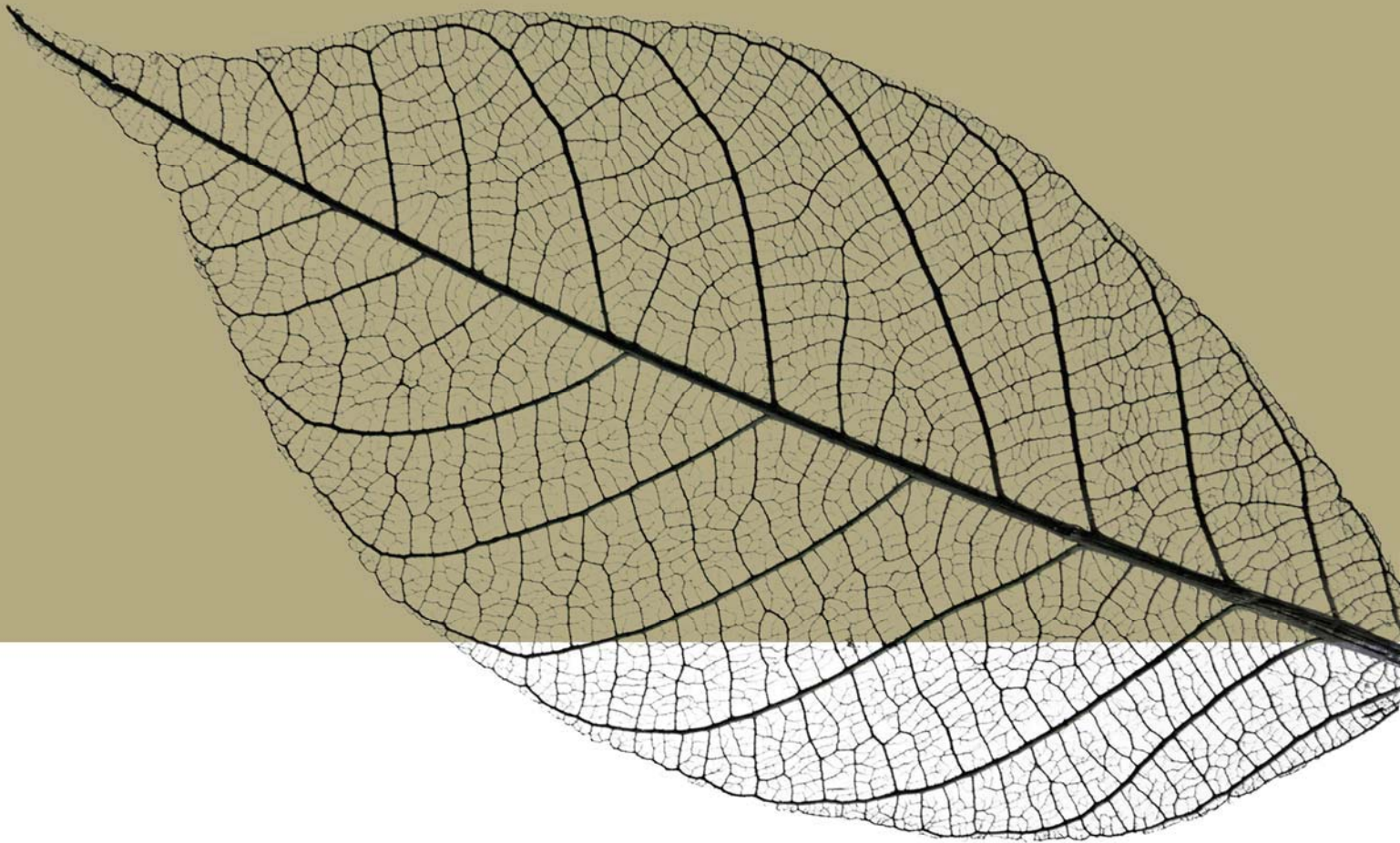




TRAFFIC ENGINEERING
ASSESSMENT REPORT

PROPOSED MULTI-UNIT DWELLING DEVELOPMENT

1 – 3 FOLKESTONE STREET,
BOWEN HILLS

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2021/1215

Date: 23/01/2023



Queensland
Government

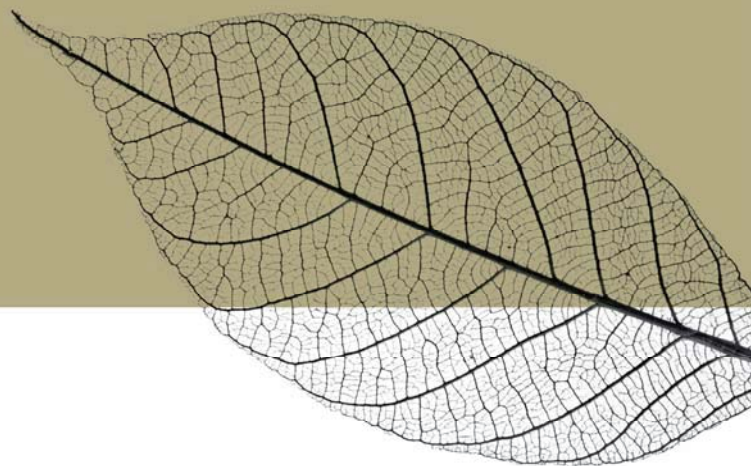


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APPENDICES

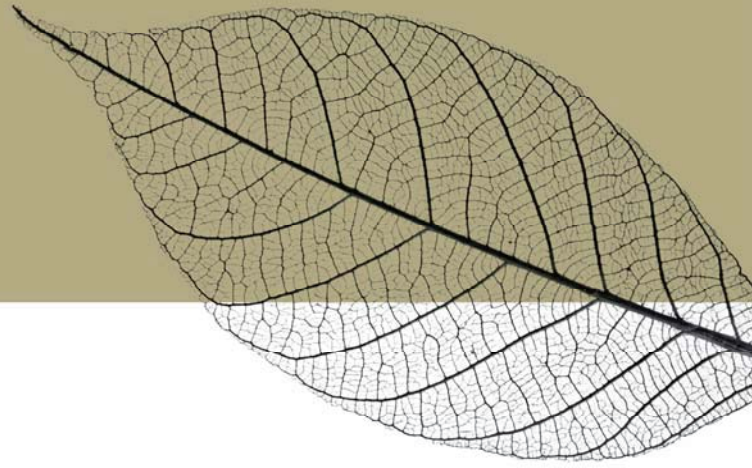
- A Proposed Development Plans
- B Swept Path Assessments

DOCUMENT CONTROL

28 July 2021



Beth Meehan, Traffic Engineer, BE(Civil)(Hons), RPEQ #8373, FAITPM



1 Introduction

1.1 Purpose of this Report

This report summarises an assessment of the car parking and traffic engineering elements of a proposed residential building at 1 – 3 Folkestone Street, Bowen Hills. Specifically the subject development includes a total of 24 residential units and a ground level Café (19sq.m), supported by 23 car parking bays.

In preparing this report, reference has been made to:

- Economic Development Queensland's (EDQ's) *'Bowen Hills Priority Development Area: Development Scheme'*, Effective 3 July 2009, amended 21 June 2019 (Bowen Hills PDA).
- An inspection of the site and its surrounds.
