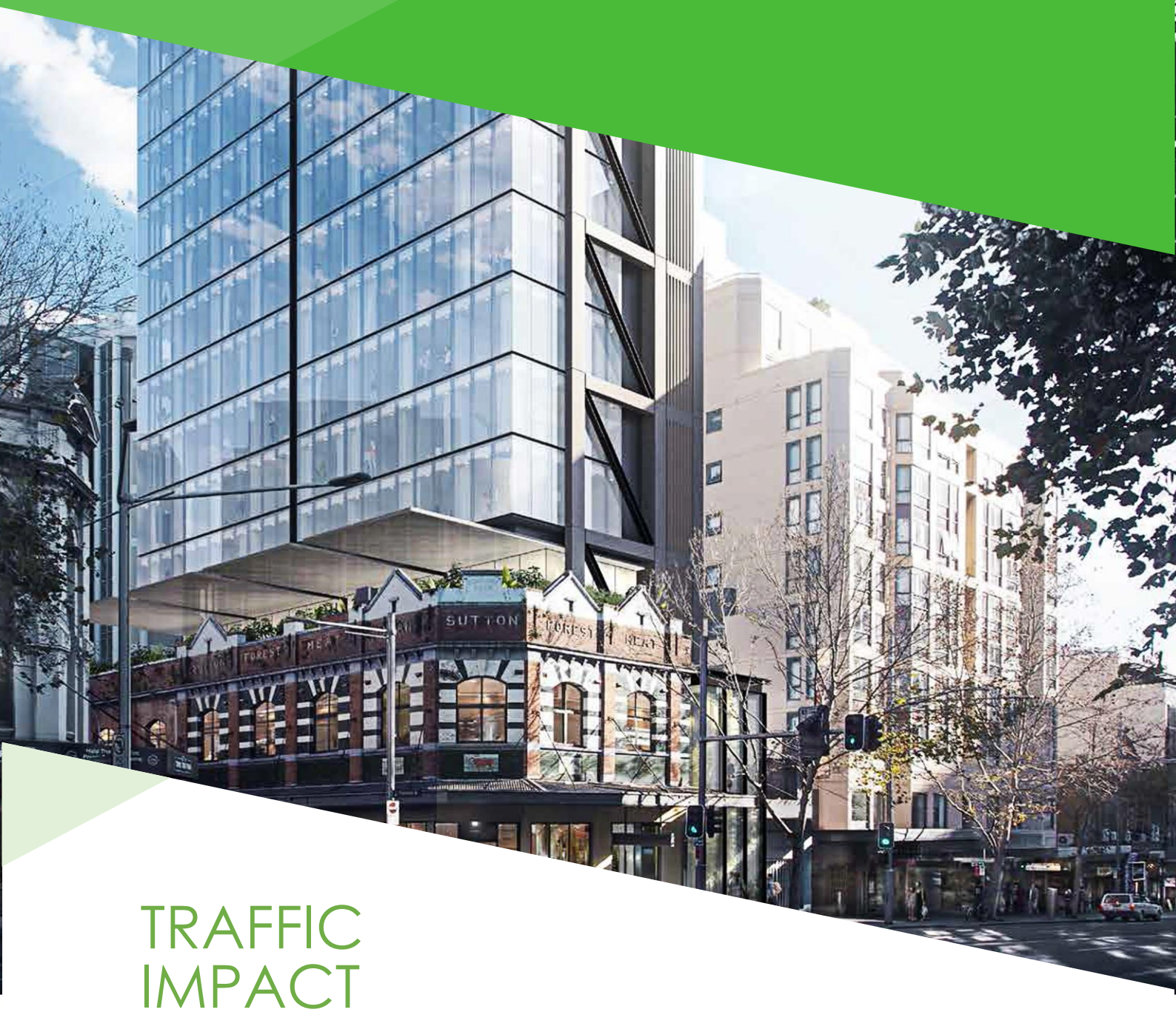
Attachment A21

Traffic Impact Statement
757-763 George Street, Haymarket



TRAFFIC IMPACT ASSESSMENT

Proposed Mixed-Use Development
757 – 763 George Street, Haymarket

Reference: 20.037r01v05
Date: October 2020

TRAFFIX
TRAFFIC & TRANSPORT PLANNERS

Suite 2.08, 50 Holt St
Surry Hills, NSW 2010

t: (02) 8324 8700
w: www.traffix.com.au

DOCUMENT VERIFICATION

Job Number	20.037			
Project	757 – 763 George Street, Haymarket			
Client	Samprian Pty Ltd			
Revision	Date	Prepared By	Checked By	Signed
v05	30/10/2020	Hayden Dimitrovski	Vince Doan	

CONTENTS

Appendices

Appendix A: Photographic Record

Appendix B: Quay Street Concept Plan

Appendix C: Reduced Plans

Appendix D: Queuing Analysis

Appendix E: Swept Path Analysis

1. INTRODUCTION

TRAFFIX has been commissioned by Samprian Pty Ltd to undertake a traffic impact assessment (TIA) to accompany a Planning Proposal for the site at 757 – 763 George Street, Haymarket. Approval is sought to vary the floor space ratio and building height controls under the City of Sydney Local Environmental Plan (2012).

An indicative reference scheme has been prepared by Grimshaw Pty Ltd, comprising a mixed-use development with of 280 hotel rooms, 2,418m^2 of hotel amenity gross floor area (GFA) and 171m^2 of retail space GFA. This report assesses the traffic impacts and parking requirements arising from this scheme, which is considered to be representative of the site being developed to its full potential when incorporating the proposed planning controls.

This report documents the findings of our investigations and should be read in the context of the Planning Proposal Justification Report, prepared separately. The future mixed-use development is considered to be a size or scale that would require referral to Transport for NSW (TfNSW), formerly Roads and Maritime Services (RMS), under the provisions of the State Environmental Planning Policy (SEPP) (Infrastructure) 2007.

The report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Documents existing road conditions
- Section 4: Documents existing public transport services
- Section 5: Describes the proposed development
- Section 6: Assesses the parking requirements
- Section 7: Assesses traffic impacts
- Section 8: Discusses access and internal design aspects
- Section 9: Presents the overall study conclusions

2. LOCATION AND SITE

The subject site is known as 757 – 763 George Street, Haymarket and is located on the western side of George Street and the northern side of Valentine Street. It is also located approximately 250 metres north-west of Central Railway Station.

The site has a total site area of approximately 1,030m^2 and consists of a two-storey heritage building and a three-storey retail development. The site has an irregular configuration with an eastern frontage of 23 metres to George Street, a southern boundary of 40 metres to Valentine Street, an eastern boundary of 30 metres and a northern boundary of 48 metres both to neighbouring commercial developments.

The site is currently zoned as B8 – Metropolitan Centre with a building height control of 50 metres and a base floor space ratio (FSR) of 9.9:1 (7.5:1 + 1.5:1 accommodation bonus + 10% design excellence bonus).

Vehicular access to the site is currently provided via George Street at the north-eastern end of the site and a secondary service vehicle access from Valentine Street. The previously approved development (DA/2017/353) included a new vehicular access along the site's western boundary with 187 Thomas Street, Haymarket.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**. Reference should also be made to the Photographic Record presented in **Appendix A** which provides an appreciation of the general character of roads and other key attributes in proximity to the site.

Figure 1: Location Plan

Figure 2: Site Plan

3. EXISTING ROAD CONDITIONS

3.1 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 3** with the following roads of particular interest:

- George Street: Part of an RMS Highway (HW5) west of the intersection of Quay Street and an unclassified Regional Road (RR 7300) between Park Street and Quay Street. George Street generally runs in a north-south direction between the Cross City Tunnel in the north-east and Harris Street in the south-west. Within the vicinity of the site, George Street is subject to a speed zoning of 40km/h. George Street generally caters for the light rail with traffic lanes varying.
- Valentine Street: a local road that generally traverses in an east-west direction between George Street in the east and Quay Street in the west. It is subject to a 40km/h speed zoning and carries a single lane of traffic in each direction within a 7.75m wide carriageway. Valentine Street predominantly permits ticketed kerbside parallel parking along the northern side with limited parking spaces available along the southern side of the street. The eastern end of the street is restricted to one lane with only left turns onto George Street permitted.
- Quay Street: a local road that generally traverses in a north-south direction between the intersection of George Street in the south and Hay Street in the north. It is subject to a speed zoning of 40km/h and carries a single lane of traffic in each direction within a 12.5m wide carriageway. The southern end of Quay Street at the intersection of George Street only allows for entry into Quay Street. Ticketed kerbside parking is permitted along both sides of the road.
- Thomas Street: a local road that traverses in an east-west direction between Thomas Lane in the north-east and forming a cul-de-sac in the west. Thomas Street between Quay Street and Thomas Lane allows for a single lane of traffic in a south-west direction within a 12.5m wide carriageway. Thomas Street is a high pedestrian area, subject to a speed zoning of 40km/h and permits limited time restricted parking in addition to several loading zones located along the street.

The subject site is located within close proximity of George Street, an arterial road servicing the area, allowing traffic to be distributed to the wider network.

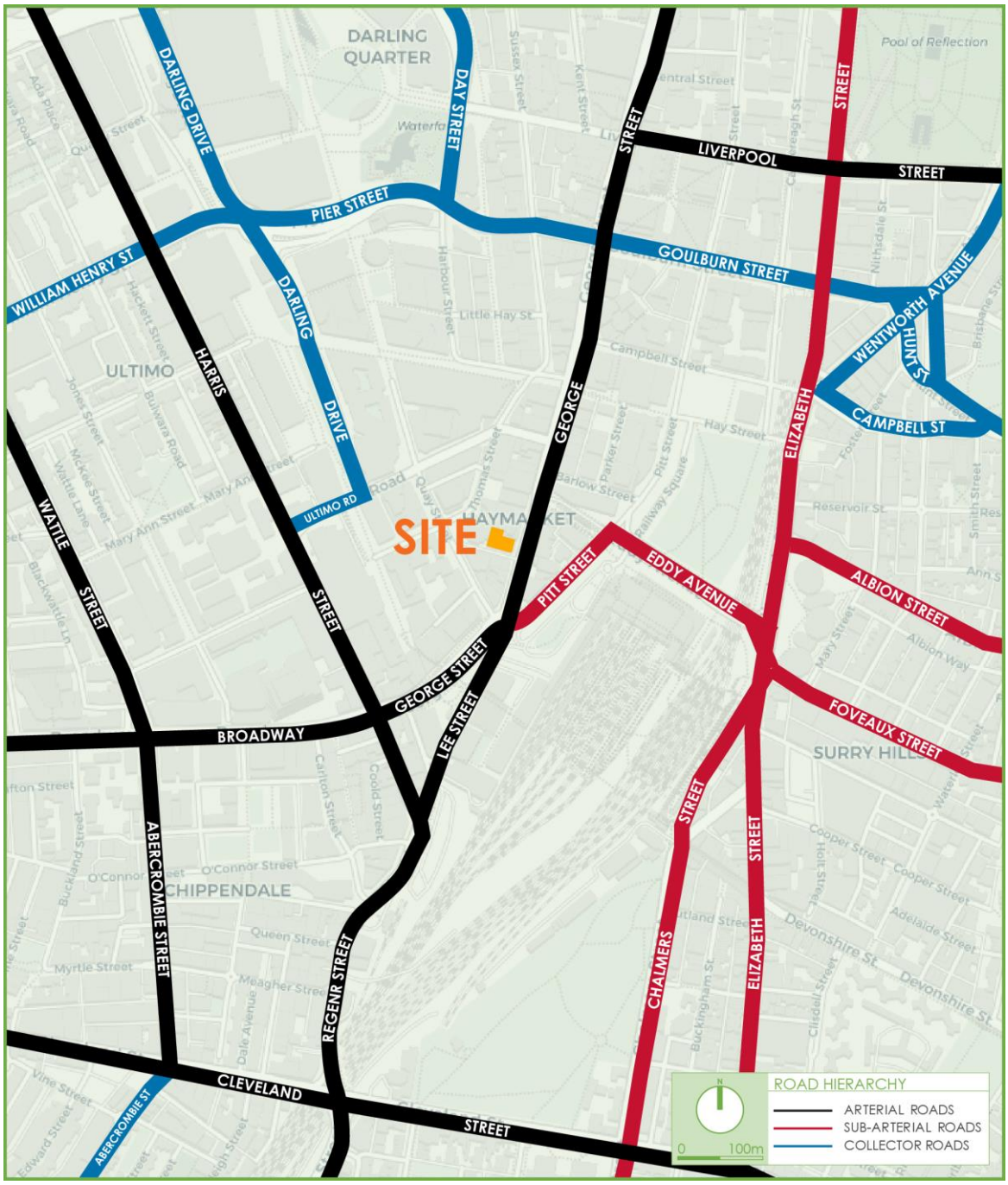


Figure 3: Road Hierarchy

3.2 Proposed Changes to Road Conditions

A number of significant changes are proposed in the vicinity of the site to improve pedestrian and cyclist connections with the aim of also improving connectivity between Central Station and Darling Quarter. It is noted that the proposed changes are subject to approval by the TfNSW. The proposed changes include the following:

- A new shared path along the western side of Quay Street between George Street and Ultimo Road;
- Closure of Quay Street between Thomas Street and Valentine Street to create a new public plaza area with a continuous footpath treatment envisaged for the intersection of Quay Street and Thomas Street; and
- Valentine Street, which allows for two-way flow of traffic under existing conditions is proposed to be converted to a one-way street with traffic flowing in an easterly direction. Additional parking will also be introduced along the southern side of Valentine Street.

A concept plan prepared by the City of Sydney is provided in **Appendix B** for reference.

3.3 Walking and Cycling

3.3.1 Walking Facilities

The site is ideally placed with several pedestrian facilities available in the locality. There are existing pedestrian footpaths surrounding the site, with footpaths provided along both sides of Thomas Street, Quay Street and Valentine Street. The signalised intersections of Quay Street and George Street and Ultimo Road and Quay Street provide signalised pedestrian crossings at all legs, providing pedestrians safe and efficient connections to the wider footpath network. It is also noteworthy that a through site link is provided between Thomas Street and George Street.

3.3.2 Cycling Infrastructure

The site is also located within proximity to separated bicycle lanes, off-road shared paths and bicycle friendly roads available throughout the area. These cycleways can be used concurrently with other bicycle routes to provide connections to various areas around Sydney. The existing cycling facilities are presented in **Figure 4**, with the cycleways summarised as follows:

Separated Bicycle Lanes	Sections of Darling Drive and Castlereagh Street accommodate off-road shared paths for bicycles. These routes provide access to areas towards Pyrmont, Darling Harbour and Sydney CBD.
Low Traffic On-road Routes	Quay Street, Hay Street and George Street accommodate low-traffic on-road routes. These routes provide access to areas such as Ultimo and Sydney CBD.
Off-Road Shared Paths	Sections of Harbour Street, Belmore Park and Tumbalong Park accommodate off-road shared paths for bicycles. These routes provide access to areas towards Pyrmont and Darling Harbour.
Wayfinding Signage Routes	Ultimo Road, Hay Street, Castlereagh Street and MaryAnn Street accommodate routes with wayfinding signage. These routes provide access to areas such as Ultimo and the Sydney CBD.

It can be seen from **Figure 4** that the site is conveniently located with respect to the various cycle infrastructure serving the locality. As such, the site is considered highly accessible via the existing cycling network.

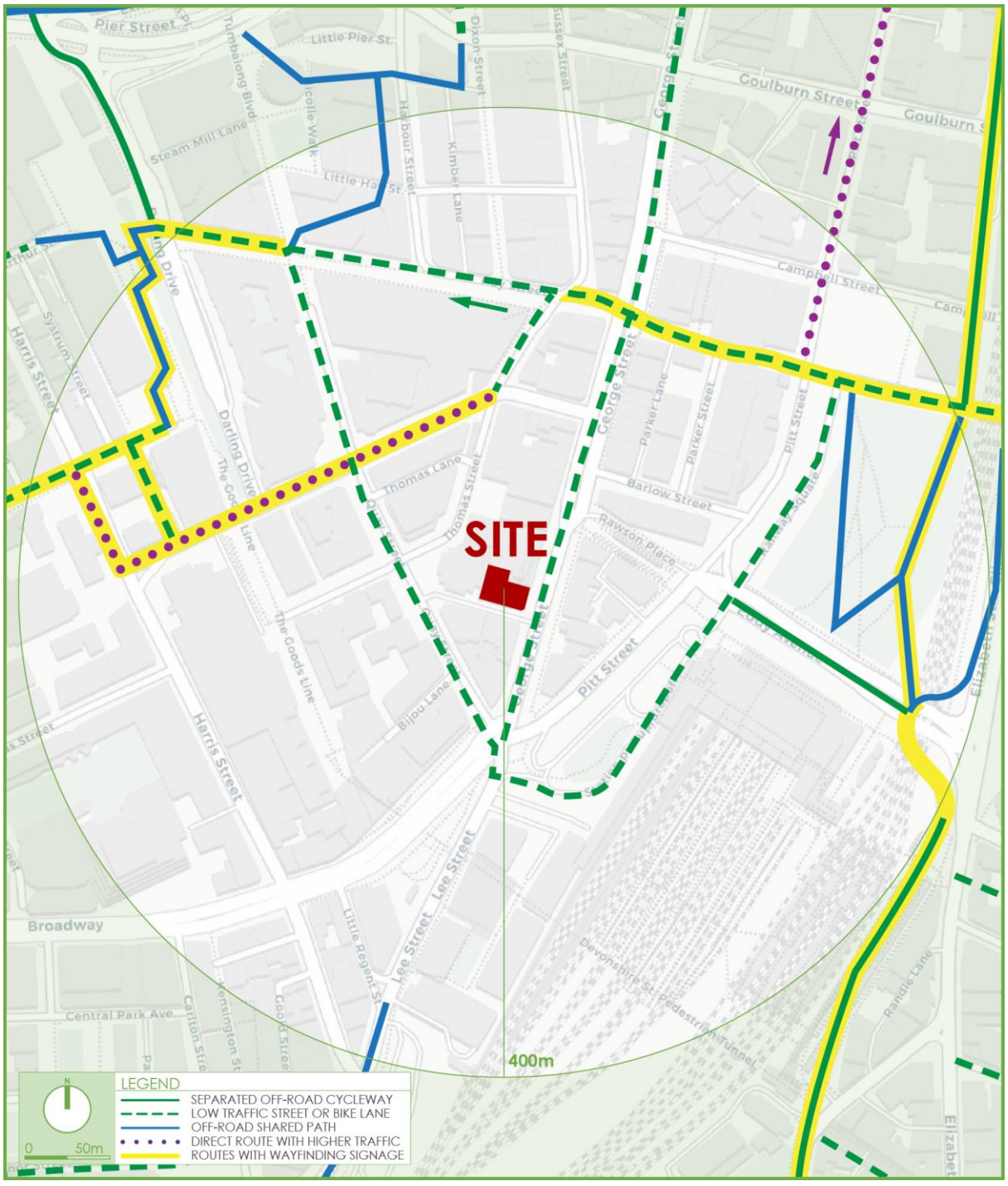


Figure 4: Existing Cycleways in the Locality

3.4 Existing Parking On-Street/Off-Street

3.4.1 Off-Street Parking

The existing site accommodates a carpark/serving area at the rear of the two development with a narrow lane accessed from George Street.

3.4.2 On-Street parking

Valentine Street provide an opportunity for on-street parking close to the site including timed parking, ticketed parking and time restricted loading zones. Parking adjacent to the site is discussed in detail below:

- Valentine Street: 20 metres of time restricted, ticketed parking '1P Ticket 8am-6pm Monday to Friday, 4P Ticket 6pm-10pm and 8am-10pm Saturday to Sunday and Public Holidays' in two separate sections.

  6m for an Authorised Car Share space.

  11 metres of time restricted, ticketed Loading Zone from 7am-6pm Monday to Friday and 7am- 10am Saturday and parking '4P 6pm-10pm Monday to Friday, 10am -10pm Saturdays and 8am-10pm Sunday and Public Holdiays'.

4. EXISTING PUBLIC TRANSPORT SERVICES

4.1 Bus Services

The site is located within 400 metres walking distance of bus stops on Eddy Avenue, George Street, Harris Street, Railway Square and Campbell Street which are serviced by the following routes and are presented in **Table 1** and **Figure 5**.

Table 1: Bus Routes Servicing the Area

Route Number	Route Name	Route Number	Route Name
308	Marrickville Metro to Central Eddy Ave	**431**	Glebe Point to City Martin Place
309	Banksmeadow to Central Railway Square	**438**	Abbotsford to City Martin Place
310X	Banksmeadow to Central Railway Square	**439**	Mortlake to City Martin Place
X93	Little Bay to Central Railway Square	**461**	Burwood to City Domain
309X	Port Botany to Central Railway Square	**470**	Lilyfield to City Martin Place
311	Millers Point to Central Railway Square	**L23**	Kingsgrove to City Martin Place
338	Clovelly to Central Railway Square	**L28**	Canterbury to City Martin Place
376	Maroubra Beach to Central Railway Square	**L38**	Abbotsford to City Martin Place
391	La Perouse to Central Railway Square	**L39**	Mortlake to City Martin Place
339	Clovelly to City Gresham Street	**M30**	Sydenham to Taronga Zoo
374	Coogee to City Circular Quay	**422**	Kogarah to Central Pitt St
372	Coogee to Central Railway Square	**433**	Balmain Gladstone Park to Central Pitt Street
393	Little Bay to Central Railway Square	**436**	Rodd Point and Chiswick to Central Pitt Street
395	Maroubra Beach to Central Railway Square	**480**	Strathfield to Central Pitt Street
412	Campsie to City Martin Place	**483**	Strathfield to Central Pitt Street
413	Campsie to City Martin Place	**440**	Bondi Junction to Rozelle
423	Kingsgrove to City Martin Place	**501**	West Ryde to Central Pitt Street
426	Dulwich Hill to City Martin Place	**891**	Central Eddy Avenue to UNSW High Street

Route Number	Route Name	Route Number	Route Name
428	Canterbury to City Martin Place	**M10**	Maroubra Junction to Leichhardt

Figure 5: Bus Services in the Locality

It can be seen from Figure 5 that there are several bus services operating in the locality, which provide regular and accessible routes throughout the Sydney region. As such, the site is conveniently placed and highly accessible through the bus network.

4.2 Railway Services

4.2.1 Sydney Trains

The site is located approximately 250 metres northwest of Central Railway Station. The services operating at this station are summarised in **Table 2**.

Table 2: Central Railway Station Existing Services and Routes

Train Line	Routes	Train Line	Routes
CCN	Central Coast and Newcastle Line	**BMT**	Blue Mountains Line
SHL	Southern Highlands Line	**T1**	North Shore, Northern and Western Line
SCO	South Coast Line	**T2**	Inner West and Leppington Line
Regional NSW	North Coast NSW	**T3**	Bankstown Line
	North West NSW	**T4**	Eastern Suburbs and Illawarra Line
	Southern NSW	**T7**	Olympic Park Line
	Western NSW	**T8**	Airport and South Line

4.2.2 Sydney Metro

Central Railway Station will also provide services across the future Metro Line between Tallawong Station in Rouse Hill in the north and Bankstown Station in the south.

