



Traffic Impact Assessment

**Proposed Mixed Use Development
85 Harrington Street, the Rocks**

Reference: 14.563r01v07
Date: August 2017

Suite 2.08 Holt Street
Surry Hills NSW 2011
t: +61 2 8324 8700
w: www.traffix.com.au

traffix
traffic & transport planners



Document Verification

Job Number:	14.563			
Project:	85 Harrington Street, The Rocks			
Client:	Golden Age and Hannas The Rocks Pty Ltd			
Revision	Date	Prepared By	Checked By	Signed
v01	16/12/2015	Martin Mallia	Graham Pindar	
v02	01/02/2016	Martin Mallia	Graham Pindar	
v03	23/02/2017	Alexandra Kavanagh	Martin Mallia	
v04	15/03/2017	Alexandra Kavanagh	Martin Mallia	
v05	31/07/2017	Leila Kazemnezhad	Martin Mallia	
v06	04/08/2017	Leila Kazemnezhad	Martin Mallia	



Contents

1. Introduction	1
2. Location and Site	2
3. Existing Traffic Conditions	5
3.1 Road Network	5
3.2 Public Transport	8
3.3 Existing Site Generation	11
4. Description of Proposed Development	12
5. Parking Requirements	13
5.1 Council Controls	13
5.2 Bicycle Facilities	16
5.3 Motorcycle Parking	17
5.4 Accessible Parking	17
5.5 Green Travel Plan	18
5.6 Car Share	18
5.7 Servicing	19
6. Traffic Impacts	22
6.1 Trip Generation	22
6.2 Traffic impacts	23
7. Green Travel Plan	24
7.1 Objectives	24
7.2 Existing Sustainable Transport Options	25
7.3 Travel Mode Targets	27
7.4 Strategies and Transport Initiatives	29
7.5 Green Travel Plan Maintenance	30
8. Access & Internal Design Aspects	31
8.1 Access	31
8.2 Internal Design	31
8.3 Construction Management Plan	33
9. Conclusions	34



Appendix A:	Photographic Record
Appendix B:	Reduced Plans
Appendix C:	Green Travel Plan
Appendix D:	Swept Path Analysis



1. Introduction

TRAFFIX has been commissioned by Golden Age and Hannas The Rocks Pty Ltd to undertake a traffic impact assessment to accompany a development application for a proposed mixed use development at 85 Harrington Street, The Rocks. Approval is sought to construct two (2) blocks comprising an eight (8) and a four (4) storey building respectively. The development contains 58 residential apartments, 1,130m² gross floor area of commercial space and 938m² gross floor area of retail space. The development is located in the City of Sydney local government area, however the New South Wales Department of Planning is the consent authority for this development as it is located within the boundary of the Sydney Cove Redevelopment Authority Scheme – The Rocks (SCRAS)

This report documents the findings of our investigations and should be read in the context of the Environmental Impact Statement prepared separately. The development is not of a size or capacity that requires referral to the Roads and Maritime Services (Roads and Maritime) under the provisions of State Environmental Planning Policy (Infrastructure) 2007.

The report is structured as follows:

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



2. Location and Site

The site is located at 85 Harrington Street in The Rocks, on the western side of the road, immediately north of the Cahill Expressway overpass. In a regional context, it lies on the northwest fringe of the Sydney central business district, approximately 330 metres west of Circular Quay Railway Station.

The site has an irregular configuration with a site area of approximately 2,109m². It has an eastern frontage to Harrington Street that measures approximately 77 metres and a western frontage to Gloucester Street that measures approximately 46 metres, whilst sharing a boundary to the south with public reserve that measures approximately 24 metres. The northern boundary of the site has a staggered alignment which follows the path of Cambridge Street and pedestrian links.

The existing development accommodates a seven (7) storey commercial building on Harrington Street, with two (2) vehicular entry points provided along Harrington Street.

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.

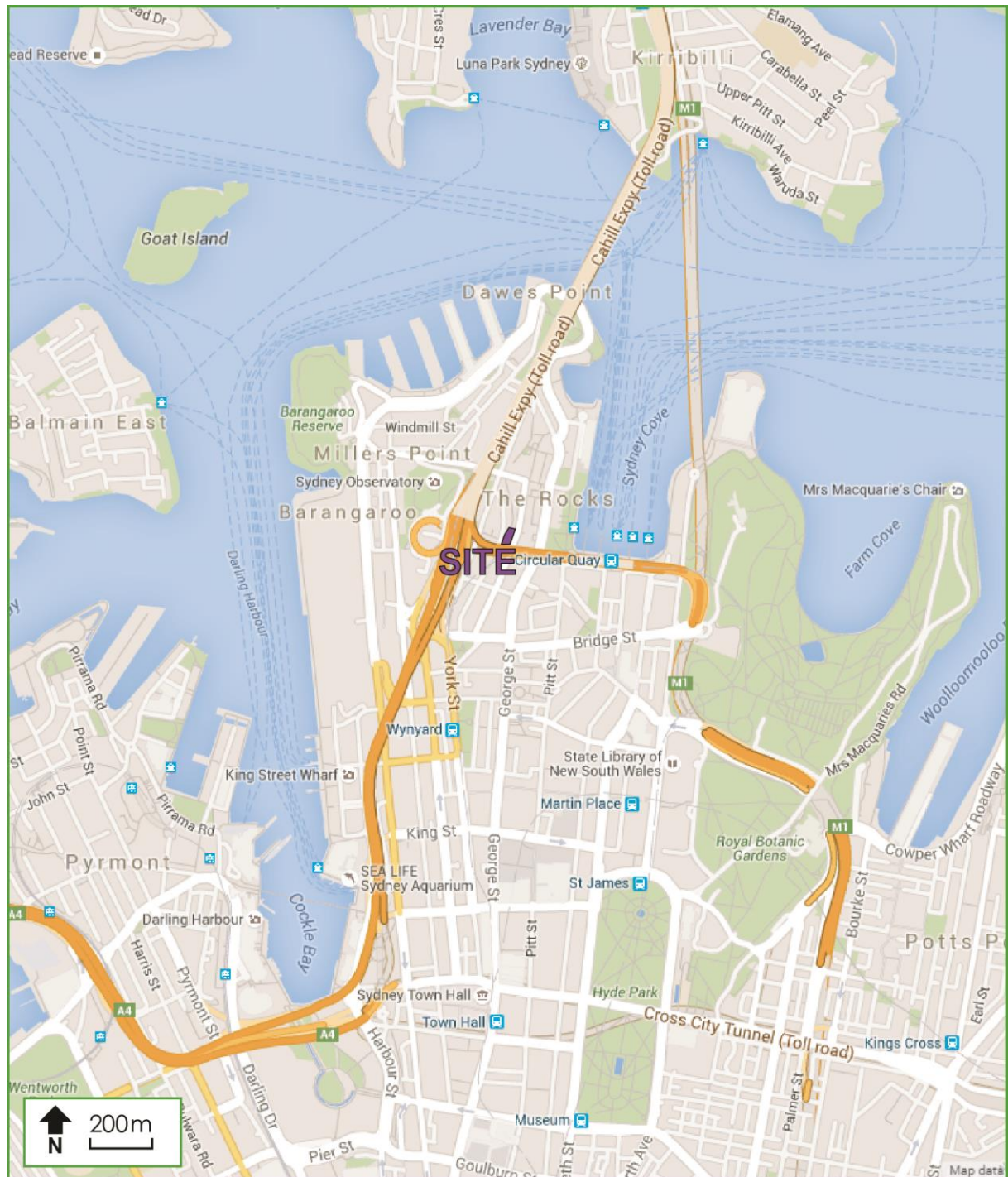


Figure 1: Location Plan



Figure 2: Site Plan



3. Existing Traffic 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:

- ➊ Bradfield Highway: an RMS Main Road (MR632) that runs in a north-south direction, connecting the Warringah Freeway at North Sydney in the north with the Western Distributor (77,600 vehicles per day, 2012 AADT) in the Sydney CBD to the south. It has a posted speed limit of 70 km/h with a toll payable to southbound motorists. The Bradfield Highway generally accommodates at least three lanes of traffic in each direction within a mostly undivided carriageway, where centre lanes are configurable.
- ➋ George Street: a classified regional road (RR7300) that runs in a north-south direction between Lower Fort Street in the north and Harris Street to the south. North of Alfred Street, it has a 40 km/h speed limit and accommodates a single lane of traffic in each direction. Conversely, south of Alfred Street, George Street has a 50 km/h speed limit and accommodates two lanes of traffic in each direction.
- ➌ Grosvenor Street: a local road that runs in an east-west direction between George Street in the east and Bradfield Highway to the west. It accommodates at least two lanes of traffic in each direction and has a 50 km/h speed limit.
- ➍ Harrington Street: a local road that runs in a north-south direction between Argyle Street in the north and Grosvenor Street to the south. It accommodates a single lane of traffic in each direction and has a 40 km/h speed limit. Kerbside parking is permitted along Harrington Street.
- ➎ Gloucester Street: a local road that runs in a north-south direction between Cumberland Street in the north and Grosvenor Street to the south, however is divided by the Cahill Expressway overpass. It accommodates a single lane of traffic in each direction and has a 40 km/h speed limit. Kerbside parking is permitted along Gloucester Street.



- ② Cambridge Street: a local pedestrian laneway that runs in a north-south direction extending from Argyle Street in the north and terminating at the subject site, adjacent to pedestrian links connecting to Harrington Street and Gloucester Street. Cambridge Street is not traversable by vehicles.

It can be seen from Figure 3 that the site is conveniently located with respect to the arterial and local road systems serving the region. It is therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts.



3.2 Public Transport

The existing public transport services available within the locality are shown in **Figure 4**. The site is approximately 350 metres walking distance (i.e. a five (5) minute walk) to Circular Quay Railway Station and approximately 700 metres walking distance (i.e. a nine (9) minute walk) to Wynyard Railway Station. These stations are serviced by the following lines:

- ➡ T1 North Shore, Northern & Western Line;
- ➡ T2 Airport, Inner West & South Line; and
- ➡ T3 Bankstown Line.

As these stations are situated in the Sydney central business district, services depart at a high frequency and connect to key regional destinations within the Sydney metropolitan region.

In addition to rail services, several bus stops are situated within approximately 400 metres walking distance (i.e. a six (6) minute walk) of the site on Argyle Place, Alfred Street, Young Street, Bridge Street and York Street. They are serviced by routes extending to:

- ➡ Elizabeth Bay, Watsons Bay, Bondi Junction and Maroubra to the east;
- ➡ Cremorne, Northbridge, Chatswood and East Lindfield to the north;
- ➡ Ryde, Macquarie Park and Eastwood to the northwest;
- ➡ Parramatta to the west; and
- ➡ Botany, Eastgardens and Sans Souci to the south.

Circular Quay wharf is also located within 400 metres walking distance (i.e. a six (6) minute walk) of the site. This wharf is a terminal with 5 wharves for all ferry lines including:

- ➡ F1 Manly Line
- ➡ F2 Taronga Zoo
- ➡ F3 Parramatta River
- ➡ F4 Darling Harbour
- ➡ F5 Neutral Bay
- ➡ F6 Mosman Bay
- ➡ F7 Eastern Suburbs



It is also noteworthy that the CBD and South East Light Rail line is currently under construction and due to be complete by 2018. The route will operate between Circular Quay in the north and Kingsford and Randwick to the south, via Surry Hills. Two (2) stops on Alfred Street and George Street (adjacent to Grosvenor Street) will be built within 400 metres of the site).

Finally, bicycle routes are also easily accessible from the site, including a bicycle trail along the Cahill Expressway (accessible from Cumberland Street and Circular Quay) as well as bicycle-friendly roads along George Street, Alfred Street and Cumberland Street. These routes supplement the existing pedestrian network within the vicinity of the site, including along the perimeter of the site and the pedestrianised Cambridge Street.

In summary the site has excellent access to a multitude of public transport services that provide extensive connections to key regional destinations within the Sydney Metropolitan Region. This is notwithstanding that the proposed development is situated on the fringe of the Sydney Central Business District and is surrounded by convenient pedestrian links between Gloucester Street and Harrington Street.