- Plans of the proposed development prepared by Mayhill, with a copy of relevant drawings provided at Appendix A.

1.2 Background and Site Context

Planning permission is being sought for the development of land located at 1 – 3 Folkestone Street, Bowen Hills for the purpose of a multi-unit residential building. This land is currently occupied by two single-unit dwellings.

Importantly the subject site is located within the Bowen Hills Priority Development Area and is therefore assessable under the Economic Development Queensland (EDQ) guidelines.

Figure 1 shows the site location, noting that entry to Bowen Hills Railway Station is provided through a pedestrian walkway on the western side of Abbotsford Road, some 20m south of the signalised pedestrian crossing at Folkestone Street.

Folkestone Street is a Neighbourhood Road (Minor Road), which includes a two-lane, two-way carriageway and on-street parking is permitted.

Abbotsford Road is an Arterial Road (Major Road), which includes a six-lane, two-way carriageway adjacent to the site.

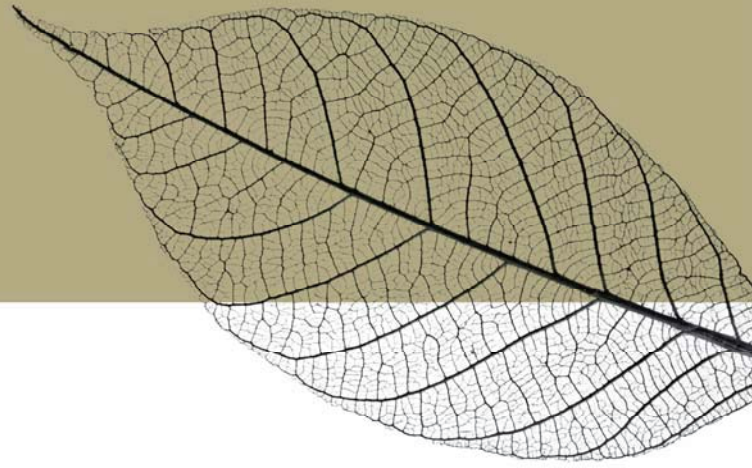


Figure 1: Subject Site and Surroundings

Source: NearMap (Image date Saturday 15 May 2021)