4.3 Light Rail Services

Further to this, the site is located within 400 metres of several light rail stations along the Inner West and Sydney CBD light rail lines. The Inner West Line provides services to 23 stations along the L1 line between Central and Dulwich Hill. The existing stations located close to the site are outlined below:

- Central Station
- Capitol Square
- Paddy's Market

The Sydney CBD and South East lines provides access to the L2 and L3 services between Circular Quay, Randwick and Kingsford. The stations located within walking distance of the site are outlined below:

- Haymarket
- Chinatown

It is therefore evident the site benefits from excellent connections to a multitude of public transportation options as presented in **Figure 6**. The site is located approximately 250 metres northwest of Central Railway Station and within very close proximity of numerous bus stops and light rail stations in the area which provide an extensive number of services that service the Sydney Metropolitan area, notwithstanding the site is within walking distance of the Sydney CBD.

Figure 6: Railway and Light Rail Stations in the Locality

4.4 Car Share Services

The subject site is situated within 400 metres of 8 GoGet car pods. Car share services are able to cater for short-term car related trips. These GoGet pods are presented in **Figure 7**, with the locations summarised as follows:

- Valentine Street, approximately 24 metres west of George Street
- Quay Street, approximately 60 metres northwest of Broadway
- Thomas Street near Quay Street, approximately 13 metres west of Quay Street
- Ultimo Road, approximately 18 metres east of Thomas Street
- Quay Street near Ultimo Road, approximately 57 metres north of Ultimo Road
- Parker Street, approximately 30 metres south of Hay Street
- Mary Ann Street at the intersection with Omnibus Lane
- Sussex Street near Little Hay Street, approximately 9 metres north of Little Hay Street

It should be noted that additional GoGet pods can also be requested closer to and / or within the site, subject only to any future additional demonstrated demand.

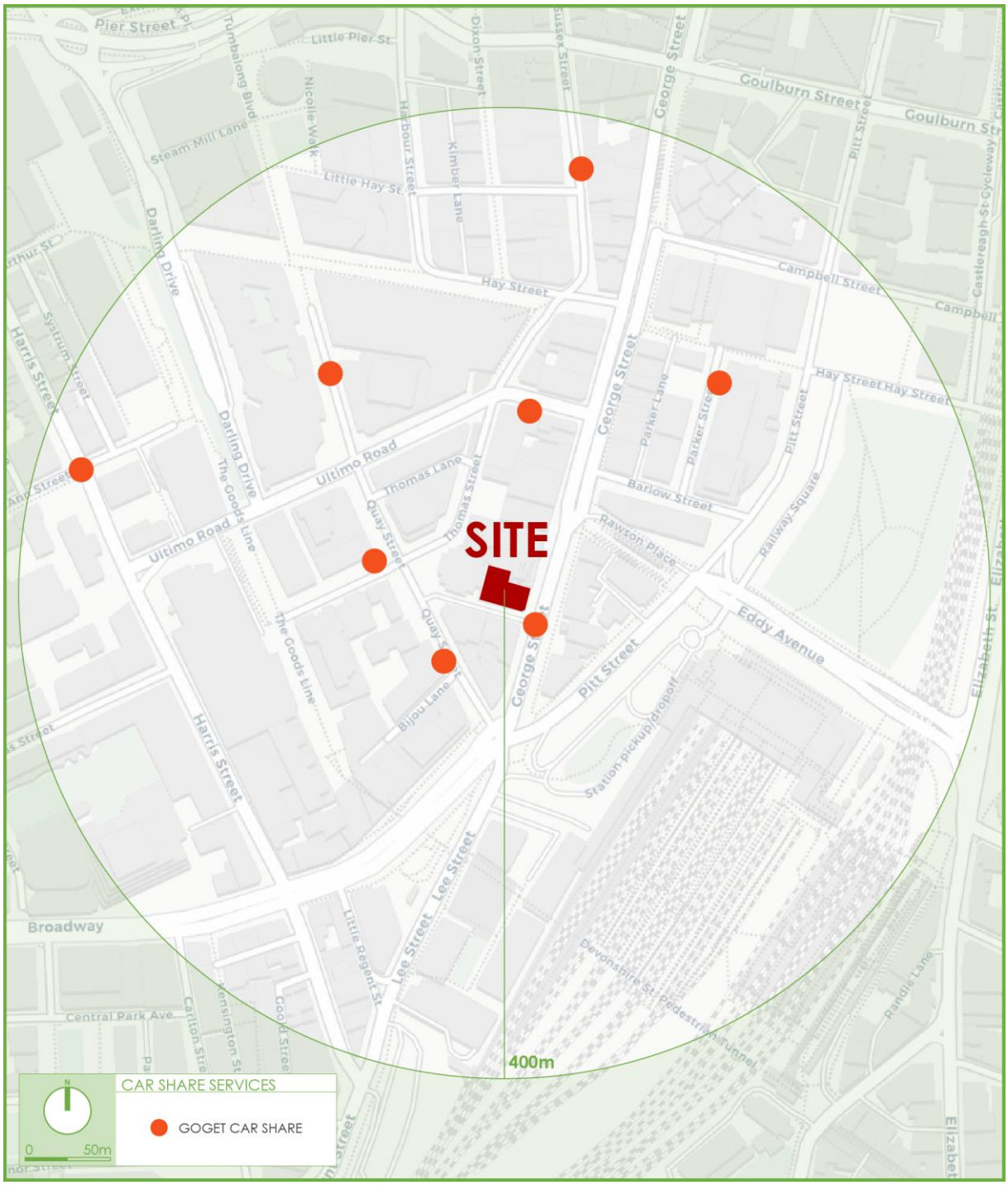


Figure 7: GoGet Pod Locations in the Locality

5. DESCRIPTION OF PROPOSED DEVELOPMENT

A detailed description of the proposed development is provided in the Urban Design and Planning Justification Reports prepared separately. In summary, the development for which approval is now sought is a 32-storey mixed use development comprising of the following components:

- Demolition of the building located at 757-759 George Street and retention of the existing heritage item at 761-763 George Street.
- Adaptive reuse of the existing heritage building and construction of 30 storey tower containing the following:
  - A 280 room hotel;
  - 2,418m^2 of guest amenity which could include food, beverage or lounge areas; and,
  - Two ground floor retail tenancies units with a total GFA of 171m^2.
- A basement car park providing parking for seven (7) vehicles accessed via a car lift from the loading dock for hotel valet parking only.
- A loading dock providing a single loading bay for a small rigid vehicle on the ground floor accessed from Valentine Street.

The parking and traffic impacts arising from the development are discussed in **Section 5** and **Section 6**. Reference should be made to the plans submitted separately to Council which are presented at reduced scale in **Appendix C**.

6. PARKING REQUIREMENTS

6.1.1 Council Controls

The City of Sydney Local Environmental Plan 2012 (LEP) specifies parking provisions for the various components of the development based on the land category of the development, as defined in the LEP. The land categories applicable to the site are as follows:

- Category A Land Use and Transport Integration Map
- Category D Public Transport Accessibility Level Map

The maximum car parking provisions for the various components of the development are outlined as follows.

6.1.2 Retail

The City of Sydney LEP specifies parking provisions for retail developments according to the relevant category as shown on the Public Transport Accessibility Level Map. Noting that the site falls under Category D and the floor to space ratio of the retail component is less than 3.5:1, a requirement of 1 parking space per 90m^2 GFA of the retail component is applicable.

Application of this rate to the 171m^2 retail GFA results in a maximum parking allowance for two (2) retail car parking spaces.

6.1.3 Hotel

The City of Sydney LEP also specifies maximum parking provisions for hotel accommodation. A maximum of 1 space for every 4 bedrooms up to 100 bedrooms and 1 space for every 5 bedrooms more than 100 bedrooms is permitted under these controls.

Application of this rate to the envisages 280 rooms results in a maximum parking allowance for 61 hotel parking spaces.

6.1.4 Overall Parking Provisions

Table 3: Council Parking Rates and Provision

Type	GFA / Rooms	LEP Maximum Car Parking Rate	Permissible Parking[2]
Retail			
Ground Floor Retail	171m²	1 space for every 90m² GFA	2
Hotel			
Hotel Rooms	100 rooms	1 space for every 4 bedrooms (up to 100 bedrooms)	61
	180 rooms	1 space for every 5 bedrooms (more than 100 bedrooms)	
		Total	**63**

1 – Yields are indicative and are subject to change at a later DA stage

2- Parking calculations are rounded to the nearest whole number.

It can be seen from **Table 3** that the proposal is permitted to have a maximum car parking provision for 63 spaces. In response, the proposal provides a total of seven (7) parking spaces within the basement level. The site contains a heritage item and is constrained in the ability to provide basement. As a result, the proposed provision is considered the maximum provision available on the site. The nature and location of the proposed development suggests that the majority of guests and staff will either walk or travel via alternative modes of transport to and from the site. In addition, it is anticipated that the hotel operator will ensure guests are aware (at the time of booking) of the valet only arrangement, limited parking availability on site and that booking a space is essential. For those who wish to drive but do not have onsite parking, the hotel operator will provide the location of nearby public parking for guests. Therefore, the proposed provision is considered acceptable and supportable based on Council's maximum parking requirement, constrains of the site and the management strategies proposed to minimise parking demand.

6.2 Accessible Parking

The City of Sydney Development Control Plan (DCP) Schedule 7 requires one accessible space for every 20 car parking spaces or part thereof is to be allocated as accessible visitor parking. As the development provides only valet parking and no visitor parking, accessible parking is therefore not required. In response, the development does not provide any accessible parking complying with Council's DCP.

6.3 Bicycle Parking

The City of Sydney DCP outlines the bicycle parking provision for the various components of the development. These minimum rates are summarised as follows, noting that the requirements and proposed provision will be addressed at a later DA stage.

6.3.1 Retail

The City of Sydney DCP provides the parking provision for the shop, restaurant or café (retail) component of the development with the following rates:

- 1 space per 250m^2 GFA (Staff)
- 2 spaces plus 1 space per 100m^2 over 100m^2 GFA (Customers)

6.3.2 Hotel

The City of Sydney DCP provides the parking provision for the hotel component of the development with the following rates:

- 1 space per 4 staff (Staff)
- 1 space per 20 rooms (Customers)

6.3.3 End of Trip Facilities

The City of Sydney DCP provides the End of Trip (EOT) provision for the non-residential components of the development. However, as the bicycle parking provision has not been designated for each component, the EOT parking spaces will be assessed at a later DA stage. Nevertheless, the EOT facilities for the development will be assessed in accordance with the City of Sydney DCP, which outlines the following recommended EOT rates:

- 1 personal locker for each space
- 1 shower and change cubicle (up to 10 spaces)
- 2 shower and change cubicles (between 11 to 20 spaces)
- 2 additional showers and cubicles (each additional 20 spaces or part thereof)

6.4 Motorcycle Parking

In accordance with the City of Sydney DCP Schedule 7, motorcycle parking is to be provided at the rate of 1 space per 12 car parking spaces. Application of this rate to the proposed total of seven (7) car parking spaces, results in the requirement for one motorcycle space.

Due to the conceptual nature of a Planning Proposal, the above motorcycle parking requirement will be provided within the basement car park at a later DA stage.

6.5 Car Share

The City of Sydney DCP provides the *minimum* car share parking provision for the various components of the development with the following rates:

- 1 space per 30 car spaces provided (Category D – Commercial and Retail)

Application of the above rates to seven (7) Category D spaces results in no requirement for car share spaces. In response, the development does not propose any car share spaces.

6.6 Passenger Pick-Up and Set-Down

6.6.1 Cars/Taxis/Ride-Share

The City of Sydney DCP Schedule 7, outlines the passenger pick-up and set-down provision for the hotel component of the development, being a requirement for two (2) car spaces. In response, the development proposes to utilise the existing 22 metres of 'No Parking' restriction on the southern side of Valentine Street and 13m of 'No Parking' on the eastern kerbside of George Street. The use of existing on-street parking restrictions for passenger pick-up and set-down areas is considered acceptable in this circumstance, noting that taxis/car share/ride-share etc. will not have access to the basement car parking level.