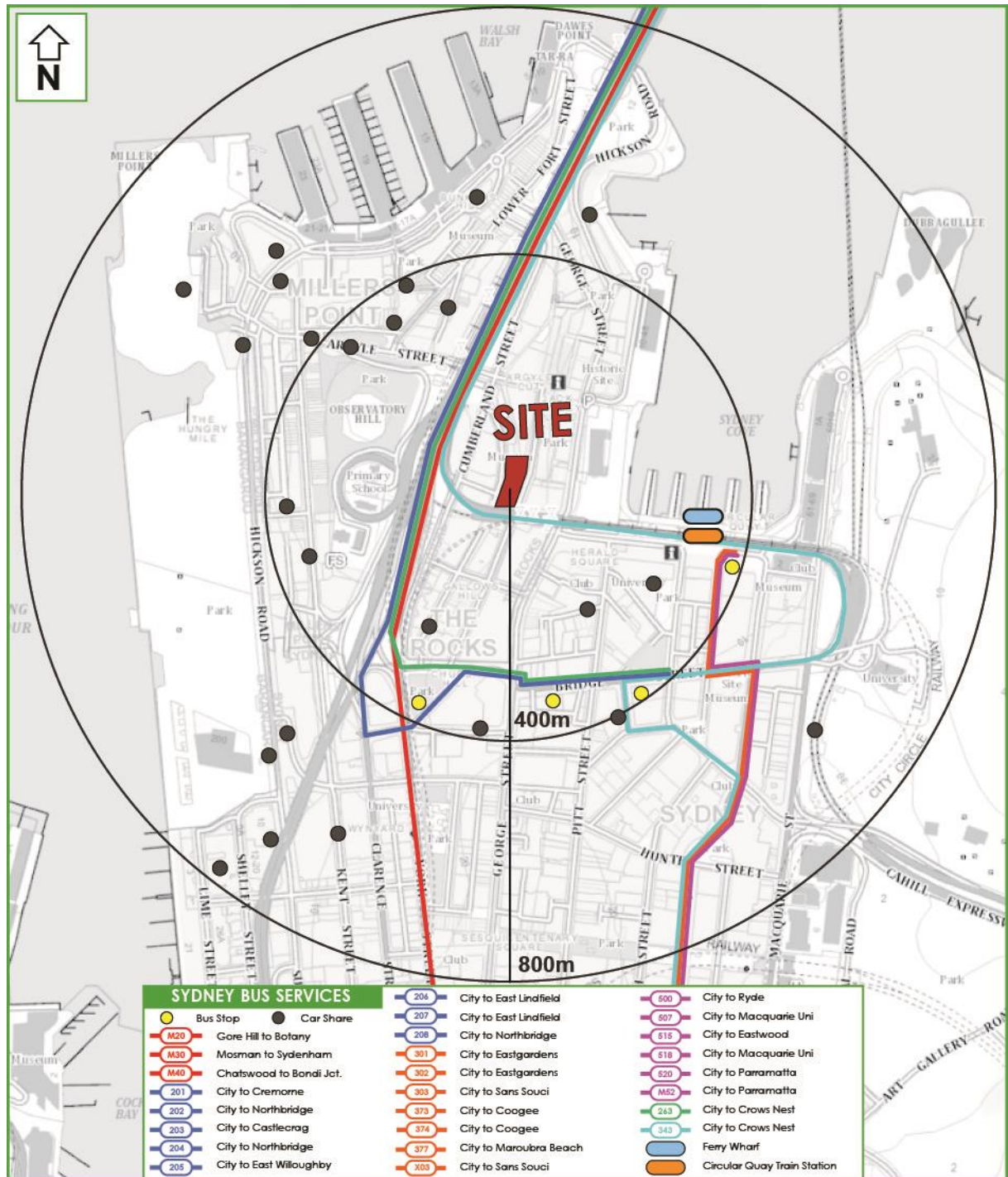


Figure 4: Public Transport



3.3 Existing Site Generation

The existing development on-site comprises a seven (7) storey commercial development on Harrington Street with basement level car parking. Given its central location, traffic generated by the site is curtailed by the on-site parking supply, with 52 parking spaces are provided. The RMS Technical Direction TDT 2013/04a provides traffic generation rates for commercial developments based upon surveys conducted during 2010.

For an office development surveyed in North Sydney, situated within three (3) kilometres of the Sydney Central Business District, it established a trip generation rate of 0.324 vehicle trips per parking space during the AM peak hourly period and 0.243 vehicle trips per parking space during the PM peak hourly period. This rate is the closest comparable rate provided in the RMS technical direction, and the site is located within a similar proximity to the Sydney Central Business District and with comparable levels of access to public transport, these rates are considered applicable to the existing development.

Accordingly, the approved traffic generation for the site is assumed to be:

- ➊ 17 vehicle trips per hour during the AM peak period; and
- ➋ 13 vehicle trips per hour during the PM peak period.

These traffic volumes are relevant in the context of the net traffic impacts of the proposed development, discussed in Section 6.



4. Description of Proposed Development

A detailed description of the proposed development is included in the Statement of Environmental Effects prepared separately. In summary, approval is sought for the demolition of all existing structures and construction of two blocks comprising an eight (8) and four (4) storey buildings respectively, to comprise of the following mixed use development:

- ② 58 residential apartments, consisting of:
 - 18 x one (1) bedroom apartments;
 - 17 x two (2) bedroom apartments;
 - nine (9) x three (3) bedroom apartments;
 - seven (7) x town homes with two (2) bedrooms;
 - seven (7) x penthouses with three (3) or more bedrooms;
- ② 1,130m² gross floor area of commercial (office) space;
- ② 938m² gross floor area of retail space; and
- ② Provision for two (2) levels of basement car parking with access from Harrington Street, containing 63 parking spaces, including seven (7) accessible spaces and five (5) motorcycle spaces.
- ② Provision of a ground floor loading area with turntable suitable for two (2) SRV service vehicles or Council's waste collection vehicle.

The parking requirements and traffic impacts arising from this development scenario are discussed in Sections 5 and 6 respectively. Reference should also be made to the architectural plans submitted separately, for which plans of the basement and ground levels are presented at reduced scale in **Appendix B**.



5. Parking Requirements

5.1 Council Controls

The ADG (gazetted in June 2015) is a resource to improve the planning and design of residential apartment development in NSW. It updates and replaces the *Residential Flat Design Code* introduced in 2002. The ADG is to be used in conjunction with SEPP 65 which sets out the NSW Government's policy direction for residential apartment development in NSW. In this regard, it is noted that the ADG outlines requirements for the provision of car parking for residential apartments, with Objective 3J-1 of the ADG being that '*car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas*'. Specifically, the design criteria under Objective 3J-1 of the ADG is as follows:

For development in the following locations:

- *on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or*
- *on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre*

The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less. The car parking needs for a development must be provided off street.

As discussed previously, the site is located 350 metres and 700 meters from Circular Quay and Wynyard Railway Stations respectively; therefore satisfies the above design criteria of Objective 3J-1 of the ADG. Accordingly, the car parking requirement for the proposed residential development is required to be assessed having regard for both the Council and the RMS Guide.

In accordance with the NSW Department of Planning & Environment's SEPP 65 and ADG Technical Note, the RMS Guide's *High Density Metropolitan Sub-Regional Centre* parking rates are required to be adopted. **Table 1** shows the car parking requirements of the development under application of both the applicable RMS Guide and council car parking rates.



Furthermore, as the development is located within the Sydney Cove Redevelopment Authority Scheme – The Rocks (SCRAS), there are no parking requirements associated with the development. The City of Sydney DCP, however, provides parking rates for residential apartment, retail and commercial space, which provide a guide for the number of parking spaces required. The rates are presented in **Table 1**.

Table 1: Council and RMS Parking Rates and Provision

Type	No.	DCP Parking Rates	RMS Parking Rates	Parking Requirement under DCP (Maximum)	Parking Requirement under RMS (Minimum)	Spaces Provided
Residential						
Studio	0	0.1 spaces per unit	0.4 spaces per unit	0	0	63
1 bedroom	18	0.3 spaces per unit	0.4 spaces per unit	5.4	7.2	
2 bedrooms	17	0.7 spaces per unit	0.7 spaces per unit	11.9	11.9	
3 bedrooms	9	1 space per unit	1.2 spaces per unit	9	10.8	
Town Home (2 or 3 bedrooms)	7	1 space per unit	1 space per unit	7	7	
Penthouse (3 or more bedrooms)	7	1 space per unit	1.2 spaces per unit	7	8.4	
Visitors	58	No Requirement	1 space per 7 units	0	8.3	
Sub Total				40	54	
Non- Residential						
Retail	938m ²	See formula	4.5 spaces per 100m ²	6	42	0
Commercial (Office)	1,130 m ²	See formula	1 space per 40m ²	7	28	
Sub Total				13	70	
Totals				53	124	63

* Maximum Retail and Office parking requirements under DCP

For a retail development in a Category D land with a floor space ratio (FSR) of more than 3.5:1, the required parking is to be calculated using the following formula: **M = (G x A) / (50 x T) where:**

M is the maximum number of parking spaces, and



G is the gross floor area of all retail premises in the building in square metres, and

A is the site area in square metres, and

T is the total gross floor area of all buildings on the site in square metres.

It can be seen from **Table 1** that with 58 units, 938m² retail GFA and 1,130m² commercial GFA, there is a requirement to provide a maximum of 53 parking spaces when assessed against the City of Sydney DCP, and 124 parking spaces when assessed against the RMS guide. In response, the development proposes 63 parking spaces, all of which are intended for the use of the residential units. This lies within the range established by Council's DCP rates and the RMS parking rates being marginally over Council's rates, but significantly below the RMS Guidelines.

Residential Parking

It is understood that the proposed number of parking spaces in this instance is superior to Council's maximum DCP parking requirement. Notwithstanding this, it is considered that residential tenants are still likely to use public transport for the majority of their trips to and from work, which is the main trip type that contributes to peak period congestion. Conversely, cars will be required for more casual and recreational use, relating to trips outside peak periods such as shopping, recreational, social and educational trips, many of which require the use of a car as they occur during the evenings and on weekends. These trips may be to locations outside of the CBD and in areas not as well serviced by public transport. In relation to grocery shopping, a review of supermarkets around the subject site notes that the closest full size supermarket (opposed to compact supermarkets that offer limited range of groceries) is located 3.4km away at either Potts Point or in North Sydney.

Furthermore, as discussed in Section 6 of this report the parking numbers do not cause significant trip generation in the AM and PM peak hours. It should also be noted that a recent major development in the Sydney Cove Redevelopment Authority Scheme (171-193 Gloucester Street and 190 – 210 Cumberland Street – DA171-06-2005-MOD9) permitted a development with a parking rate of 1.26 spaces per unit. This development is proposing 1.08 spaces per unit, which is reasonably comparable and in any case, is understood to have been adjusted to respond to market enquiries/expectations.

Retail and Commercial Parking

No retail or commercial parking is proposed (as is permitted under Council's DCP) because the site is located within the CBD and as earlier noted, is easily accessible by major public transport. Furthermore, for workers travelling to the CBD, it is both accepted and encouraged to travel by public



transport, bicycle or to walk. Customers and visitors visiting the retail and commercial premises during peak congestion times will also be drawn to the site via similar modes of transport.

5.2 Bicycle Facilities

The City of Sydney DCP requires the minimum bicycle parking to be provided at the following rates:

It is noted that the AS has changed and all bicycle parking is now described as class A, B or C.

Retail Use:

- Employees: One (1) per 250m² GFA of 'Class B' standard; and
- Customer: Two (2) plus one (1) per 100m² over 100m² GFA of 'Class C' standard.

Commercial Use:

- Employees: One (1) per 150m² GFA of 'Class B' standard; and
- Customer: One (1) per 400m² GFA of 'Class C' standard;

Residential Use:

- Residents: One (1) per dwelling of 'Class A' standard; and
- Visitors: One (1) per 10 dwellings of 'Class C' standard.

Accordingly, the development is nominally required to provide a minimum number of bicycle parking spaces as shown in **Table 2** below. The development is not required to meet the DCP requirements, however this may be used a guide to the number of bicycle parking spaces required:

Table 2: Bicycle Parking Requirements

Type	Residents	Retail Staff	Commercial Staff	Visitors
Facilities Required	'Class A' individual cages	'Class B' secure area	'Class B' secure area	'Class C' rails
Number Required	58	4	8	19

In response, the development proposes to provide parking for 58 bicycles within storage cages that are of a sufficient dimension to accommodate the storage of a bicycle. Council's DCP states that where an apartment in a residential building has a basement storage area on title that is large enough



to accommodate a bike and is no smaller than a Class A bike locker, then additional bike parking for that apartment is not required.

Additionally, the development proposes 35 Class B bicycle parking spaces on basement level 1, bringing the total site bicycle parking provision to 93 spaces, which is superior to the DCP requirement. It should also be noted that approximately 30 bicycle parking spaces in the form of Class C bicycle trails are being proposed in the public realm on Harrington Street and Gloucester Street to further increase the bicycle parking provision available to users of this development and the surrounding areas

5.3 Motorcycle Parking

Schedule 7.8.4 of Council's DCP 2012 states the following with regard to motorcycle parking:

In all buildings that provide onsite parking, one (1) motorcycle parking space for every 12 car parking spaces is to be provided as separate parking for motorcycles. Each motorcycle parking space is to be designated and located so that parked motorcycles are not vulnerable to being struck by a manoeuvring vehicle.

