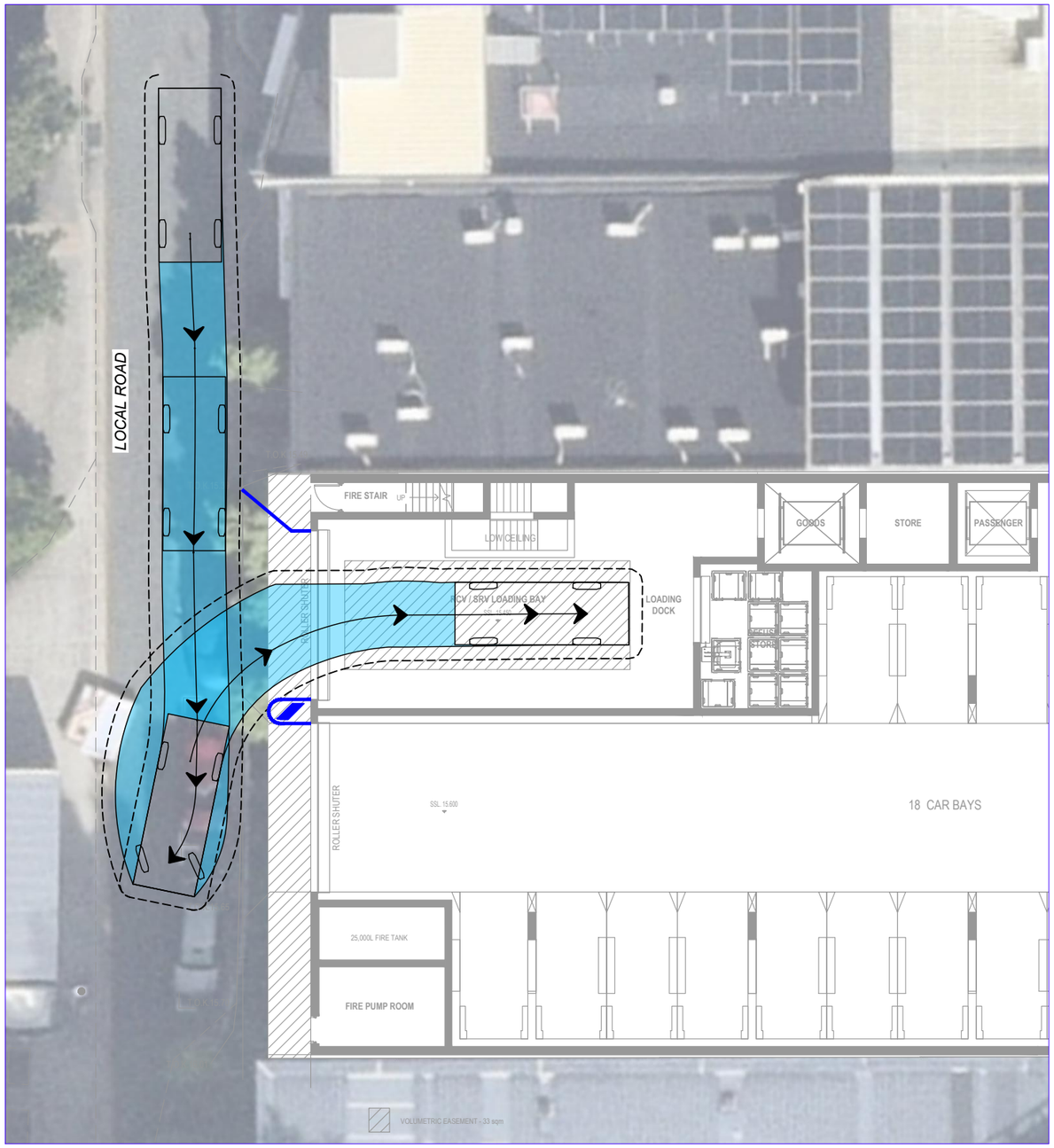
PROJECT: **BOWEN CENTRE - AUDITORIUM AND CONFERENCE CENTRE AT 10-12 CAMPBELL STREET, BOWEN HILLS**