6.6.2 Buses and Coaches

The City of Sydney DCP Schedule 7 also requires hotels to provide coach/bus parking at a rate of 1 bus or coach space per 100 rooms. Application of the above rate to the 280 hotel rooms, results in the requirement for three (3) bus or coach spaces for passenger pick-up and set-down. It is expected that the majority of buses picking up/dropping off hotel guests will be

small airport shuttle buses. In response, the development proposes to utilise the various on-street loading zones located in the vicinity of the site. In this regard, NSW Road Rules 2014, Rule 179 states the following regarding stopping in a Loading Zone:

(1) A driver must not stop in a loading zone unless the driver is driving:

(a) a public bus that is dropping off, or picking up, passengers, or

(b) a truck that is dropping off, or picking up, goods, or

(c) any of the following vehicles:

(i) a vehicle that a person is getting into or out of or getting on or off,

(ii) a station wagon or a motor bike that has 3 wheels and is constructed principally for the conveyance of good,

(iii) a motor vehicle constructed principally for the conveyance of goods (other than a vehicle referred to in subparagraph (ii)).

It is noted that the term "public bus" means coach, which is defined in the Act to mean a motor vehicle that is:

(a) constructed principally to carry persons, and

(b) equipped to seat more than 8 adult persons, and

(c) used to convey passengers for hire or reward or in the course of trade or business.

Under the definition of a "coach", the expected buses meets all three (3) requirements of the above definition, and as such are permitted to utilise nearby loading zones to drop-off or pick-up passengers (hotel guests). Furthermore. loading zones within proximity of the site are summarised as follows:

- Valentine Street — the southern side of Thomas Street with the following restrictions:

  11m long 'Loading Zone Ticket 6am-6pm Mon-Fri, 6am-10am Sat'; and

  '4P Ticket 6pm-12am Mon-Fri, 10am-10pm Sat, 8am-10pm Sun and public holidays.'

The use of the abovementioned 'loading zones' for bus/coach pick-up/set-down spaces is considered appropriate given the expected limited frequency of such services and having regard for the site constraints, whereby use of the valuable ground floor space to

accommodate minimal pick-up/set-down facilities would deliver a compromised planning outcome, noting that a typical coach is a minimum 12.0 metres in length. There are also precedents throughout the LGA for this approach for comparable developments.

For larger coaches, it is proposed that coach parking areas are utilised in the following locations:

- Thomas Street — 19m long coach parking with a 15-minute limit along the southern side of Ultimo Road between Quay Street and Thomas Street.
- George Street — 25m long coach parking with a 15-minute limit along the eastern side of George Street between Rawson Place and Broadway.
- George Street — 24m long coach parking with a 15-minute limit along the eastern side of George Street between Valentine Street and Broadway.

6.7 Refuse Collection and Servicing

The City of Sydney DCP Schedule 7, states the following regarding the parking provision for service vehicles within a mixed-use development:

> *"The total number of service vehicle spaces for mixed-use developments are to be calculated on a pro-rata basis of spaces required for the relative proportions of different uses within the building."*

In this regard, the service vehicle requirement for different components is calculated are outlined below:

6.7.1 Retail

The City of Sydney DCP Schedule 7, states the following minimum rates for the shops and shopping centres:

- 1 space per 350m^2 GFA, or part thereof, up to 2,000m^2; then
- 1 space per 8,000m^2 GFA thereafter.

Application of the above rates to the proposed 171m^2 of retail GFA results in the minimum parking requirement for one (1) service vehicle space.

6.7.2 Hotel

The City of Sydney DCP Schedule 7, states the following minimum rates for the hotel component:

- 1 space per 50 hotel bedrooms, or part thereof, up to 100 bedrooms; then
- 1 space per 100 hotel bedrooms; plus
- 1 space per 400m^2 of reception, lounge, bar and restaurant area GFA, or part thereof, for the first 2,000m^2; then
- 1 space per 8000m^2 of reception, lounge, bar and restaurant area GFA thereafter.

Application of the above rates to the proposed 280 rooms, results in the minimum parking requirement for four (4) service vehicle spaces.

6.7.3 Overall Service Vehicle Parking Provision

In summary, the overall service vehicle parking provision for the entire development is outlined in **Table 4** below.

Table 4: Service Vehicle Requirements

Use	GFA / Rooms	Service Vehicle Rate	Service Vehicle Parking Requirement
Retail			
Ground Floor Retail	219m^2	1 space for every 350m^2 GFA	1
Hotel			
Hotel Rooms	100 rooms	1 space for every 50 bedrooms (up to 100 bedrooms)	3
	134 rooms	1 space for every 100 bedrooms (more than 100 bedrooms)	
Amenity	2,418m^2	1 space for every 400m^2 of reception, bar lounge and restaurant GFA (Up to 2,000m^2)	5
		Total	**9**

1 – Parking calculations are rounded to the nearest whole number.

The above requirement assumes independent provision for each land use component (a cumulative assessment) and therefore takes no account of a 'managed' approach, with shared loading arrangements subject to a loading dock management plan. The proposed loading bay, accommodating 6.4m long small rigid vehicles (SRV) is considered an acceptable

provision in the circumstances having regard for the constrained site with a heritage item, which cannot allow for any additional servicing provisions.

Whilst detailed information regarding the servicing requirements for the proposed hotel, retail and commercial developments are unknown at this stage of the project, the following service frequencies are estimated based on similar mixed-use developments:

- Hotel deliveries – 7 times per week
- Retail/hotel waste – 5 times per week
- Retail/hotel recycling – 3 times per week
- Retail deliveries – 5 times per week

As can be seen from the above preliminary servicing demands, the proposed loading bay will be utilised up to four (4) times per day.

To further satisfy Council's concerns, a future DA condition of consent could require a Loading Dock Management Plan (LDMP) is invited, requiring approval prior to the release of an occupation certificate, if deemed necessary by Council. The LDMP would outline the requirements of the site in relation of deliveries and servicing activities, anticipated vehicle sizes and frequencies, noting that this detailed information will be available in the later stages of the project, once tenants are acquired. The LDMP could include the following information:

- Details of all delivery and serving activities to be carried out for all uses on-site;
- Details of how waste services will be accommodated to meet service requirements;
- Details of vehicle types required to conduct expected activities;
- Details of the frequency of visits per day and/or week of vehicles accessing the dock; and
- Details of how activities and vehicles will be managed to optimise use of the onsite loading bay and minimise use of public streets for loading, parking or circulation.

In addition, with on-street Loading Zones on George Street, Valentine Street and Quay Street, the site can be serviced adequately by using these zones where necessary for short servicing dwell times, such as mail and courier deliveries.

In summary, the proposed loading bay is expected to accommodate the servicing requirements of the mixed-use development and should operate satisfactorily. In addition, a

LDMP could be prepared to prior to the release of an occupation certificate if required by Council.

6.8 Parking & Traffic Demand Management

6.8.1 Green Travel Plan

Section 3.11.1 of the DCP provides the following threshold above which a non-residential development (outside Green Square) is required to have a site-specific Green Travel Plan prepared:

- 100 vehicles per hour for non-residential development;

With reference to the traffic generation analysis presented in Section 7, it is evident that the peak hour traffic demand forecasts for the development are not sufficient to warrant the preparation of a Green Travel Plan for the proposed development.

6.8.2 Travel Access Guide

Section 3.11.1 of the DCP requires a site-specific Transport Access Guide to be prepared for developments, with the following relevant exceptions:

- Developments having a floor area of less than 1,000m^2 gross floor area.
- Businesses employing less than 10 staff.

Based on these thresholds, it is expected that a Travel Access Guide will need to be prepared for the proposed development. It is anticipated that this could be in response to a future approval by Council incorporating an appropriate condition of consent prior to issue of an Occupation Certificate.

7. TRAFFIC AND TRANSPORT IMPACTS

7.1 Existing Site Generation

The subject site is currently unoccupied however the heritage building used to contain a restaurant and the neighbouring building a travel agent. However, the previously approved development application for the site generated the following traffic generation

- 17 vehicles per hour during the morning (AM) peak period (8 in, 9 out); and
- 17 vehicles per hour during the evening (PM) peak period (8 in, 9 out); and

This has been assumed as the existing traffic generation for the site.

7.2 Development Trip Generation

The impacts of the proposed development on the external road network have been assessed having regard for the indicative yield scenarios as summarised in **Section 5** above. This assessment has been undertaken in accordance with the requirements of the RMS Guideline to Traffic Generating Developments (RMS GTGD) (2002) and the RMS Technical Direction TDT 2013/04a and as such, the traffic generation rates published in the RMS Guide have been adopted for each individual land use. The result of this assessment is summarised below.

7.2.1 Retail

The RMS GTGD provides a trip generation rate for retail uses. The ground floor retail space is categorised as Speciality Retail and has a trip generation rate of 4.6 trips per 100m^2 GFA in the Thursday evening peak.

Due to the site's proximity to an abundance of public transport and walking infrastructure, a 50% reduction factor has been applied to the Thursday peak hour rate which gives a rate of 2.3 trips per100m^2 GFA. It is assumed that trip generation in the morning peak hour (associated with staff arrivals) is zero with no retail parking spaces provided on-site and staff assumed to use public transportation.

Application of the above trip rates to the 171m^2 GFA of retail space results in the following traffic generation:

- 0 vehicles per hour during the morning (AM) peak period (0 in, 0 out); and
- 4 vehicles per hour during the evening (PM) peak period (2 in, 2 out).

7.2.2 Hotel

The RMS GTGD and TDT 2013/04a do not accurately reflect the anticipated trip generation for hotel developments of this nature. Therefore, in order to undertake an assessment a peak hour trip generation rate of 1 trip per 10 rooms has been adopted based on similar developments within the City of Sydney. This trip generation rate covers vehicle trips, private cars and taxis. Application of the above rate to the proposal for 280 hotel rooms and adopting a 50/50 directional split results in the following traffic generation:

- 28 vehicles per hour during the AM peak period (14 in, 14 out); and
- 28 vehicles per hour during the PM peak period (14 in, 14 out); and

7.2.3 Combined Generation

The combined generation of the retail and hotel components can be summarised as follows:

- 28 veh/hr (14 in, 14 out) during the morning peak hour; and
- 32 veh/hr (16 in, 16 out) during the evening peak hour.

7.3 Net Traffic Impacts

The combined generation of the retail and hotel components can be summarised as follows:

- 11 veh/hr (6 in, 5 out) during the morning peak hour; and
- 15 veh/hr (8 in, 7 out) during the evening peak hour.

As can be seen from the traffic generation above, the development is expected to generate 11-15 vehicles per an hour on top of the currently approved traffic generation of the site. It is noted that the critical evening peak period will experience roughly one (1) additional vehicle

trip every four (4) minutes. Accordingly, the increases in traffic volumes at the intersections in the vicinity of the site during the peak periods are expected to be minor.

In summary, the traffic impacts for the development are considered acceptable and can be readily accommodated by the network with no external improvements considered necessary.

8. ACCESS AND INTERNAL DESIGN ASPECTS

8.1 Site Vehicular Access

8.1.1 Vehicular Access

The development proposes a total of seven (7) hotel valet parking spaces with access to Valentine Street, a local road. It will therefore require a Category 1 driveway under AS2890.1 (2004), being a combined entry and exit width of 3.0 to 5.5 metres. In response, a 3.5 metre driveway in accordance with AS 2890.1 and the design principles of Figure 3.21 of Council's DCP. The position of the access is in line with the previously approved development (DA/2017/353) for the site and is considered acceptable. The access also accommodates the SRV entering the loading dock by reversing from Valentine Street and exiting in a forward direction. This is considered acceptable as Valentine Street is a local road that is effectively a one-way road at the vehicular access and all reversing manoeuvres will be managed by the loading dock manager at all times, thus ensuring that pedestrian safety will always be maintained.