Application of this control to the 63 car spaces indicates that the development should provide an area for motorcycle parking capable of parking five (5) motorcycles. In response to this, the development is proposing five (5) motorcycle parking spaces, and is therefore compliant with Council's DCP requirement for motorcycle parking.

5.4 Accessible Parking

Schedule 7.8.5 of Council's DCP 2012 states the following with regard to accessible parking:

- One (1) accessible car parking space is to be provided for every adaptable residential unit.
- One (1) space for every 20 car parking spaces or part thereof is to be allocated as accessible visitor parking.
- The space shall meet the requirements of AS2890.6 providing an adjacent 'shared zone' of 2.4m x 5.4m to assist with loading and unloading.



- For residential development, accessible car parking spaces are to be allocated to adaptable units, or as visitor parking. Accessible car parking spaces allocated to adaptable dwelling units are to be a part lot to an adaptable unit in the strata plan.

With regards to the subject development, the site location within land use Category A precludes the provision of visitor parking on site. As such, accessible visitor spaces are not required.

The development proposes six (6) accessible units, and 63 car parking spaces. This equates to a total DCP requirement of six (6) accessible parking spaces. In response, the development proposes seven (7) accessible parking spaces, which is superior to the DCP requirement.

5.5 Green Travel Plan

Section 3.11.1 of Council's DCP 2012 provides the following thresholds above which a proposed development is required to provide a Green Travel Plan:

- ➊ 100 vehicles per hour for non-residential development;
- ➋ 50 vehicles per hour for residential development within a Category A LUTI zone.

With reference to the traffic generation analysis presented in Section 6, it is clear that the peak hour traffic demand forecasts for the development are not sufficient to warrant the preparation of a Green Travel Plan.

Nevertheless, a green travel plan has been developed to encourage staff and residents to use alternate transport modes (public transport, cycling, walking) to commute/travel to and from the site. The green travel plan is discussed in **Section 7** of this report.

5.6 Car Share

Available evidence from car share operators indicate that a car share car can reduce car ownership (in the surrounding area) by 10 cars. This in turn reduces traffic demand on the surrounding road network and accordingly, provisions for car share schemes are actively encouraged by Councils, including the City of Sydney.



Section 3.11.2 of Council's DCP 2012 contains the following relevant controls with regard to required car share provisions:

- ② The maximum amount of car parking spaces for a development is inclusive of the minimum number of parking spaces required for car share schemes;
- ② Residential development – other than dwelling houses and dual occupancies – on Category A LUTI zoned land requires one (1) car share space per 50 car spaces provided.

Having regard for the provision of 63 residential spaces, the development would be nominally required to provide one (1) car share space.

Research conducted on the availability of car share in the surrounding area has shown that the site is conveniently located within 400m of eleven (11) car share pods with a total of 35 car share vehicles. The GTP, discussed in Section 8 provides details of these car share pods and the Travel Access Guide (TAG) provided in **Appendix C** and **Figure 4** in this report identify their locations.

In response, the proposed development does not propose any car share space within the basement car park due to the high number of car share in the area. However, it should also be noted that the inclusion of this car share space is dependent on a detailed assessment relating to its commercial viability. Specifically, a car share space within a secure car park would result in the exclusive use of this vehicle for residents of the development only, so that the demand is unlikely to be sufficient. Similarly, access to this space by the general public presents security concerns.

5.7 Servicing

Schedule 7.8.1 of Council's DCP 2012 requires service vehicle parking for the subject development to be provided in accordance with the minimum rates specified in **Table 3**:



Table 3: DCP 2012 Minimum Service Vehicle Parking Rates and Provision

Use	Number	Council Parking Rates	Spaces Required
RESIDENTIAL			
0-50 Units	50	0.02 spaces per dwelling	1.0
50+ Units	17	0.01 spaces per dwelling	0.17
Sub-Total (1)			1.17
COMMERCIAL			
Commercial GFA	1,144m ²	1.0 space per 3,300 m ²	0.35
Retail GFA	1,010m ²	1.0 space per 350m ²	2.89
Sub-Total (3)			3.24
TOTAL -			4.41

As can be seen, the development requires four (4) loading bays under the requirements of DCP 2012 and these would reasonably include provision for large and small trucks as well as vans. This assumes that demands overlap whereas in reality, there is the potential to share loading through a management regime. Accordingly, provision of up to four (4) spaces are proposed, depending upon the mix of vehicles at any one time. In this regard, the following combinations are possible, based on the provision/dedication of one van (normal parking) space in the basement:

- ➊ One (1) 9.25m waste collection vehicle in the main dock and one (1) van in the basement;
- ➋ Two (2) SRV's in the main dock and one (1) van in the basement; or
- ➌ Three (3) vans in the main dock and one (1) van in the basement;

The DCP also stipulates that vehicle access for collection and loading should provide for a 9.25m Council garbage truck and a small rigid vehicle (SRV), with a minimum of 4m head height clearance.

In response, the development is proposing one (1) loading dock area that has been designed to cater for Council garbage collection vehicle with a 4m head height clearance. The loading dock area is equipped with a turntable for the forward access and egress of Council's 9.25m garbage truck. Additionally, the area can be utilised by up to two (2) SRV's simultaneously, with sufficient space for the vehicles to enter and exit the site in a forward direction without the use of the turntable, and for up to three (3) B99 vans. Swept path analysis of these movements has been presented in **Appendix D** for reference.



The development will have on-site building managements and a loading dock management plan will be prepared to ensure the smooth operation of the loading areas.



6. Traffic Impacts

6.1 Trip Generation

The RMS *Guide to Traffic Generating Developments* (GTGD) was first released in 1991. It provides guidance on a number of matters that relate to traffic impacts, in particular, advice on traffic generation and parking demand. The guide was revised in 2001 and it is currently in the process of further revisions with a view to providing advice that reflects current travel characteristics.

As part of the latest revision process, in 2013 RMS released Technical Direction TDT 2013/04a, which provided revised trip generation advice for a number of land uses based on current survey data obtained since 2009. TDT 2013/04a consists of two parts: an initial summary of the results presenting average trip rates and tables summarising the raw survey data.

Residential development

One of the land uses covered by TDT 2013/04a is high density residential development. In addition to trip rates on a per unit basis – as provided by the RMS GTDG – the TDT 2013/04a also provides trip generation on a per car space and per bedroom basis. The per car space trip rates have been adopted by this assessment. These trip rates are:

- 0.15 trips per car space during the morning peak hour; and
- 0.12 trips per car space during the evening peak hour.

The application of these rates to the on-site provision of 63 spaces yields the following traffic generation based upon a 20/80 split to represent the direction of traffic during the AM and PM traffic flow:

- 9 vehicle trips in the AM Peak (7 out and two (2) in); and
- 8 vehicle trips in the PM Peak (six (6) in and two (2) out)



Commercial and Retail development

The RMS guide provides the peak hour trip rates for commercial and retail developments based on the assumption that the development has adopted the RMS parking rates for such developments. In this instance, the RMS parking rates have not been adopted and therefore the use of these rates is not appropriate. Using the trip generation rates per space, the commercial and retail developments will not produce any traffic generation as there are no parking spaces provided for these tenancies.

6.2 Traffic impacts

The existing traffic generation of the site as presented in section 3.3 is 17 vehicle trips in the peak AM peak hour, which equates to a reduction in eight (8) trips during the AM peak hour. Similarly the existing traffic generation in the PM peak hour is 13 trips. The proposed development will see a reduction of five (5) vehicle trips during this peak period. Net traffic volume changes of such a low order would have no material impact on the operation or performance of the surrounding road network and accordingly no external road/intersection improvements are required to facilitate this development. Furthermore, computer modelling techniques available to analyse intersection performances are not sensitive to such small changes.



7. Green Travel Plan

City of Sydney has advised of a requirement for this amended development application to include a Green Travel Plan. Specifically:

“A Green Travel Plan is required to demonstrate that the site will encourage modal shift away from car use and to the use of Sustainable Transport options (for staff, customers and residents) such as walking cycling and public transport. A Green Travel Plan will include (but is not limited to the following):

- *Providing mode share targets which promote sustainable travel behaviour,*
- *Means of minimising travel demand by private car*
- *Means of maximising the share of travel by other modes including public transport, cycling, walking, carpooling or car share.”*

Accordingly, a Green Travel Plan (GTP) has been prepared for the development, which is required to be reviewed and approved by Council to accompany the Traffic Impact Assessment for the revised proposal.

7.1 Objectives

The target audience of this plan are the staff, residents and visitors of 85 Harrington Street, The Rocks. The aim of the GTP is to reduce dependency upon private vehicle usage through the provision of easily accessible information regarding public transport, bicycle facilities and car share schemes in the locality.

The primary objectives of this plan are as follows:

- Promote the use of sustainable transport modes, thus reducing congestion and pollution in the local area;
- Encourage a positive image of the development as an innovative and environmentally-aware place of business; and
- Encouraging healthier travel options for guests, such as walking and cycling to promote a healthier lifestyle.



7.2 Existing Sustainable Transport Options

There are a number of services provided within the existing transport infrastructure. An overview is provided below of the existing sustainable transport options available to residents and visitors related to the development.

Pedestrian Access

The site is located on the western side of Harrington Street, The Rocks in between its intersections with Essex Street and Argyle Street. Pedestrian footpaths are provided on both sides of Harrington Street, Essex Street and Argyle Street, which will ensure that pedestrians have safe and efficient access to Sydney Bus Services. Signalised pedestrian crossings are also provided across each approach of the Harrington Street and Essex Street intersection and a pedestrian crossing is provided across the intersection of Harrington Street and Argyle Street.

Public Transport Services:

Existing Public Transport services have been described in Section 3.2 of this report and are indicated on the Travel Access Guide (TAG) provided in **Appendix C**. In addition to the existing public transport network shown in Section 3.2 it is noteworthy that the CBD and South East Light Rail will operate from Circular Quay to Randwick and Kingsford from 2018. The indicative route will service two (2) stops on Alfred Street and George Street will be built within 400 metres of the site. The location of the stops have been indicated on the TAG.

Bicycle Facilities

The closest bicycle-friendly roads are George Street and Cumberland Street which run parallel to Harrington Street west and east of the site (respectively). Similarly, Argyle Street is a bicycle-friendly street and is located 164 meters from the site. The routes in the vicinity of site have been displayed in the TAG.

Car Share

Car share facilities such as GoGet can be used for short term car related trips. There are eleven GoGet pods located within 400 meters of the subject site with their locations marked on the TAG in **Appendix C** and locations listed in **Table 5** below. The following contact information displayed in **Table 4** can be used to register with/contact Go-Get:



Table 4: GoGet Contact Information

Go-Get Car Share Contact Information	
General Enquires (Office hours only) Weekdays – 7.00am – 7.00pm Weekends – 9.00am – 5.30pm	1300 769 389
Automated Car Bookings for members (24hrs / 7days)	
Post	GoGet CarShare PO Box 635 Glebe 2037 Sydney
Fax	(02) 8211 5119

Table 5: GoGet Pods within 400m of 85 Harrington Street, The Rocks

Address	Number of Vehicles
33-35 Underwood Street	15
1 Macquarie Place	2
210 Gloucester Street	2
56 Pitt Street	1
11 Jamison Street	4
120 Kent Street	3
115 High Street	1
High Street at Munn Street	2
Intersection of Argyle Street and Watson Road	2
Adjacent to Trinity Avenue Playground	1
67 Windmill Street	2
TOTAL:	35



Taxi Services

Taxi services are available by contacting the following companies:

- Taxis Combined by calling 133 300 or visiting <http://www.taxiscombined.com.au/index.htm>
- Silver Taxi Services by calling 133 100 or visiting <http://www.silverservice.com.au/index.htm>

Uber Services

Uber ride hire services are available by utilising the following methods

- Downloading the Uber app on a smart phone or tablet
- Visiting www.uber.com on a computer

7.3 Travel Mode Targets

Residents

The proposed development contains 58 residential dwellings. In this regard, the expected travel modes for residents have been obtained for the local area.

The current travel modes based on the most recent Journey-to-Work data (available from the NSW Bureau of Statistics) are summarised in **Table 6** for the area. The table represents the travel mode splits for people travelling to site for work in the existing commercial building. As no residential development is currently located on the site, Journey to Work data was reviewed for a larger area in The Rocks precinct to determine travel mode splits for residents in The Rocks travelling to work. This data is presented in **Table 7**, overleaf.

The subject GTP seeks to increase the use of alternate (non-private vehicle) transport for the development. The current reliance upon non-car related transport within the vicinity of the site relates to approximately 74% (train, bus and walking) for workers in The Rocks and 59% for residents. As the site does not provide any parking for the commercial and office component, it is considered that there will be no reliance on private vehicle for the staff of the future development. It is also envisaged that the subject GTP will encourage increased use of sustainable modes of transport, such as train, bus, bicycle and walking, with a target of 75% proposed for the future residents of the site. The breakdown of the existing travel mode split and proposed targets are shown below in **Table 6 and 7 below**.