DRAWING TITLE: **SWEPT PATH ANALYSIS**
10.24m REAR LOADING REFUSE COLLECTION VEHICLE

PROJECT NUMBER	ORIGINAL SIZE
23BRT0800	A3
DRAWING NUMBER	REVISION
23BRT0800-02	A
DATE	SHEET
9 Apr 2024	1 OF 1

23BRT0800-F03A V00 RCV ACCESS.DWG



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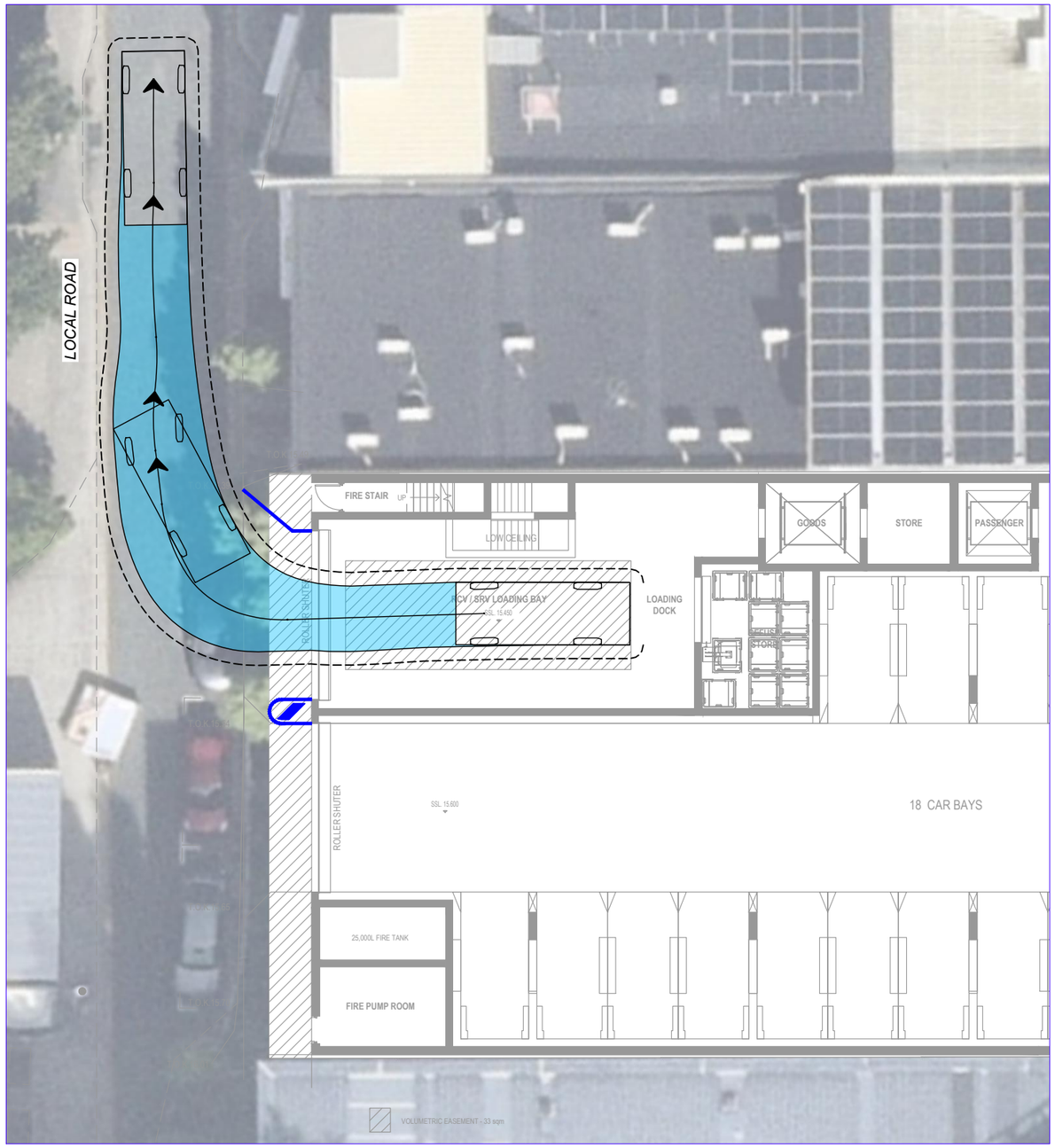

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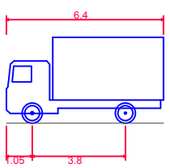

SRV - Small Rigid Vehicle

Overall Length	6.400m
Overall Width	2.330m
Overall Body Height	3.500m
Min Body Ground Clearance	0.398m
Track Width	2.330m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	7.100m
Design Speed Forward	5.00km/h
Clearance Envelope	0.500m

PRELIMINARY
ADVICE ONLY
9 April 2024

REV.	DATE	AMENDMENT DESCRIPTION	DRAWN	CHECKED	APPROVED
A	09-04-24	ORIGINAL ISSUE	DSF	RNB	GR

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PROJECT **BOWEN CENTRE - AUDITORIUM AND CONFERENCE CENTRE AT 10-12 CAMPBELL STREET, BOWEN HILLS**

DRAWING TITLE
SWEPT PATH ANALYSIS
6.4m SMALL RIGID VEHICLE

PROJECT NUMBER	23BRT0800
ORIGINAL SIZE	A3
DRAWING NUMBER	23BRT0800-03
REVISION	A
DATE	9 Apr 2024
SHEET	1 OF 1

23BRT0800-F03A V00 RCV ACCESS.DWG