8.1.2 Car Lift

A car lift system is proposed to provide access to the seven (7) car parking spaces on Level B2. A queueing analysis has been performed to assess the suitability of the car lift without a waiting bay. As the development provides a maximum of seven (7) valet parking spaces, it has been assumed that three (3) vehicle arrivals within a single hour, which is considered a reasonable assumption based on the low parking provision and that it is valet only. The results indicate the 98th percentile queue shall be contained with no vehicle waiting on street. The full assessment can be viewed in **Appendix D**.

A swept path analysis of all design vehicles entering and exiting the proposed development, including the service vehicle, has been included in **Appendix E**, demonstrating satisfactory operation of the proposed Valentine Street access.

8.2 Internal Design

The internal car park complies with the requirements of AS 2890.1 (2004), AS 2890.2 (2018), AS 2890.3 (2015) and AS 2890.6 (2009), and the following characteristics are noteworthy:

8.2.1 Parking Modules

- All standard car parking spaces have been designed in accordance with User Class 1A being for valet parking. These spaces are provided with a minimum space length of 5.4m, a minimum width of 2.4m and a minimum aisle width of 5.8m.
- Three parallel car parking spaces are provided with a minimum space length of 6.2m, a minimum width of 2.1m and a minimum aisle of 3.6m.
- All spaces located adjacent to obstructions of greater than 150mm in height are provided with an additional width of 300mm.
- Dead-end aisles are provided with the required 1.0m aisle extension in accordance with Figure 2.3 of AS2890.1 (2004).

8.2.2 Clear Head Heights

- A minimum clear head height of 2.2m is provided for all areas within the basement car park as required by AS 2890.1 (2004).
- Minimum clear head height of 3.5m is to be provided for all trafficable areas for the maximum sized service vehicle (6.4m long SRV), in accordance with AS 2890.2 (2018).

8.2.3 Service Bays

- Service bay dimensions are to be designed in accordance with AS 2890.2 (2018).
- Swept path analysis of a 6.4m long SRV entering and exiting the service bay is presented in **Appendix E**.

8.3 Summary

In summary, the internal configuration of the loading dock and car park is to be designed in accordance with AS 2890.1 (2004) and AS 2890.2 (2018). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

9. CONCLUSIONS

The following matters are noteworthy:

- Approval is sought to amend the LEP to increase the permitted height to AHD 119m. An indicative reference scheme for a 30 storey mixed use development is envisaged, containing 171m^2 GFA of retail space, a 280 room hotel, 2,418m^2 of hotel amenity and a single basement level of car parking accommodating seven (7) parking spaces.
- The subject site is well connected to several forms of sustainable transport with reliable access to regular bus, light rail and train services. In addition to this, the existing pedestrian and cycleways, ensure the site is ideally situated for the proposed commercial and hotel components of the development.
- The proposed design provides seven (7) parking spaces for the hotel. However, The City of Sydney LEP stipulates a maximum parking rate with consideration of the proximity of the site to public transport. In addition, the parking will be valet only managed by the hotel staff.
- The proposed development is envisaged to provide bicycle parking and end of trip facilities in accordance with Council's DCP, subject to site and design constraints and will be accessed further at a later DA stage.
- The increase in traffic generation arising from the development has been assessed and results in the following:
  - +11 vehicles per hour during the AM peak period (+6 in, +5 out); and
  - +15 vehicles per hour during the PM peak period (+8 in, +7 out).

  The traffic impacts for the development are considered acceptable and can be readily accommodated by the network with no external improvements considered necessary.
- The queueing analysis demonstrated that with six (6) vehicles arriving within one hour, the development will only have one vehicle waiting on-street, which is considered acceptable and supportable.
- Waste collection for the site and servicing for retail, commercial and hotel uses is to be undertaken onsite via the provision of a single 6.4m long SRV spaces on the Ground Floor.
- The loading dock and basement car park has been designed to comply with the requirements of AS 2890.1 (2004) and AS 2890.2 (2018), thereby ensuring safe and efficient operation.

This traffic impact assessment therefore demonstrates that the subject application is supportable on traffic planning grounds. TRAFFIX anticipates an ongoing involvement during the development approval process..

APPENDIX A

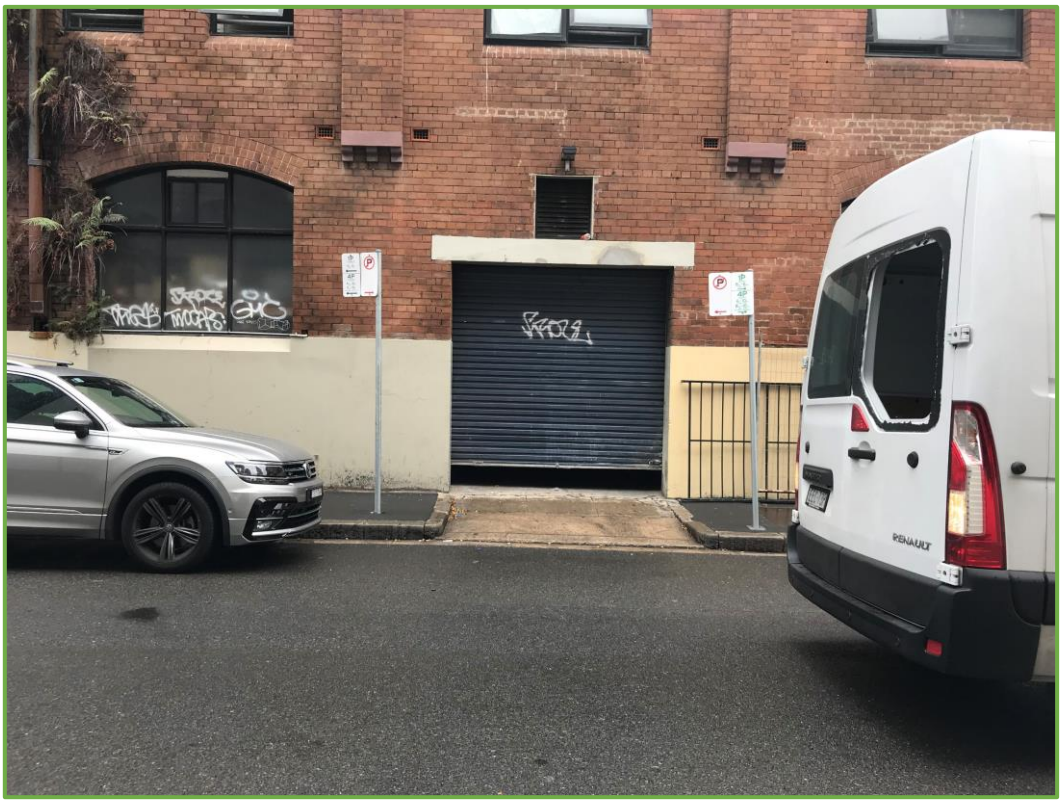
Photographic Record

View looking east along Valentine Street at the site.

View looking west across George Street at the site.

View looking south along George Street at the site.

View looking west along existing George Street vehicular access.



View looking north across Valentine Street at existing vehicular access.

View looking west along Valentine Street along the site frontage.

APPENDIX B

Quay Street Concept Plan

Quay Street

The City is upgrading several streets and public spaces in Haymarket, Chinatown to improve walking and cycling in the city centre.

Quay Street is a popular walking connection between Central and Darling Quarter.

Proposed improvements include:

1.
Wider footpath on the western side of Quay Street to improve safety between George Street and Chinatown.

2.
Closing Quay Street at Valentine Street to create a new public plaza with street trees, lighting and furniture.

3.
A new shared path on the western side of George Street to Ultimo Road, creating a safe bike connection for the growing number of people riding.

4.
Extended footpath and new pedestrian crossing on Thomas Street to improve safety and prioritise walking journeys.

5.
New bike lanterns on George and Lee Streets to create a bike connection to Central Station. (with Approval from The Roads and Maritime Services)

paving pattern

paving pattern with tree pit

outdoor cafe seating

Cobblestone paving to encourage slow and safe riding

Traffic changes:

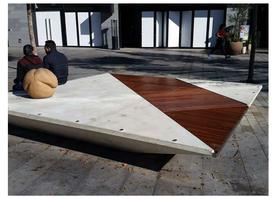
- New one-way loop George Street via Quay Street and Valentine Street
- Thomas Street road closure
- Removing the existing pedestrian crossing on Quay Street

Parking changes:

- All loading zones retained
- Removing seven ticketed parking spaces on Quay Street
- Removing one ticketed parking space on Valentine Street
- Four new ticketed parking spaces on the southern side of Valentine Street
- Total net parking loss of four ticketed parking spaces

Concept design

Project / City South: Quay Street & Connecting Streets, Chinatown



Seating platforms in Darling Quarter

pedestrian crossing with adjacent bike crossing

catenary lighting

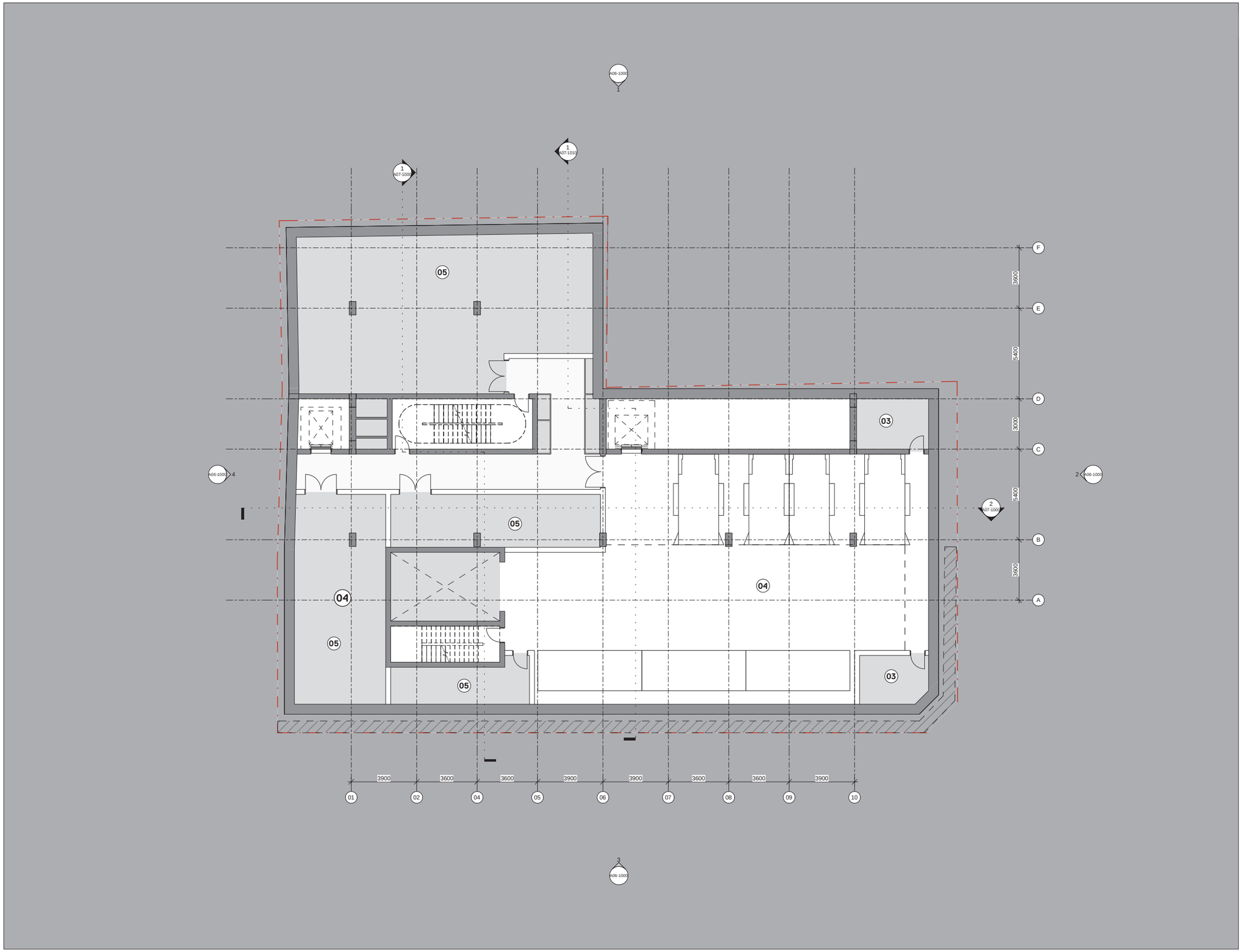
catenary lighting and outdoor dining

city of villages

CITYOFSYDNEY

APPENDIX C

Reduced Plans



ARCHITECT

GRIMSHAW

GRIMSHAW ARCHITECTS LLP

T +61 2 9253 0200
www.grimshaw.global

Level 2, 333 George Street,
Sydney, NSW 2000, AUS

DRAWING NOTICES

Do not scale - all dimensions to be checked on site. Grimshaw drawings to be read in conjunction with grimshaw and specialist specifications. Drawings to be read in conjunction with m&e, structural, fire and acoustic information.