Table 6: Travel Mode Splits and Targets for Staff

Predominant Travel Mode	Census Data for Area*	Targets for Staff
Vehicle Driver	16%	0%
Train	47%	52%
Bus	23%	35%
Vehicle Passenger	3%	3%
Other Mode	2%	2%
Walked Only	4%	7%
Mode not stated	1%	1%

*census data for Travel Zone 20.

Table 7: Travel Mode Splits and Targets for Residents

Predominant Travel Mode	Census Data for Area*	Targets for Residents
Vehicle Driver	29%	25%
Train	20%	22%
Bus	12%	14%
Vehicle Passenger	6%	6%
Walked Only	27%	27%
Mode not stated	6%	6%

*census data for Travel Zones: 21, 22, 16, 14, 13, 11.

This GTP seeks to provide initiatives and enhance behavioral change incentives so that reliance upon private vehicles is reduced during peak congestion hours. The TAG provided in **Appendix C** will aid staff and visitors with the necessary information for alternate modes of transport. This TAG is discussed in further detail below.



7.4 Strategies and Transport Initiatives

Bicycle Facilities

The development is to provide a number of on-site and off-site bicycle parking facilities for both staff and visitors. All staff spaces are provided as secure storage cages within the basement (i.e. Security Level A facilities under AS 2890.3:2015), with all visitor spaces provided as bike racks in an accessible area (i.e. Security Level C facilities under AS 2890.3:2015). As discussed in Section 5, the number of bicycle parking spaces provided is superior to Council's DCP requirement, with the view to encouraging this mode of transport to meet the objective of achieving a 10% modal split of all journey to work trips.

Transport Access Guide (TAG)

To assist in promoting use of alternate travel modes, a TAG has been prepared for the site and is provided in **Appendix C**. A copy of this TAG shall be made available to the staff and residents, with the relevant bus and cycle route maps to be displayed. Furthermore, as discussed above, the relevant information will be provided to each suite and as physical brochures at the building concierge desk, for visitors with the information also to be readily available through an online resident portal.

The TAG has been prepared to help reduce the reliance on private vehicle usage associated with the proposed development during peak congestion hours. Increasing the number of trips by public and active transport is considered one of the most relevant State Government policies that are applicable to the subject site.

The provision of this information to residents and visitors will ensure that they are aware of the public transport options and frequencies available to them, as well as the location of relevant services. Hence, a reduction in car oriented trips to/from the site during peak congestion hours is expected over a comparable development without a Green Travel initiative.

Public Transport Update

In addition to the GTP review as discussed below, all bus timetable information will be provided on the TAG with links to the relevant websites, with the information updated every six (6) months advising staff and visitors of new/modified bus routes. This will also include information regarding connections to the train services at Circular Quay Railway Station.



Online Help

An email drop-box facility will be set up for all travel plan queries, with responses generally issued within 48 hours. It is noted that all enquires will be monitored to track and/or identify trends and growing issues. The email drop box will be managed by the Building Manager.

7.5 Green Travel Plan Maintenance

A monitoring and review process for the GTP will be set out by the Building Manager to ensure that the TAG reflects any changes to the public transport network and end-of-trip facilities related to the subject site. A Travel Plan Coordinator (the strata manager) will be designated with the responsibility of maintaining the GTP. This Coordinator will also assess the modal-split for staff and visitors accessing the site, once operational and revisit the proposed targets if necessary.

Regular review of the success measures outlined in this plan should be undertaken intermittently to determine whether alternative or supplementary measures are necessary. It is recommended that a survey will be conducted annually to monitor the progress of targets as documented in **Table 5 and 6**, which will be undertaken by the Travel Plan Coordinator. The survey will include (and will not be limited to) transport modal splits for both staff, residents and visitors. This evaluation will provide a reliable overview of the areas in which the GTP is operating effectively and which areas require more attention. However, it is noted that the above targets are primarily indicative and the travel plan and targets will require on-going evaluation and fine-tuning.



8. Access & Internal Design Aspects

8.1 Access

The proposed development requires a 6m wide driveway for the largest vehicle accessing the site, being a SRV, under AS2890.2 (2002). In response, the development proposes a combined entry-exit driveway with a width of 6.0metres with access to Harrington Street.

Swept path analysis has been undertaken of the site access, as is permissible under AS 2890.2 (2002), demonstrating a satisfactory operation of this driveway for vehicles sized up to and including an SRV. The swept path analysis is included in **Appendix D**.

8.2 Internal Design

The internal basement car park generally complies with the requirements of AS 2890.1 (2004) and the following characteristics are noteworthy:

8.2.1 Parking Modules

- ➊ All residential parking spaces have been designed in accordance with a Class 1A user and are provided with a minimum space length of 5.4m a minimum width of 2.4m and a minimum aisle width of 5.8m.
- ➋ All spaces located adjacent to obstructions of greater than 150mm in height have been provided with an additional width of 300mm.
- ➌ Dead-end aisles have been provided with the required 1.0m aisle extension in accordance with Figure 2.3 of AS2890.1.
- ➍ All disabled parking spaces have been designed in accordance with AS2890.6 which stipulates that disabled spaces should be provided either with a width of 2.4m and located adjacent to a minimum shared area of 2.4m.



8.2.2 Ramps

- Ramps associated with the residential basement car park have a maximum gradient of 25% (1 in 4) with transitions of 12.5% (1 in 8). These provisions satisfy the requirements of AS 2890.1 (2004) for the car park;

8.2.3 Clear Head heights

- A minimum clear head height of 2.2m is provided for all areas within the basement car park as required by AS2890.1. A clear head height of 2.5m is provided above all disabled spaces as required by AS2890.6. A clear head height of 4.0m is provided at the entrance to the access driveway and over the loading area on the ground floor which more satisfies the minimum requirements outlined in AS2890.2.

8.2.4 Other Considerations

- All columns have been located outside of the parking space design envelope shown in Figure 5.2 of AS 2890.1 (2004).
- Appropriate visual splays have been provided in accordance with the requirements of Figure 3.3 of AS2890.1 at all accesses.
- A swept path analysis of all critical movements has been undertaken to confirm geometry and compliance with the relevant standards. The swept path assessment is included in **Appendix D**.

8.2.5 Service Area Design

- The internal design of the service area has been undertaken in accordance with the maximum length vehicle permissible on-site being Council's 9.25m waste collection vehicle. Swept path analysis demonstrates satisfactory access and egress in a forward direction.
- A minimum clear head height of 4.0m is provided within the service area, which is satisfactory for Council's waste collection vehicle. Standard MRV vehicles will not have sufficient head height clearance to enter the building, and alternative arrangements must be made.
- A turntable has been provided to accommodate the turning of the service vehicle. The turntable will have a radius of 4.5m and a clearance of radius 5.5m
- A swept path analysis has been undertaken as permissible under AS2890.2 and confirms the internal design. The swept path assessment is included in **Appendix D**.



In summary the internal configuration of the basement car park and loading areas have been designed in accordance with the both AS2890.1, AS2890.2 and AS2890.6, with the exception of the provision of a sufficient queueing area. 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.

8.3 Construction Management Plan

It is anticipated that a standard condition of consent will be imposed requiring the preparation of a detailed construction management plan (CTMP). Such a plan cannot be prepared until such time as a builder has been appointed and the construction methodology confirmed. Nevertheless it is considered that adherence will generally be made to the following principles:

- ② It is intended that a construction work zone will be sought on Harrington Street immediately adjacent to the site.
- ② Access to the site will be available via Gloucester Street for vehicles up to and including a Small Rigid Vehicle (SRV). All other vehicles will be able to access the site via Harrington Street subject to the building stage. A work zone will be sought on Gloucester Street for use by vehicles up to a 6.4m SRV.
- ② Worker numbers will vary during each construction phase. However, it is proposed that car-pooling will be encouraged during the entire construction period to minimise the reliance on on-street and public parking in the vicinity. The opportunity will be taken for the workers to park in the basement as soon as practicable during the construction process.
- ② Small trucks will access the site via Gloucester Street as well as Harrington Street. All larger vehicles will access the site via Harrington Street only. At this stage it is expected that the largest truck accessing the site will be a 12.5m Heavy Rigid Vehicle (HRV). Craneage requirements are expected to be contained within the site. However, in the event that the standing of a crane on street is proposed, an occupancy licence will be applied for under RMS procedures.
- ② Pedestrian control and management will be undertaken along both street facades at all times.
- ② There are a number of routes available for construction traffic to access the site. These routes will need to be determined once a building contractor has been appointed to ensure that minimal impacts occur on surrounding local streets.



9. Conclusions

In summary:

- ② The traffic generation arising from the proposed mixed use development has been assessed as a net decrease under existing traffic conditions. The net decrease is eight (8) vehicles per hour for the AM peak period. These trips will be split into both directions and can be readily accommodated, with minimal impacts on the surrounding road system;
- ② With 63 off-street parking spaces, the development will contain all parking demands within the site. Consideration has been made for accessible parking, and alternative travel modes through the provision of bicycle parking, motorcycle parking and the production of a green travel plan. The additional few parking spaces results in a marginal increase to Council's rates. These additional few car spaces will not have a material impact to surrounding traffic congestion. In fact, the proposed change of use to predominantly residential from the existing commercial office building, along with its location within the CBD, will render the car parking as car storage during weekday peak congestion periods and as demonstrated in this report, will actually result in a decrease to existing traffic generation from this site during the peak periods.
- ② Access to the site car park and loading dock for this development will be achieved through a two-way access driveway that will allow service vehicles to use the turntable to enter and exit the site in a forward direction. The design dimensions of the driveway is compliant with AS 2890.1 (2004),
- ② The proposed car park layout complies with the requirements of both AS 2890.1 (2004). The car park has also been assessed using the computer program Auto Track, as permitted by AS 2890.1 (2004) and operates safely and efficiently. Any minor adjustments to ramp swept paths can be altered at construction certificate stage;

It is therefore concluded that the proposed development is generally supportable on traffic planning grounds.



Appendix A

Photographic Record



View of the north of the subject site on Harrington Street.



View of the south of the subject site on Harrington Street.





View of Harrington Street looking north from the subject site



View of Harrington Street looking south from the subject site





View of the intersection of Harrington Street and Argyl Street looking north from Harrington Street.



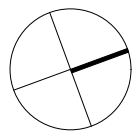
View of the intersection of Harrington Street and Essex Street looking south from Harrington Street





Appendix B

Reduced Plans



0 2 5 10m

- GENERAL NOTES**
- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK
 - ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'
 - DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

LEGEND

1 BED
2 BED 2 BATH
3 BED
TOWNHOUSE
LOBBY
COMMERCIAL
LIVE/ WORK
RETAIL

- Adaptable Apartment
- Livable Apartment (Silver Level)
- Cross Ventilated Apartment
- Solar Compliant Apartment
- Solar Compliant Balcony
- Cross Ventilated Apartment

- ALP Composite Extrusion Panel
- BAL1 Glazed Balustrade 1
- BAL2 Glazed Balustrade 2
- BAL3 Palisade Balustrade
- BYRK1 Bicycle Rack
- GL1 Aluminium Framed Retail Glazing
- GL2 Aluminium Framed Performance Glazing
- LV1 High Level Louvre (Retail)
- PAV1 Paving 1
- PC1 Precast Concrete 1
- SC1 Operable Bonze Screen
- SS1 Sandstone Cladding
- TC1 Terracotta Cladding 1
- TC2 Terracotta Cladding 2
- TC3 Terracotta Cladding 3
- TC4 Terracotta Cladding 4

P	4/8/17	DA Submission	01	DA	IS
N	2/8/17	Draft DA			DN
M	12/7/17	Issue for Co-ordination			IS
J	12/1/16	Issue for DA			CHS
I	29/1/16	For Coordination			CHS
H	12/1/16	For Coordination			CHS
REVISION	DATE	DESCRIPTION			BY

fjmt
francis-jones morehen thorp

SYDNEY
Level 5, 70 King Street
Sydney NSW 2000 Australia
T +61 2 9251 7077
F +61 2 9251 7072
E fjmt@fjmt.com.au
W www.fjmt.com.au

NOMINATED ARCHITECT: RICHARD FRANCIS-JONES (REG NO 5301)

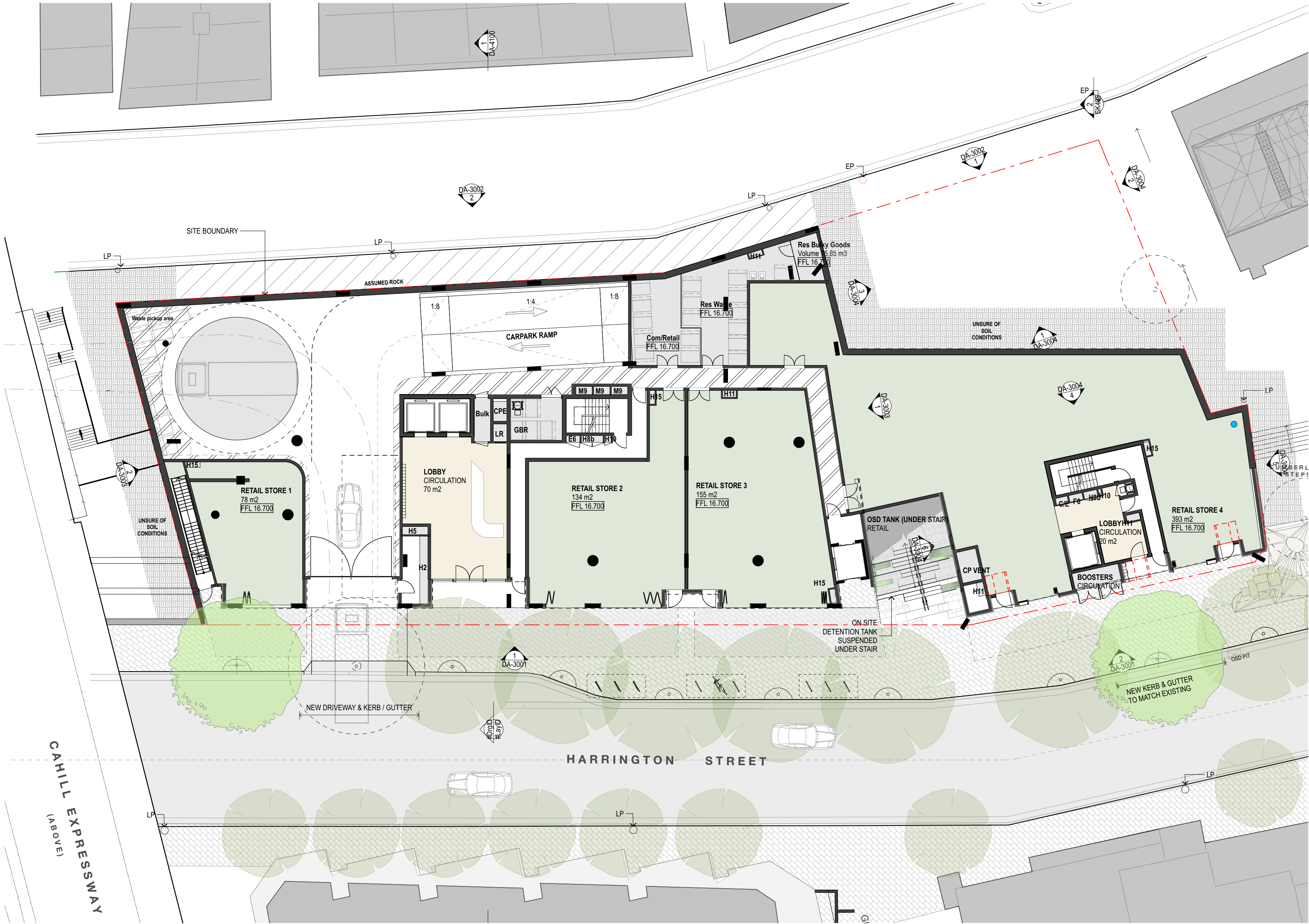
PROJECT

85 Harrington Street
The Rocks
GOLDEN AGE & HANNAS THE ROCKS

TITLE
Plans
Ground Floor Plan (Harrington Street)

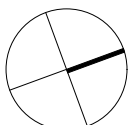
SCALE	1:200 @ A2	PROJECT CODE
DATE	11/9/15	GA85H
SHEET NO.	DA-2000	REVISION
		P

For Approval



B1 TOTAL CAR PARKING SPACES 32
INCLUDING
27 RESIDENTIAL SPACES
4 ACCESSIBLE SPACES
1 LOADING BAY

OTHER
65 BICYCLE SPACES



02510m

GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK
- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

LEGEND

1 BED
2 BED 2 BATH
3 BED
TOWNHOUSE
LOBBY
COMMERCIAL
LIVE/ WORK
RETAIL

- Adaptable Apartment
- Livable Apartment (Silver Level)
- Cross Ventilated Apartment
- Solar Compliant Apartment
- Solar Compliant Balcony
- Cross Ventilated Apartment

- ALPComposite Extrusion Panel
- BAL1Glazed Balustrade 1
- BAL2Glazed Balustrade 2
- BAL3Palisade Balustrade
- BYRK1Bicycle Rack
- GL1Aluminium Framed Retail Glazing
- GL2Aluminium Framed Performance Glazing
- LV1High Level Louvre (Retail)
- PAV1Paving 1
- PC1Precast Concrete 1
- SC1Operable Bonze Screen
- SS1Sandstone Cladding
- TC1Terracotta Cladding 1
- TC2Terracotta Cladding 2
- TC3Terracotta Cladding 3
- TC4Terracotta Cladding 4

P	4/8/17	DA Submission	01	DA	IS
N	2/8/17	Draft DA			DN
K	12/7/17	Issue for Co-ordination			IS
J	1/2/16	Issue for DA			CHS
I	27/1/16	For Coordination			CHS
H	12/1/16	For Coordination			CHS
REVISION	DATE	DESCRIPTION			BY

fjmt
francis-jones morehen thorp

SYDNEY
Level 5, 70 King Street
Sydney NSW 2000 Australia
T +61 2 9251 7077
F +61 2 9251 7072
E fjmt@fjmt.com.au
W www.fjmt.com.au

NOMINATED ARCHITECT: RICHARD FRANCIS-JONES (REG NO 5301)

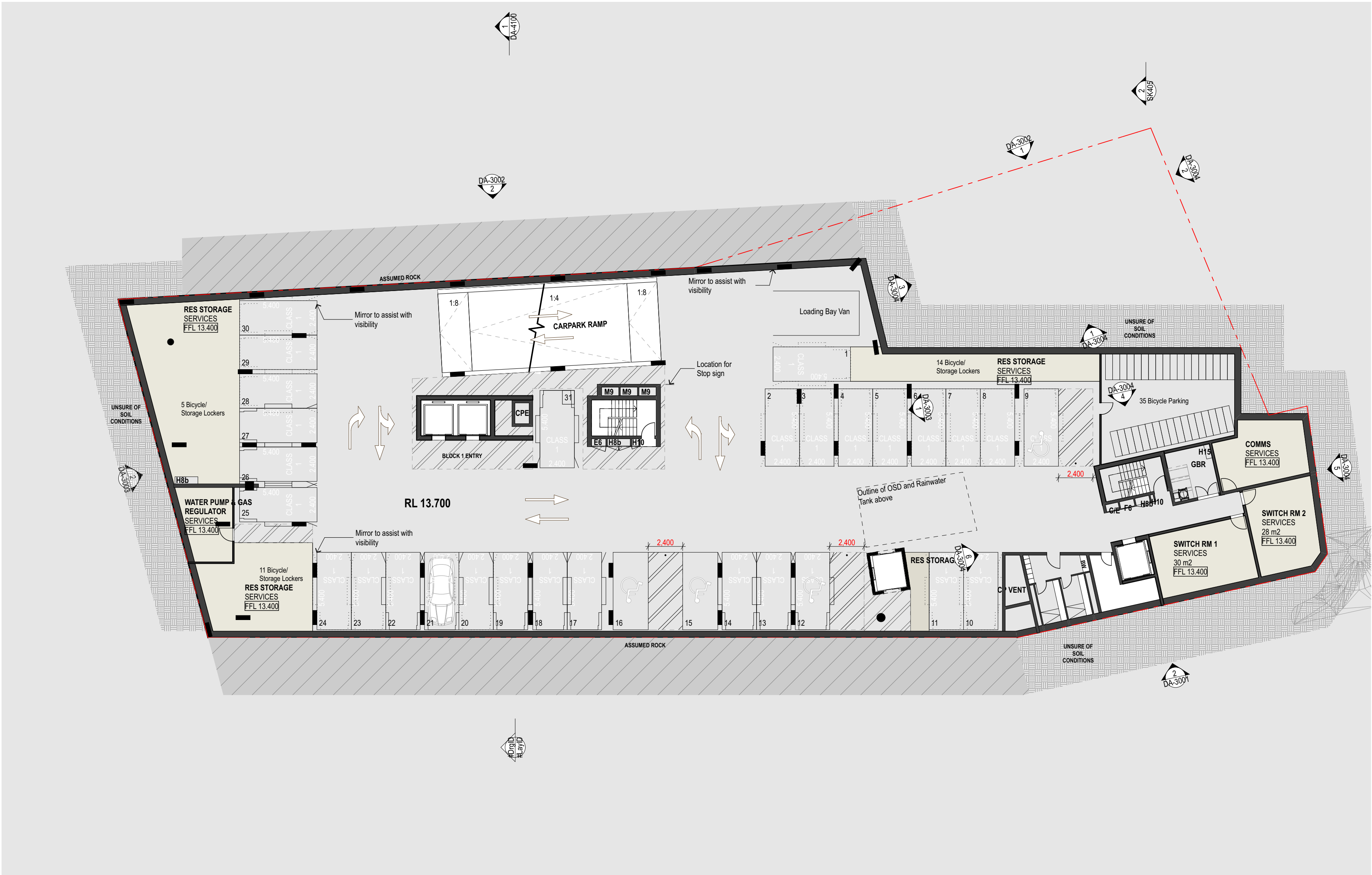
PROJECT

85 Harrington Street
The Rocks
GOLDEN AGE & HANNAS THE ROCKS

TITLE
Plans
Basement Level 1

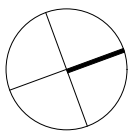
SCALE	1:200 @ A2	PROJECT CODE
DATE	11/9/15	GA85H
SHEET NO.	DA-2011	REVISION P

For Approval



B2 TOTAL CAR PARKING SPACES 32
INCLUDING
29 RESIDENTIAL SPACES
3 ACCESSIBLE SPACES

OTHER
5 MOTORBIKE SPACES
37 BICYCLE SPACES



- GENERAL NOTES**
- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK
 - ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'
 - DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY

LEGEND

1 BED
2 BED 2 BATH
3 BED
TOWNHOUSE
LOBBY
COMMERCIAL
LIVE/ WORK
RETAIL

- Adaptable Apartment
- Livable Apartment (Silver Level)
- Cross Ventilated Apartment
- Solar Compliant Apartment
- Solar Compliant Balcony
- Cross Ventilated Apartment

- ALP Composite Extrusion Panel
- BAL1 Glazed Balustrade 1
- BAL2 Glazed Balustrade 2
- BAL3 Palisade Balustrade
- BYRK1 Bicycle Rack
- GL1 Aluminium Framed Retail Glazing
- GL2 Aluminium Framed Performance Glazing
- LV1 High Level Louvre (Retail)
- PAV1 Paving 1
- PC1 Precast Concrete 1
- SC1 Operable Bonze Screen
- SS1 Sandstone Cladding
- TC1 Terracotta Cladding 1
- TC2 Terracotta Cladding 2
- TC3 Terracotta Cladding 3
- TC4 Terracotta Cladding 4

P	4/8/17	DA Submission	01	DA	IS
N	2/8/17	Draft DA			DN
K	12/7/17	Issue for Co-ordination			IS
J	12/1/16	Issue for DA			CHS
I	27/1/16	For Coordination			CHS
H	12/1/16	For Coordination			CHS
REVISION	DATE	DESCRIPTION			BY

fjmt
francis-jones morehen thorp

SYDNEY
Level 5, 70 King Street
Sydney NSW 2000 Australia
T +61 2 9251 7077
F +61 2 9251 7072
E fjmt@fjmt.com.au
W www.fjmt.com.au

NOMINATED ARCHITECT: RICHARD FRANCIS-JONES (REG NO 5301)

PROJECT

85 Harrington Street
The Rocks
GOLDEN AGE & HANNAS THE ROCKS

TITLE
Plans
Basement Level 2

SCALE	1:200 @ A2	PROJECT CODE
DATE	11/9/15	GA85H
SHEET NO.	DA-2012	REVISION
		P

For Approval



Appendix C

Travel Access Guide

Travel Access Guide

85 Harrington Street
The Rocks
NSW 2000



WALKING

A great way to get moving and encourage active travel, especially if you have a young family. The majority of local trips can be completed within approximately 10 minutes from 85 Harrington Street, The Rocks.