01 Reception
02 Retail/ Amenity
03 BOH
04 Car Park
05 Plant
06 Circulation
07 External Terrace
08 3.5* Hotel Room

CLIENT
Samprian Pty Ltd

CONSULTANTS

PROJECT NAME
757-763 GEORGE ST

PROJECT NO.
19287

ADDRESS
757-763 GEORGE ST, SYDNEY, NSW, AUSTRALIA

REV	BY	DATE	DESCRIPTION
1		16.10.20	Issue for Information

KEY PLAN

NORTH

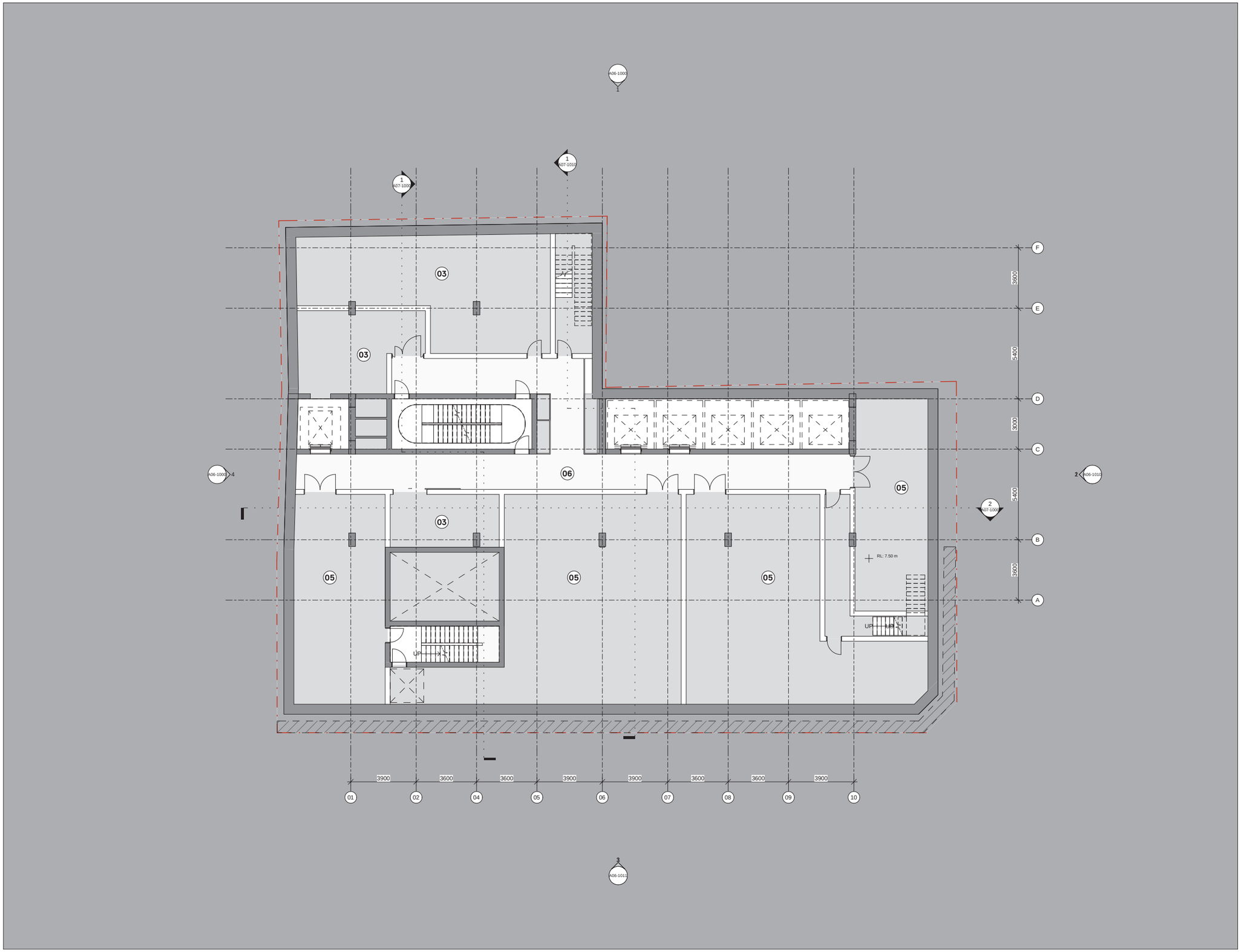
DRAWING TITLE
GA PLAN - LEVEL B2 - BASEMENT 02

SCALE
1 : 100 @ A1

STATUS
For Information

DRW	CH	APPR	DRW DATE	REV
FD	GAS	GAS	16.10.20	1

DRAWING NO.
A03-1000-01



ARCHITECT

GRIMSHAW

GRIMSHAW ARCHITECTS LLP

T +61 2 9253 0200
www.grimshaw.global

Level 2, 333 George Street,
Sydney, NSW 2000, AUS

INTELLECTUAL PROPERTY

DRAWING NOTICES

Do not scale - all dimensions to be checked on site. Grimshaw drawings to be read in conjunction with grimshaw and specialist specifications. Drawings to be read in conjunction with m&e, structural, fire and acoustic information.

01 Reception
02 Retail/ Amenity
03 BOH
04 Car Park
05 Plant
06 Circulation
07 External Terrace
08 3.5* Hotel Room

CLIENT
Samprian Pty Ltd

CONSULTANTS

PROJECT NAME
757-763 GEORGE ST

PROJECT NO.
19287

ADDRESS
757-763 GEORGE ST, SYDNEY, NSW, AUSTRALIA

REV	BY	DATE	DESCRIPTION
1		16.10.20	Issue for Information

KEY PLAN

NORTH

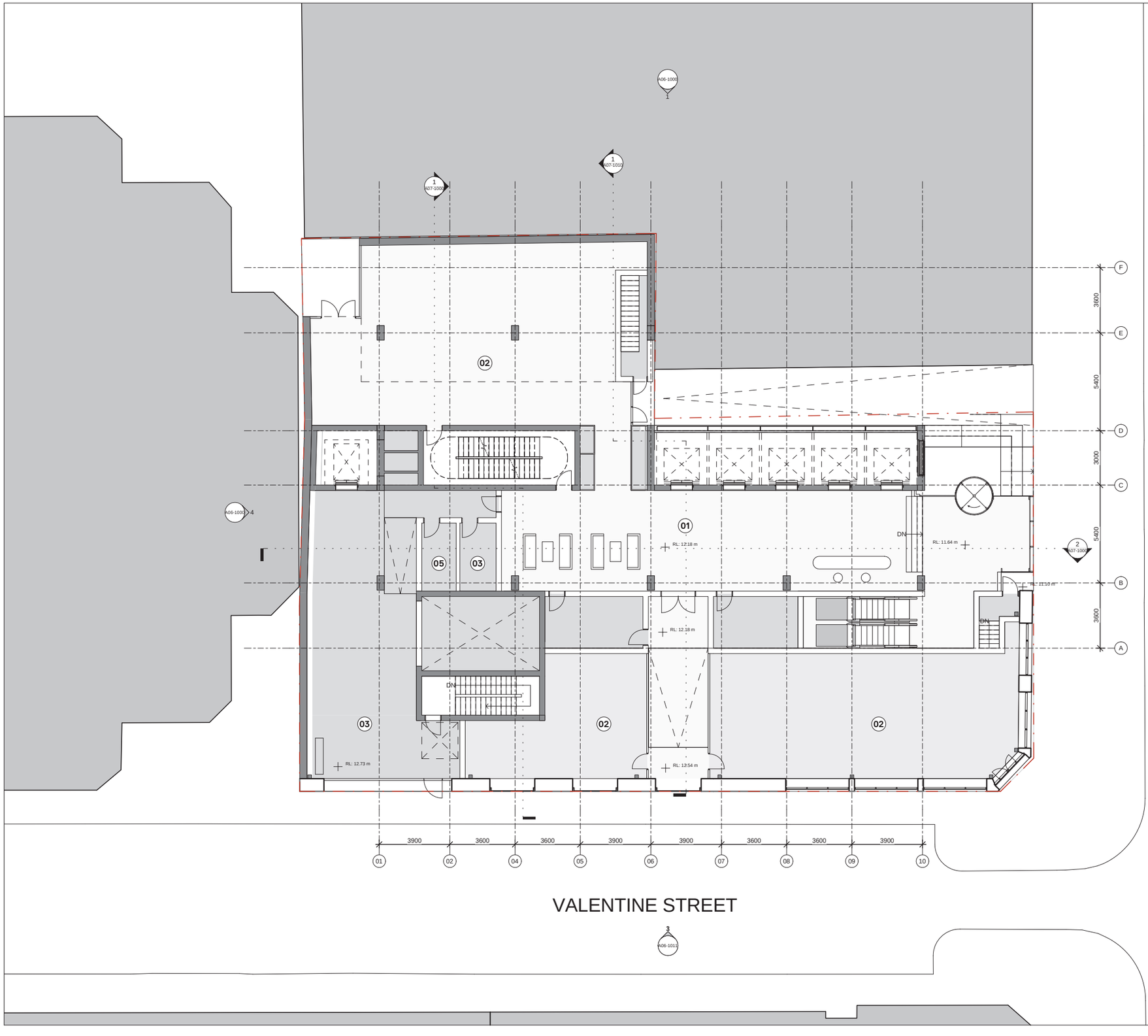
DRAWING TITLE
GA PLAN - LEVEL B1 - BASEMENT 01

SCALE
1 : 100 @ A1

STATUS
For Information

DRW	CH	APPR	DRW DATE	REV
FD	GAS	GAS	16.10.20	1

DRAWING NO.
A03-1001-01



01 Reception
02 Retail/ Amenity
03 BOH
04 Car Park
05 Plant
06 Circulation
07 External Terrace
08 3.5* Hotel Room

ARCHITECT
GRIMSHAW

GRIMSHAW ARCHITECTS LLP
T +61 2 9253 0200
www.grimshaw.global
Level 2, 333 George Street,
Sydney, NSW 2000, AUS

DRAWING NOTICES
Do not scale - all dimensions to be checked on site. Grimshaw drawings to be read in conjunction with grimshaw and specialist specifications. Drawings to be read in conjunction with m&e, structural, fire and acoustic information.