CYCLING

There are numerous cycle routes available for cyclists surround 85 Harrington Street, The Rocks providing strong and convenient connections to local amenities and links to local points of interest. All residents have been provided with storage lockers that are suitable for bicycle storage. End of trip facilities are available for workers.

www.sydneycycleways.net



BUS

Bus stops and routes have been marked on the plan on this TAG. There are numerous bus stops adjacent to the site for convenient access to greater Sydney.

www.sydneybuses.info



TRAIN

Circular Quay Railway Station is situated approximately 300m from 85 Harrington Street, The Rocks which provides regular rail connections to the city via the T1 North Shore, Northern & Western Line and T2 Airport, Inner West and South Line with services to Sydney's south-west via the T3 Bankstown Line.

www.sydneytrains.info



FERRY

Circular Quay Wharf is located within 400m of the site. The wharf is a terminal for all ferry lines providing links to major hubs such as Bondi, Manly and Darling Harbour as well as major tourist attractions like Taronga Zoo.

www.transportnsw.info



CAR SHARE

GoGet Car Share pods are present in The Rocks precinct with eleven (11) vehicles located within 400m of 85 Harrington Street, The Rocks.

www.goget.com.au

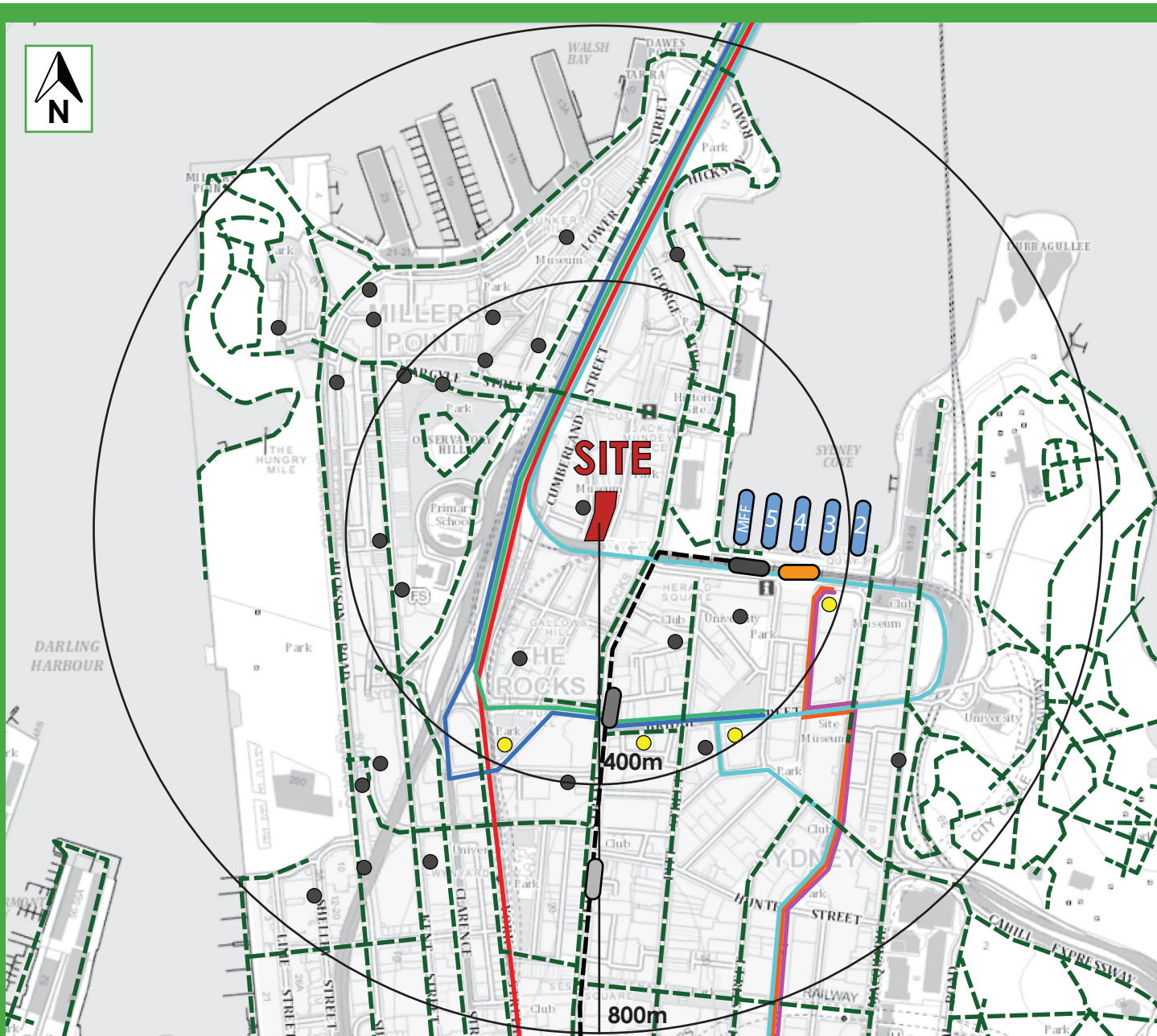
This travel access guide (TAG) provides information to residents, staff and visitors of 85 Harrington Street, The Rocks and their visitors on how to access local amenities and connections to the city and surrounding suburbs using alternatives to private car travel.

85 Harrington Street is well located so that residents, staff and visitors can take advantage of the numerous bus, rail, ferry and car share services within its vicinity. Furthermore there are great opportunities to undertake active travel by walking and cycling to a range of local amenities in the surrounding area. The benefits of undertaking trips using alternatives to private car travel include:

- Reducing emissions and improving local air quality
- Less traffic congestion
- A safe and more pleasant urban environment
- Improve individual health by becoming more active
- Potential cost savings

Transport Access Guide

85 Harrington Street, The Rocks NSW 2000



Legend

- Cycleway
- Bus Stop
- GoGet
- ▭ Circular Quay Train Station
- ▭ Circular Quay Ferry Wharf
- ▭ Circular Quay Light Rail
- ▭ Grosvenor St Light Rail
- ▭ Wynyard Light Rail

Sydney Bus Services

M20 Gore Hill to Botany	303 City to Sans Souci
M30 Mosman to Sydenham	373 City to Coogee
M40 Chatswood to Bondi Jct.	374 City to Coogee
201 City to Cremorne	377 City to Maroubra Beach
202 City to Northbridge	X03 City to Sans Souci
203 City to Castlecrag	500 City to Ryde
204 City to Northbridge	507 City to Macquarie Uni
205 City to East Willoughby	515 City to Eastwood
206 City to East Lindfield	518 City to Macquarie Uni
207 City to East Lindfield	520 City to Parramatta
208 City to Northbridge	M52 City to Parramatta
301 City to Eastgardens	263 City to Crows Nest
302 City to Eastgardens	343 City to Crows Nest

Ferry Services Departing from Wharf 2-5 at Circular Quay

F1 : Manly Line
 F2 : Taronga Zoo
 F3 : Parramatta River
 F4 : Darling Harbour
 F5 : Neutral Bay
 F6 : Mosman Bay
 F7 : Eastern Suburbs
 Manly Fast Ferry

MFF



Appendix D

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 AS 2890.2-2002 *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.

no. revision noteby. date

Swept Path Legend:

Wheel Path

Vehicle Body Envelope

Clearance Envelope (300mm)

architect

FJMT Studio

client

Golden Age & Hannas The Rocks Pty Ltd
c/- Savills Project Management

scale

1:250 @ A3

0m

2

4

6

8

project

85 Harrington Street, The Rocks

drawing prepared by

TRAFFIX

traffic and 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 9380 4481
e: info@traffix.com.au

t

traffix

traffic & transport planners

drawing title

Swept Path Analysis
Proposed 6.0m access driveway
B99 & B85 Entry and Exit Movement

drawn: LKchecked: MMdate: 21-02-2017

14.563

-

TX.01

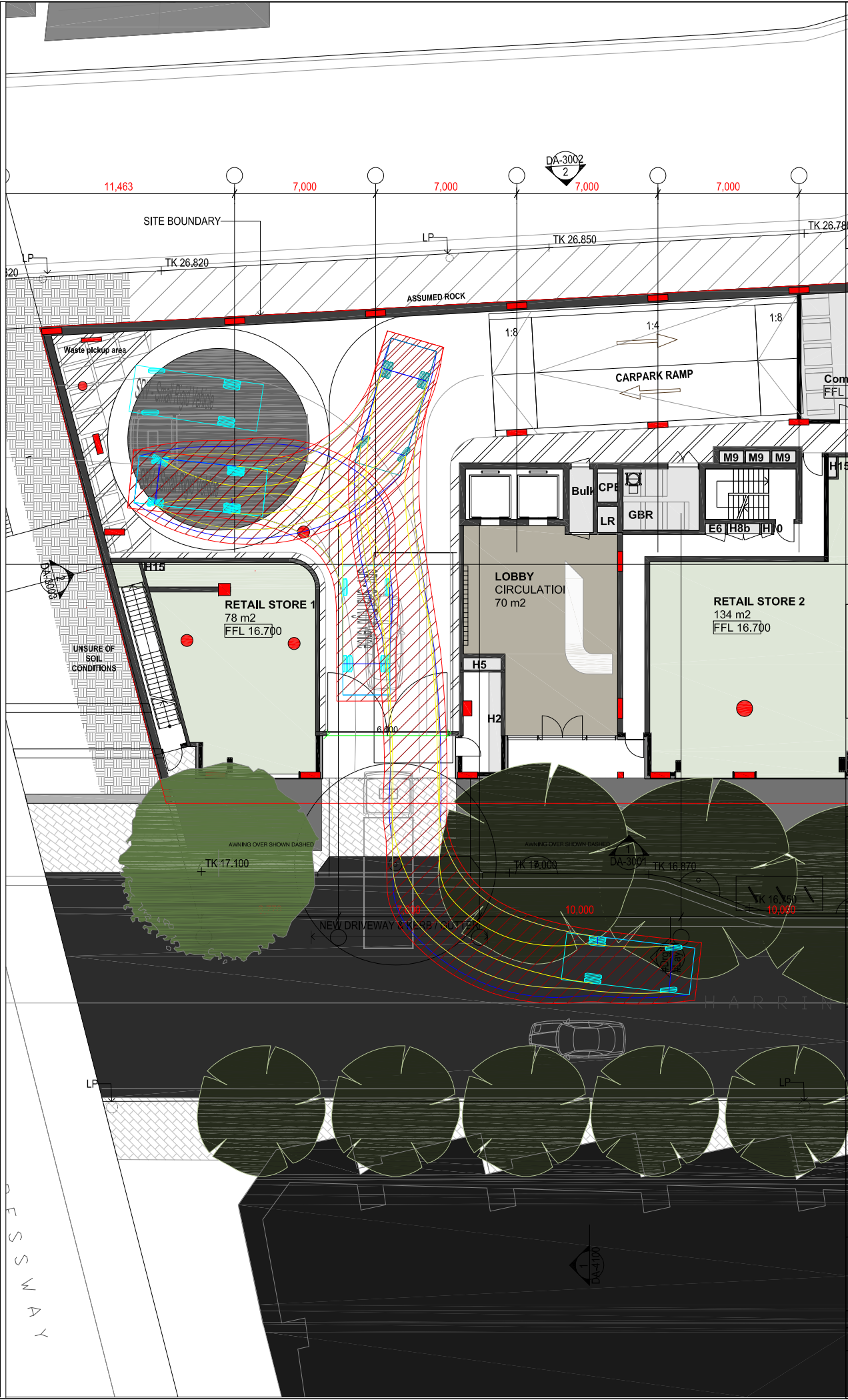
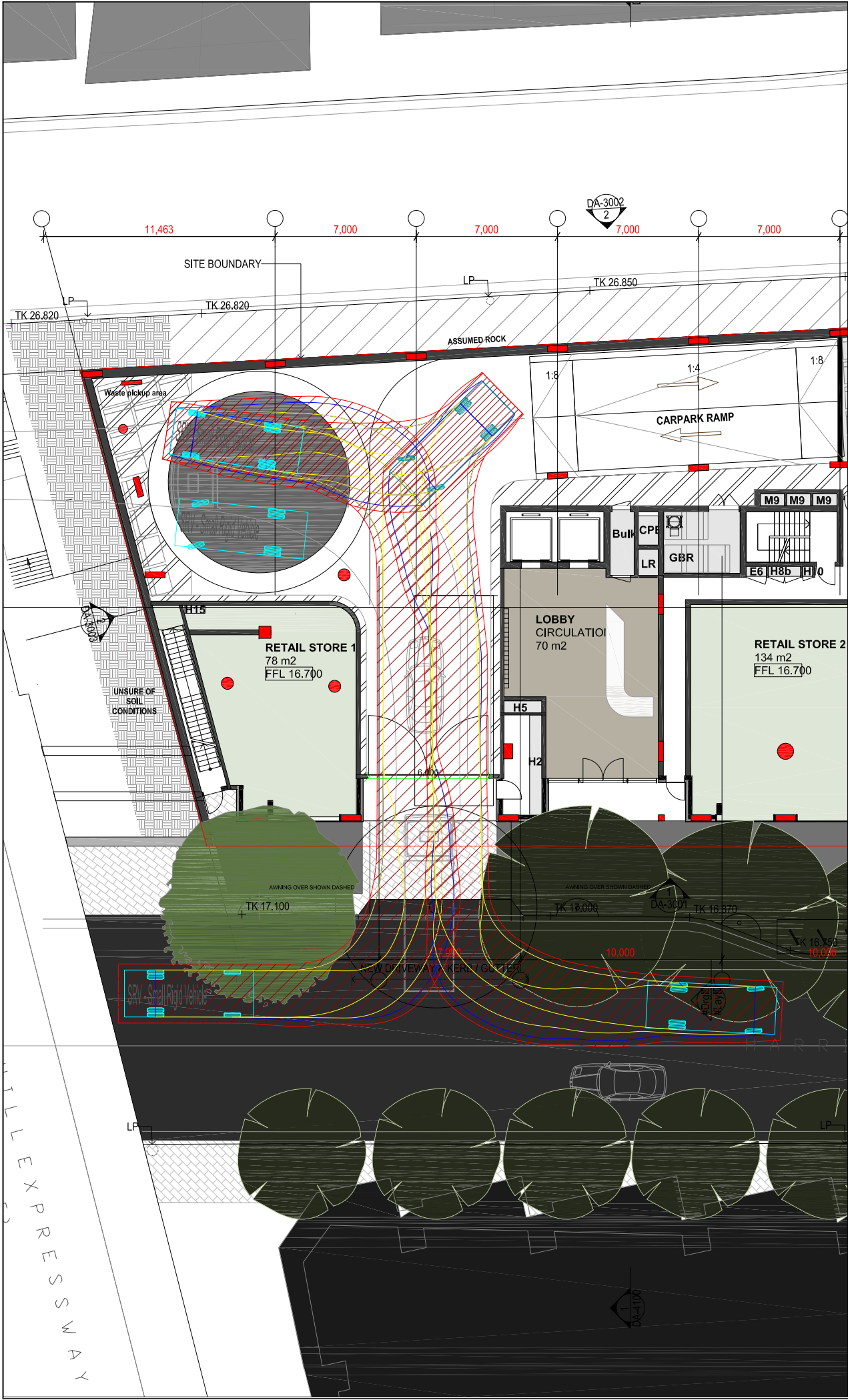
02

project no.

drawing phase.

drawing no.

rev



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 AS 2890.2-2002 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.

no.	revision note	by.	date

Swept Path Legend:

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

architect
FJMT Studio

client
Golden Age & Hannas The Rocks Pty Ltd
c/- Savills Project Management

scale
1:250 @ A3
0m 2 4 6 8

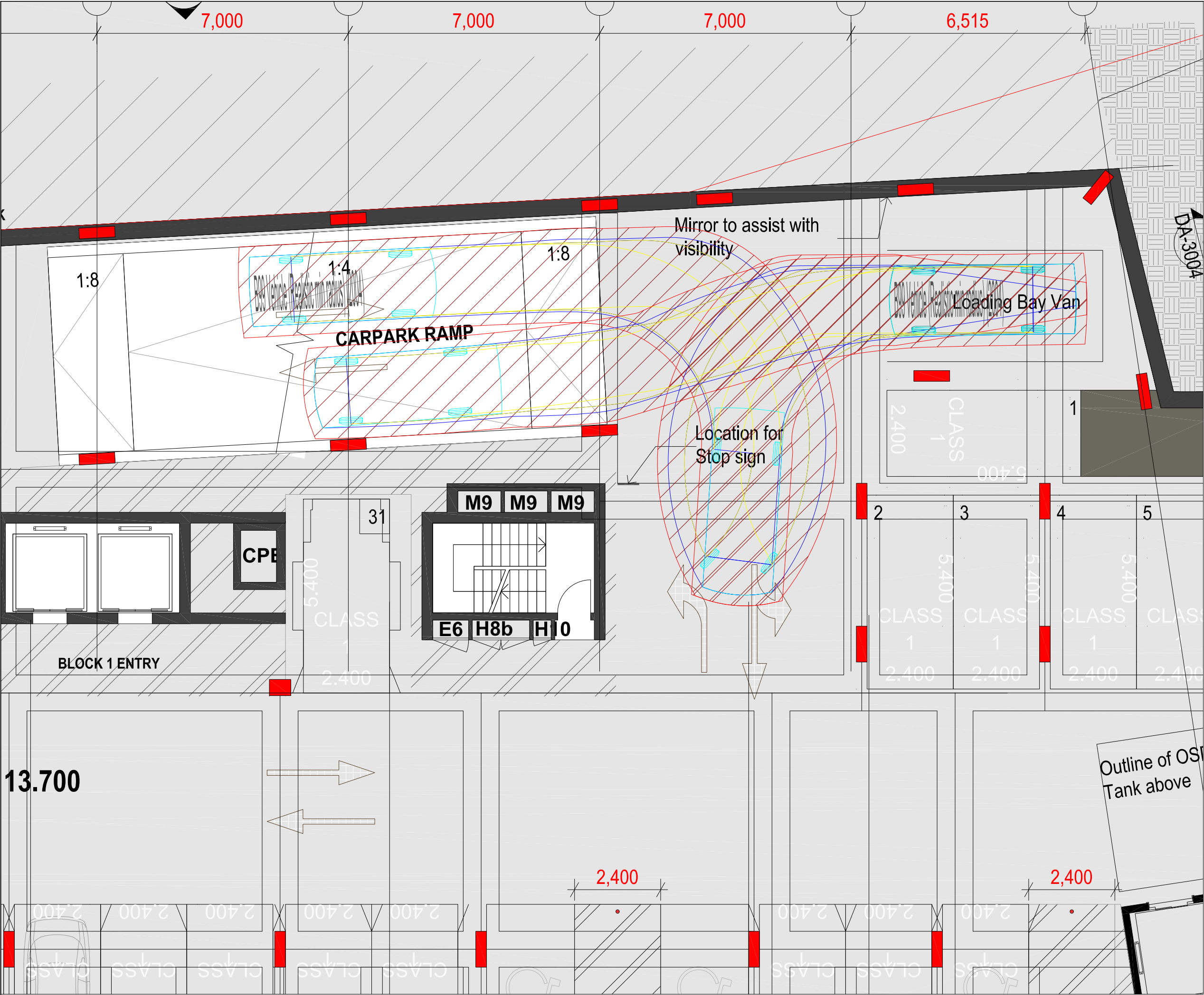
project
85 Harrington Street, The Rocks

drawing prepared by
TRAFFIX
traffic and transport planners
Suite 2.08, 50 Holt Street
Sunny Hills NSW 2010
PO Box 1124
Strawberry Hills NSW 2012
t: +61 2 8324 8700
f: +61 2 9380 4481
e: info@traffix.com.au

drawing title
Swept Path Analysis - Two (2) x SRV
Access and Egress of Ground Floor Loading Area.

drawn:	checked:	date:
LK	MM	21-02-2017

14.563	-	TX.02	02
project no.	drawing phase.	drawing no.	rev



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 AS 2890.2-2002 *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.

no.	revision note	by.	date

Swept Path Legend:

Wheel Path

Vehicle Body Envelope

Clearance Envelope (300mm)

architect

FJMT Studio

client

Golden Age & Hannas The Rocks Pty Ltd
c/- Savills Project Management

scale

1:100 @ A3

0m 1 2 3 4

project

85 Harrington Street, The Rocks

drawing prepared by

TRAFFIX

traffic and transport planners

Suite 2.08, 50 Holt Street
Sunny Hills NSW 2010

PO Box 1124
Strawberry Hills NSW 2012

t: +61 2 8324 8700
f: +61 2 9380 4481
e: info@traffix.com.au



traffix

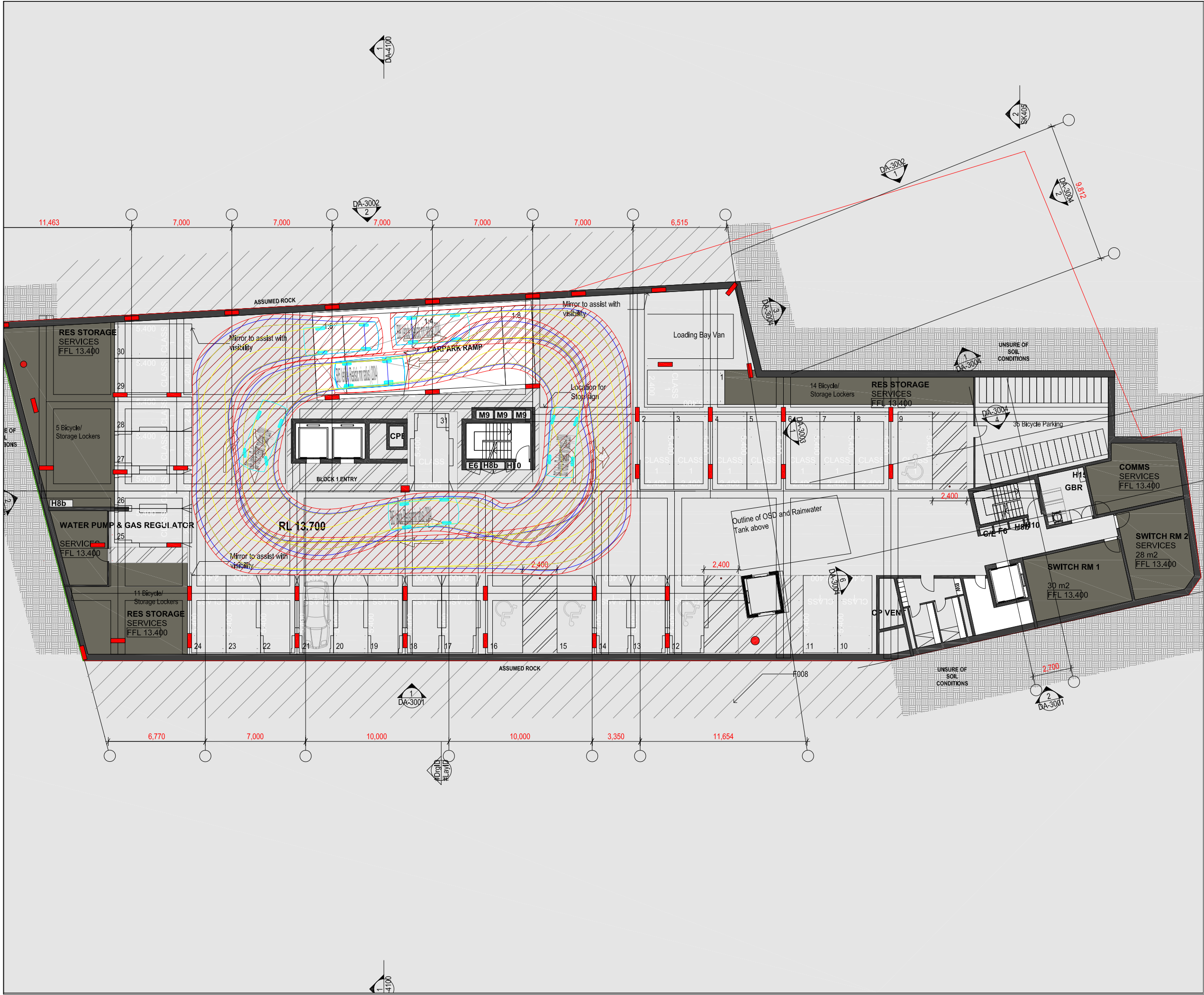
traffic & transport planners

drawing title

Swept Path Analysis - B99 Design Vehicle
Access and Egress
Basement Level 1 Loading Dock

drawn: LK	checked: MM	date: 21-02-2017
-----------	-------------	------------------

14.563	-	TX.03	02
project no.	drawing phase.	drawing no.	rev



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 AS 2890.2-2002 *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.

no.	revision note	by.	date

Swept Path Legend:

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

architect

FJMT Studio

client

Golden Age & Hannas The Rocks Pty Ltd
c/- Savills Project Management

scale

1:250 @ A3

0m 2 4 6 8

project

85 Harrington Street, The Rocks

drawing prepared by

TRAFFIX
traffic and 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 9380 4481
e: info@traffix.com.au