CLIENT
Samprian Pty Ltd

CONSULTANTS

PROJECT NAME
757-763 GEORGE ST

PROJECT NO.
19287

ADDRESS
757-763 GEORGE ST, SYDNEY, NSW, AUSTRALIA

REV	BY	DATE	DESCRIPTION
1		16.10.20	Issue for Information

KEY PLAN

NORTH

DRAWING TITLE
GA PLAN - LEVEL 01 - GROUND

SCALE
1 : 100 @ A1

STATUS
For Information

DRW	CH	APPR	DRW DATE	REV
FD	GAS	GAS	16.10.20	1

DRAWING NO.
A03-1002-01

APPENDIX D

Queuing Analysis

20.037 - 757-763 George Street, Haymarket - Queuing Calculations

Average Travel Distance			
Basement Level	No Cars/ Motorcycles	Assumed Vert Distance from G (m)	Weighted Distance Factor
G	0	0	
B2	8	9	72
Total	8		72
		Average	9

Vehicle Arrivals (veh/hr)	3
Travel Speed (m/sec)	0.15
Load & Exit Time (sec) (assumed)	10
Door Opening Time (sec) (assumed)	10
Average Travel Time (sec)	60
Total Average Time (sec)	160

Queuing Theory Factors		
average arrival rate (r)	3.00	*r=(veh/hr)
average service rate (s)	22.50	*s=3600/(Total Average Time)
utilisation factor (p)	0.13333	*p=r/s
mean queue (E(m))	0.02051	*E(m)=(p/(1-p))-p

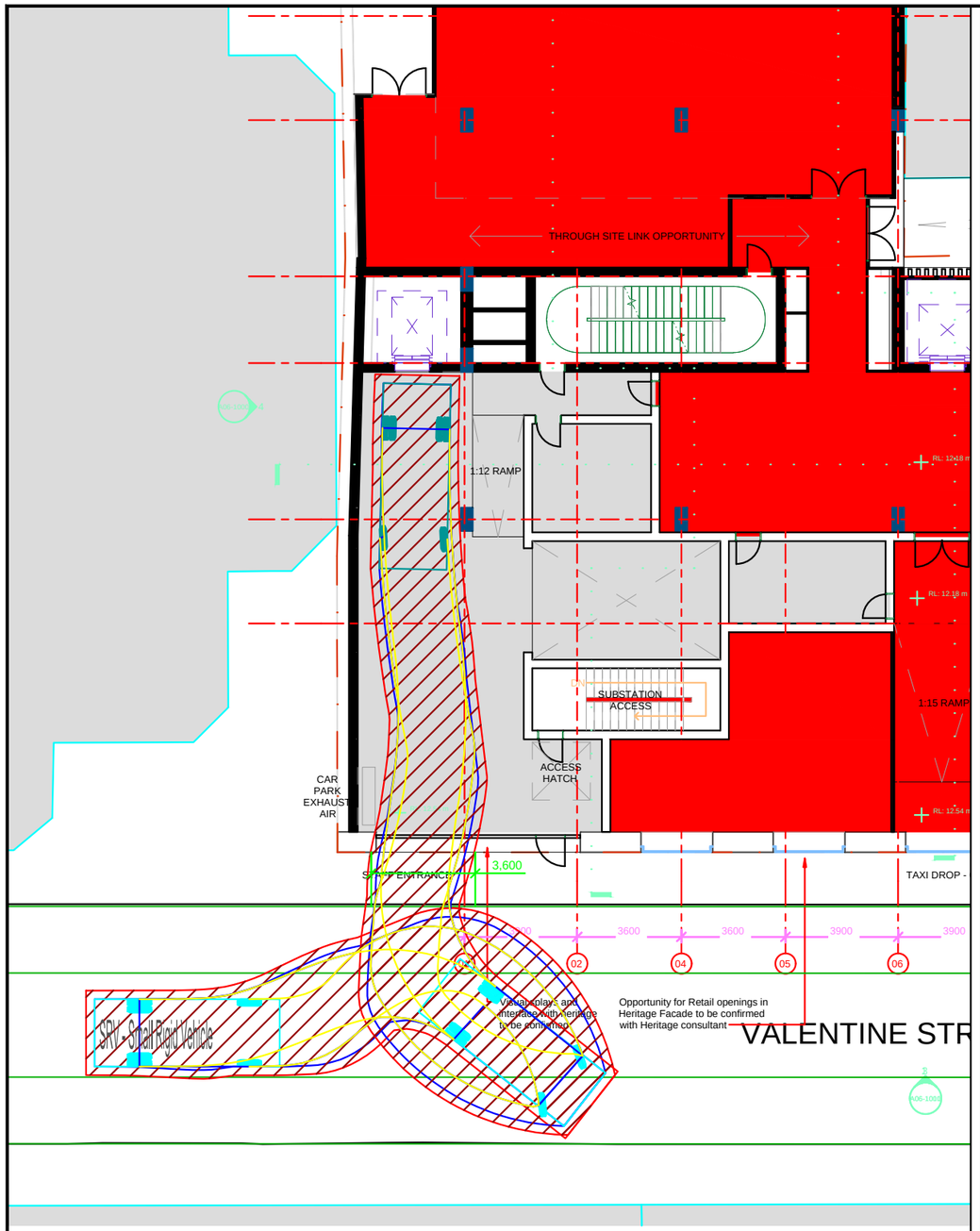
Probability of Vehicles in System (P(n))		*P(n)=(1-p)p^n
No. Vehicles in System (n)	Probability (%)	Percentile Queue (Require min. 98% under AS2890.1)
0	86.7%	86.7%
1	11.6%	98.2%
2	1.5%	99.8%
3	0.2%	100.0%
4	0.0%	100.0%

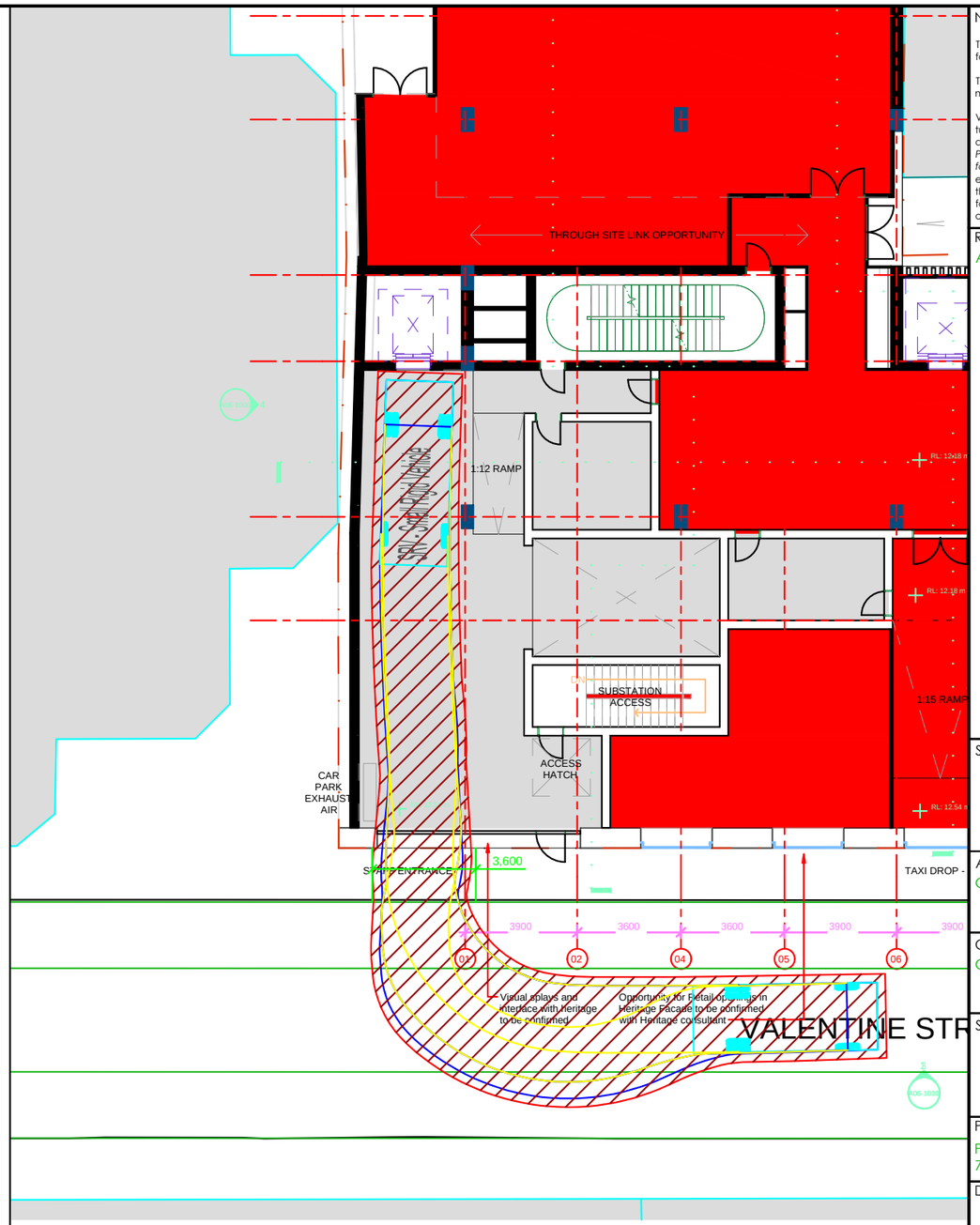
Vehicle Arrivals: TRAFFIX Traffic Impact Assessment (ref: 20.037r01v01) states the total traffic generation of the development will be 28 veh/hr during peak periods
However, the basement has only seven (7) parking spaces. Therefore, the maximum number of vehicles entering the basement within an hour would be seven vehicles per hour.

Results: The results of the queuing analysis demonstrates that with a single basement level of car parking (incl. 7 spaces) the development is required to accommodate a total of 1 vehicles in the system (1 in the lift & 0 vehicle queuing) assuming three (3) vehicle arrivals within an hour in order to accommodate the 98th percentile queue, as required under Clause 3.5 of AS 2890.1 (2004).
Hence, the development requires a minimum of 1 waiting bay to be provided at the access driveway

APPENDIX E

Swept Path Analysis





Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (*AS/NZS 2890.1:2004 Parking facilities - Off-street car parking*, and/or *AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	HD	14-09-20

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
GRIMSHAW

Client
Ceerose

Scale / Plan Orientation
0 2 4 6 8m
1:200 @ A3

Project Description
Proposed Mixed Use Development
757-761 George Street Haymarket

Drawing Prepared By

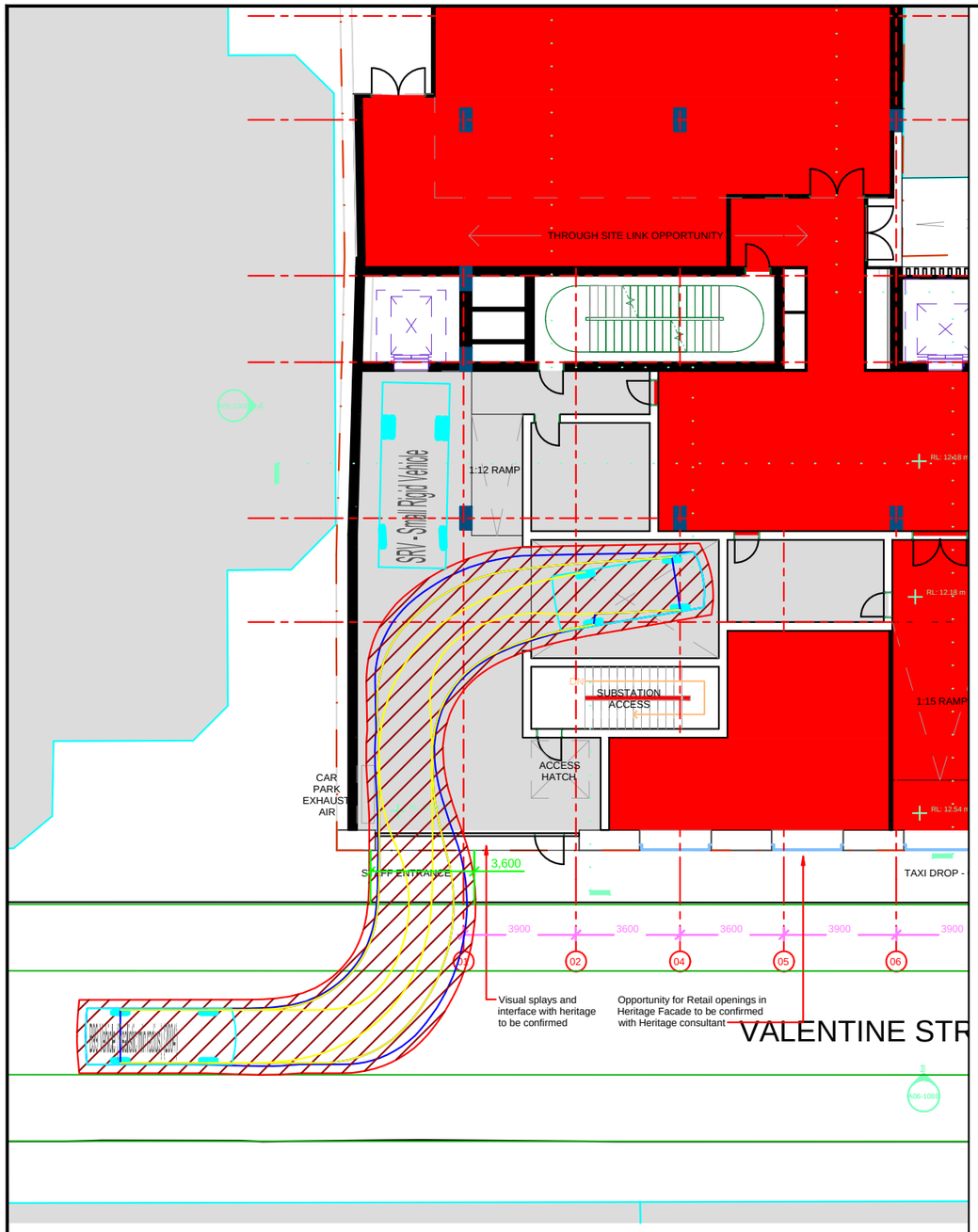
TRAFFIX
TRAFFIC & TRANSPORT PLANNERS
Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012
t: +61 2 8324 8700
f: +61 2 9830 4481
w: www.traffix.com.au

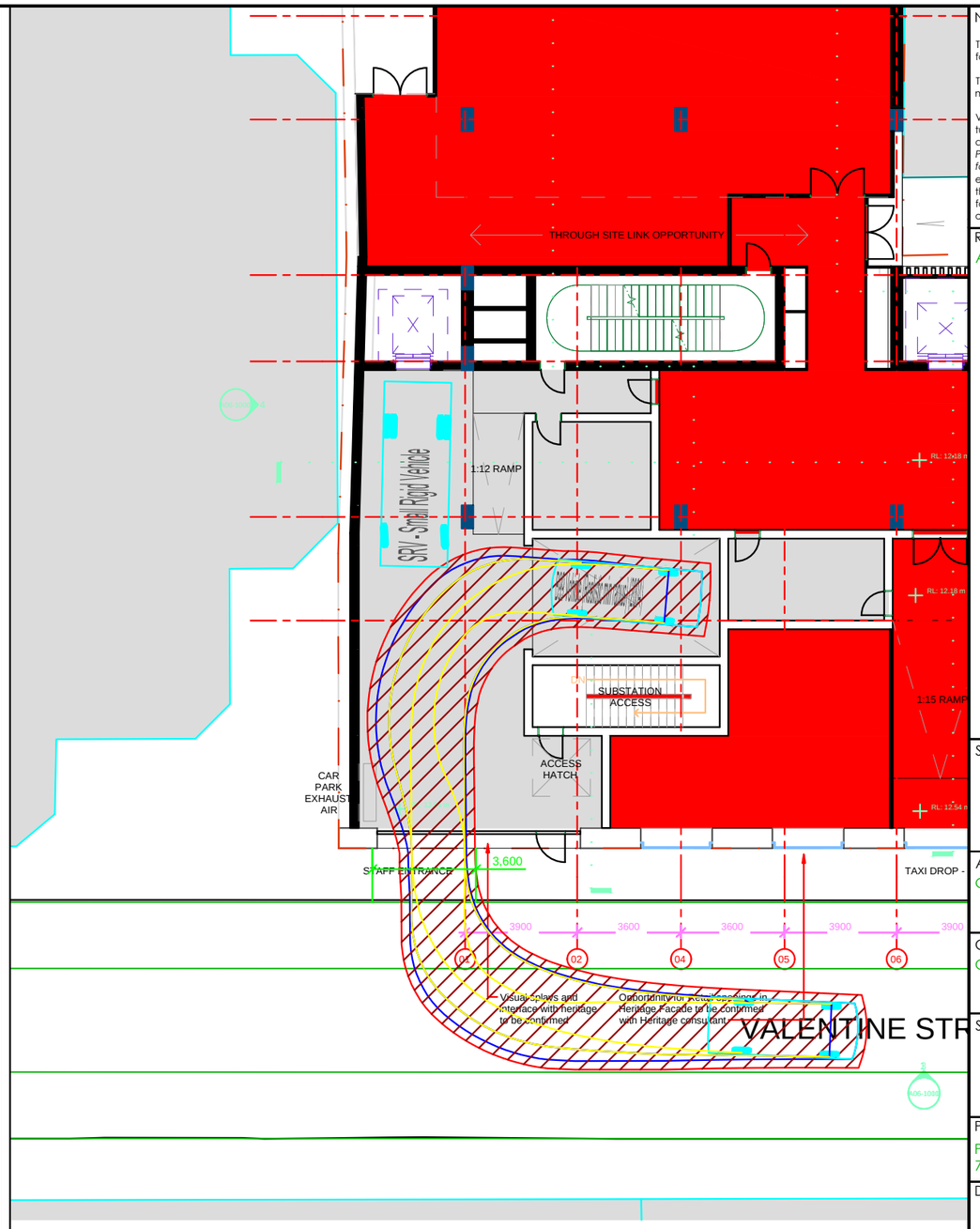
Drawing Title
Desgin Review
6.4m SRV Swept Path Analysis
Ground Floor Loading Bay
Left: Entry Movement Right: Exit Movement

Drawn:	Checked:	Date:
HD	VD	14-09-20

20.037d07v01 TRAFFIX [200910 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
20.037	DA	TX.01	A





Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (*AS/NZS 2890.1:2004 Parking facilities - Off-street car parking*, and/or *AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	HD	14-09-20

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
GRIMSHAW

Client
Ceerose

Scale / Plan Orientation
0 2 4 6 8m
1:200 @ A3

Project Description
Proposed Mixed Use Development
757-761 George Street Haymarket

Drawing Prepared By

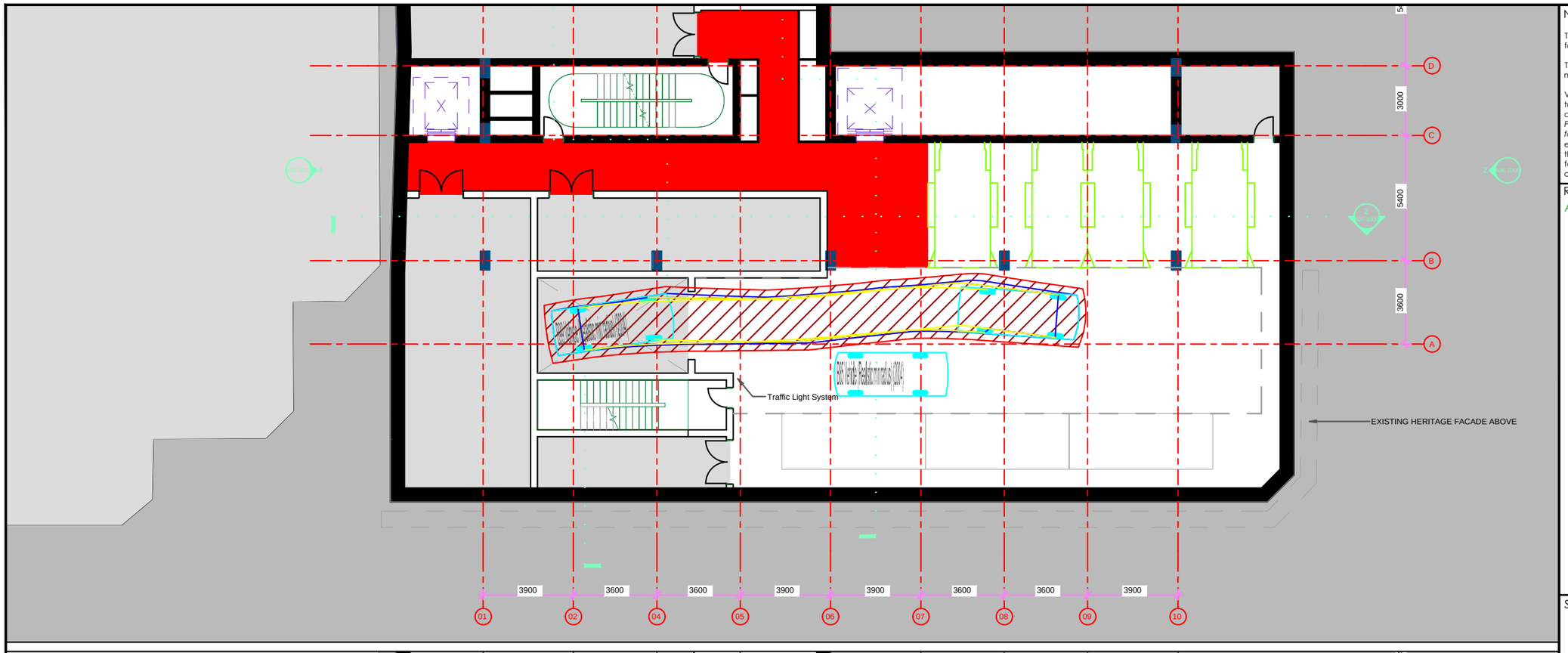
TRAFFIX
TRAFFIC & TRANSPORT PLANNERS
Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012
t: +61 2 8324 8700
f: +61 2 9830 4481
w: www.traffix.com.au

Drawing Title
Design Review
B99 Vehicle Swept Path Analysis
Ground Floor Car Lift Option 2
Left: Entry Movement Right: Exit Movement

Drawn:	Checked:	Date:
HD	VD	14-09-20

20.037d07v01 TRAFFIX [200910 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
20.037	DA	TX.02	A



Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (*AS/NZS 2890.1:2004 Parking facilities - Off-street car parking*, and/or *AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	HD	14-09-20

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
GRIMSHAW

Client
Ceerose

Scale / Plan Orientation

0 2 4 6 8m
1:200 @ A3

Project Description
Proposed Mixed Use Development
757-761 George Street Haymarket

Drawing Prepared By

TRAFFIX
TRAFFIC & TRANSPORT PLANNERS

Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012

t: +61 2 8324 8700
f: +61 2 9830 4481
w: www.traffix.com.au

Drawing Title
Design Review
B99 Vehicle Swept Path Analysis
Basement 2
Top: Entry Movement Bottom: Exit Movement

Drawn:	Checked:	Date:
HD	VD	14-09-20

20.037d07v01 TRAFFIX [200910 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
20.037	DA	TX.03	A