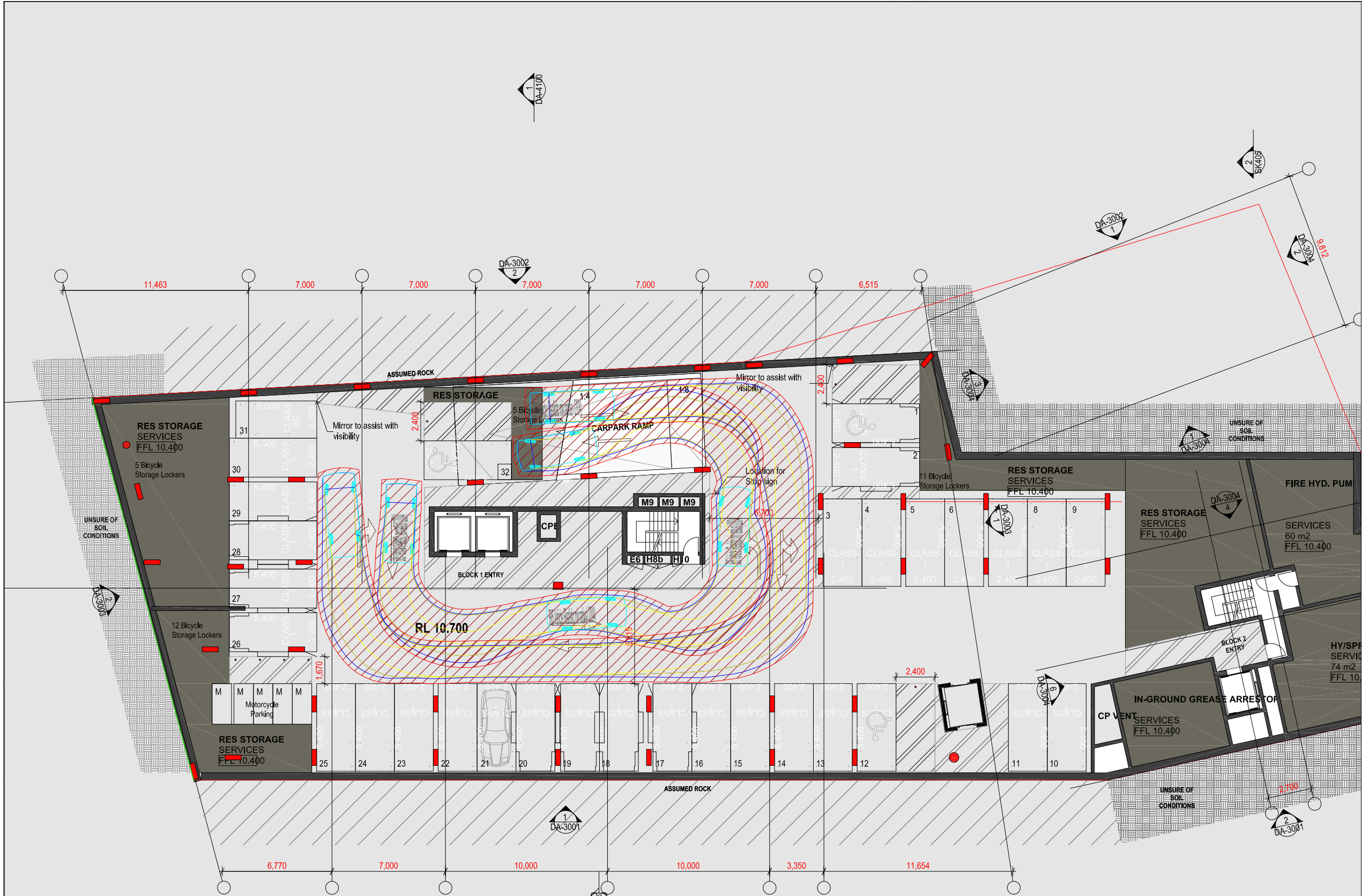
traffix
traffic & transport planners

drawing title

Basement Level 1
Design Comments

drawn: LK	checked: MM	date: 21-02-2017
-----------	-------------	------------------

14.563	-	TX.04	02
project no.	drawing phase.	drawing no.	rev



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 AS 2890.2-2002 *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.

no. revision note

by. date

Swept Path Legend:

Wheel Path

Vehicle Body Envelope

Clearance Envelope (300mm)

architect

FJMT Studio

client

Golden Age & Hannas The Rocks Pty Ltd
c/- Savills Project Management

scale

1:250 @ A3

0m

2

4

6

8

project

85 Harrington Street, The Rocks

drawing prepared by

TRAFFIX

traffic and 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 9380 4481
e: info@traffix.com.au

t

traffix

traffic & transport planners

drawing title

Basement Level 2
Design Comments

drawn: LK

checked: MM

date: 21-02-2017

14.563

-

TX.05

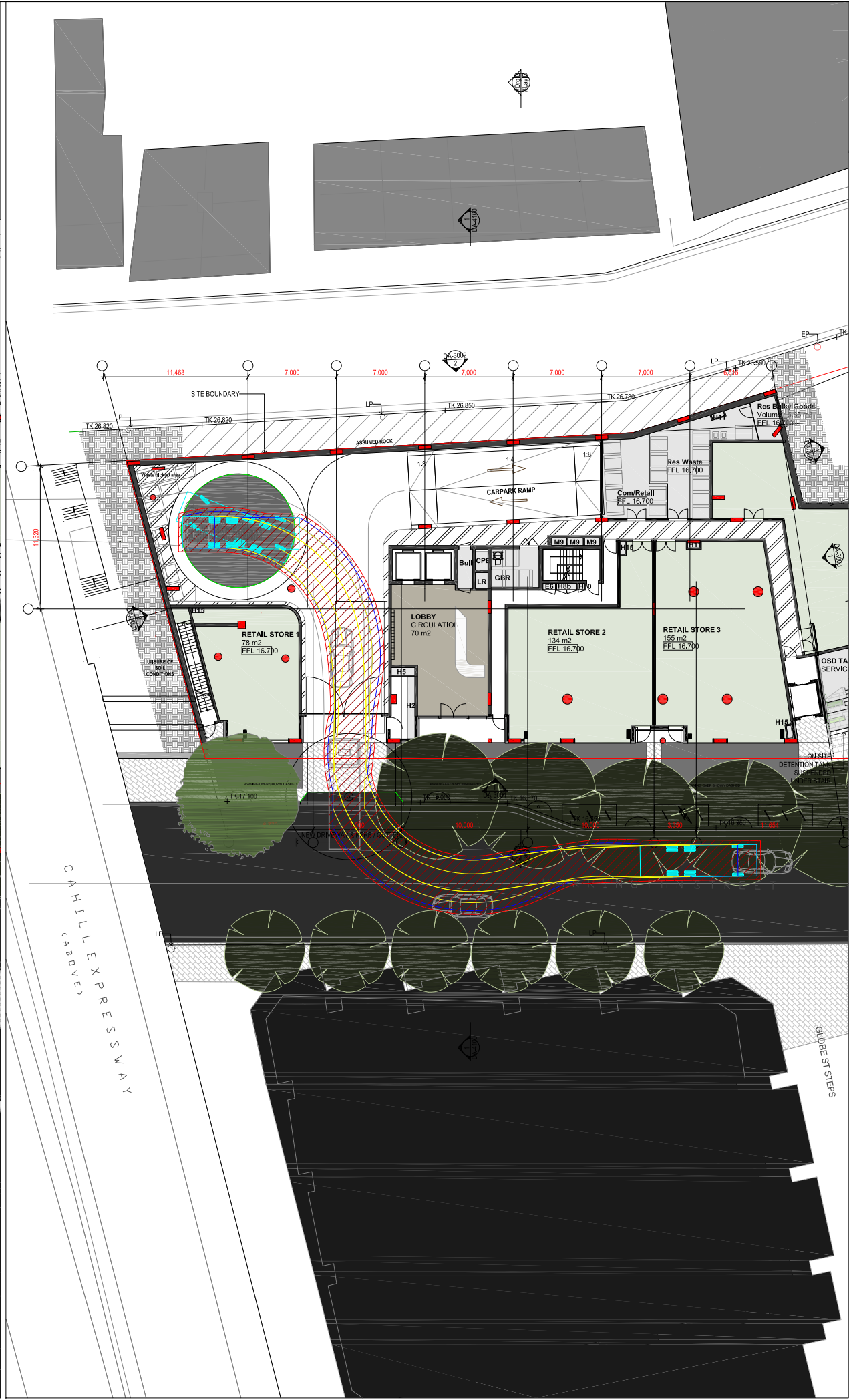
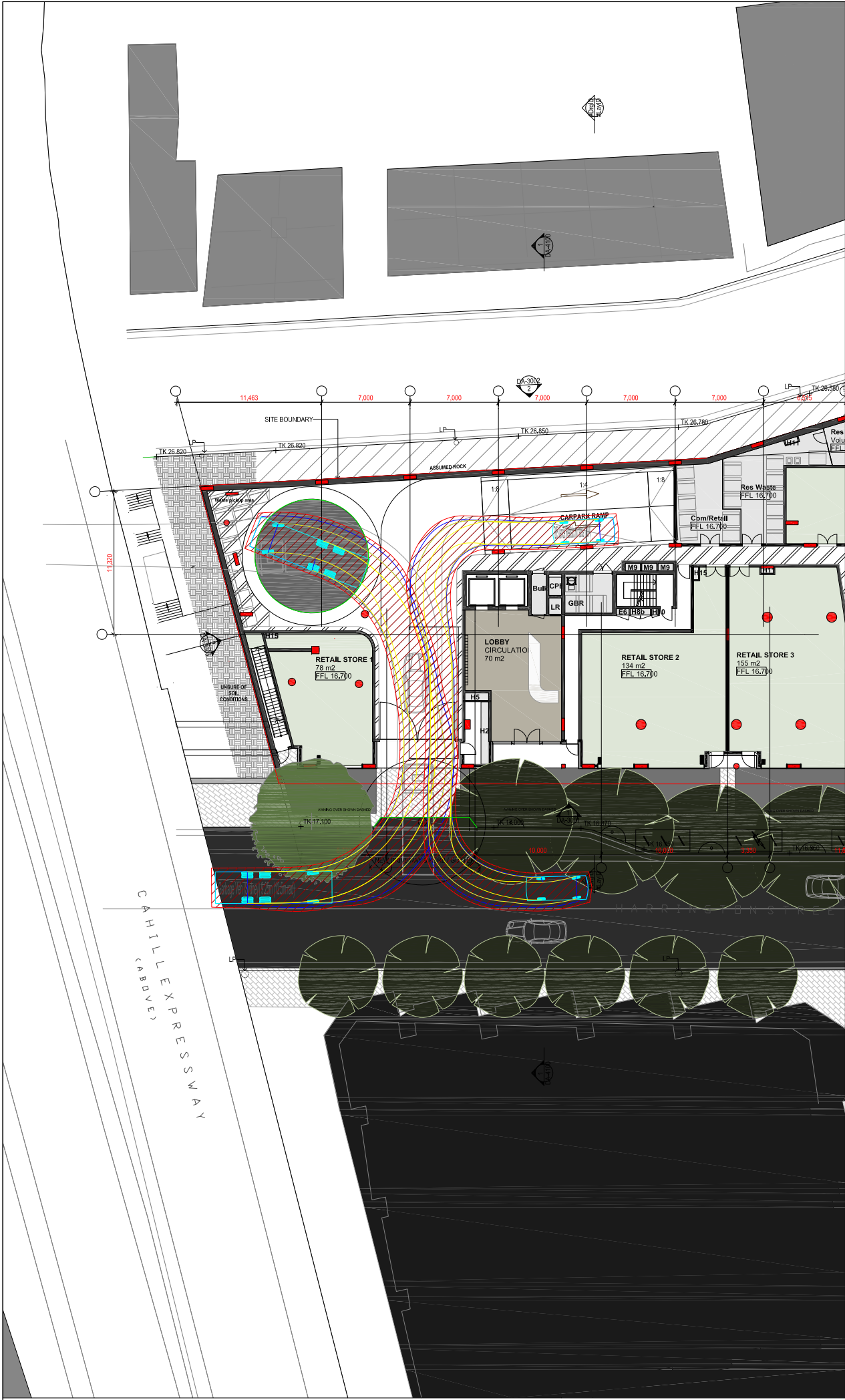
02

project no.

drawing phase.

drawing no.

rev



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 AS 2890.2-2002 *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.

no. revision note

by. date

Swept Path Legend:

Wheel Path

Vehicle Body Envelope

Clearance Envelope (300mm)

architect

FJMT Studio

client

Golden Age & Hannas The Rocks Pty Ltd
c/- Savills Project Management

scale

1:400 @ A3

0m 4 8 12 16

project

85 Harrington Street, The Rocks

drawing prepared by

TRAFFIX

traffic and 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 9380 4481
e: info@traffix.com.au

traffix

traffic & transport planners

drawing title

Swept Path Analysis
Council's 9.25m Waste Collection Vehicle
Access and Egress

drawn: LK

checked: MM

date: 21-02-2017

14.563

-

TX.06

02

project no.

drawing phase.

drawing no.

rev