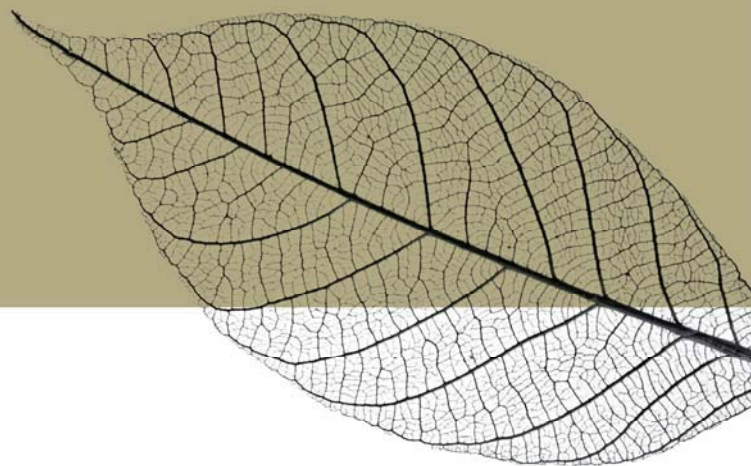
1.3 Development Proposal

The proposed development includes 24 residential units and commercial at the ground level, with:

- 19sq.m Café use (ground level).
- 5 x one-bedroom units.
- 16 x two-bedroom units (including 5 dual-key).
- 3 x three-bedroom unit.

This assessment assumes the dual-key units are ‘traditional’ units. It is suggested that this is appropriate, noting that the units share laundry and kitchen facilities.

To accompany the residential units, a total of 23 car parking spaces and one EV charge bay are proposed.



2 Car Parking Assessment

2.1 EDQ's Requirements

The *Bowen Hills PDA*, at Schedule 3, requires car parking at the following rates:

- Multiple Dwelling: 0.75 spaces / dwelling; plus
0.15 spaces / dwelling for visitors.
- Commercial: As per TAPS Policy;
Maximum 5 spaces / 100sq.m ground use (within 400m railway station).

Application of the above rates to the proposed development, results in the following requirements:

- 18 resident parking bays.
- 4 visitor parking bays.
- 1 commercial parking bay (maximum).
- **23 total (maximum).**

2.2 Adequacy of Parking Provision

The development proposal includes a total of 23 car parking bays, plus one (1) Electric Vehicle charging bay.

The proposed provision currently includes:

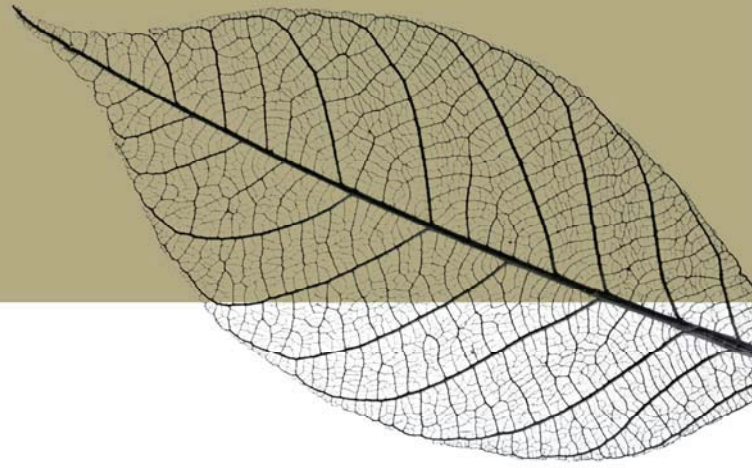
- 19 resident car parking bays
- 4 visitor car parking bays
- NIL commercial car parking

To comply with the car parking requirement, it would be possible to convert one resident car parking bay to a commercial car parking bay.

2.3 Vehicle Charging

A GPO is required to each resident car parking bay, which can be provided as a Condition of Approval.

Under the Bowen Hills PDA, a minimum of one Destination Electric Vehicle (EV) charge point is required. A dedicated position for this charge point / charge bay is included in development plans.



3 Assessment of Site Layout

3.1 Car Parking

In assessing the suitability of the site's car parking layout, the comments below are made in relation to the Australian Standard for Off Street Car Parking (AS/NZS2890.1-2004). As the Australian Standard is a National design reference, its use is expected to result in a clearly defined, safe and easily accessible car parking layout.

A detailed review of the car parking layout reveals the following:

- The majority of car bays are typically 2.6m (W) x 5.4m (L) and accessed by a minimum 5.8m aisle, which meets the Australian Standard for residential parking.
- One bay is provided which is suitable for allocation for Persons With a Disability, V2.
- Columns are generally located in accordance with the Australian Standard, being 0.75m – 1.75m from the car parking aisle.
- Where walls are adjacent to car parking bays, the required additional 0.3m clearance has typically been provided for each side which is obstructed. ***It is recommended to reduce the storage bay next to car bay 10 & 23 to 1.4m wide, to provide an additional 0.3m to those car bays.***
- A 2.0m x 5.0m pedestrian sight line triangle has been provided on the exiting side of the driveway.

Height clearances within the basement and above R14 are to be a minimum of 2.2m, as a Condition of Approval.

Further to the above, accessibility of the end car parking bay has been tested utilising AutoTRACK software, with the results shown at Appendix B to this report. The assessment shows the 85th percentile car, as per the Australian Standard, enter and exit the site in a forward gear in a suitable number of manoeuvres.

3.2 Management of One-Way Ramp

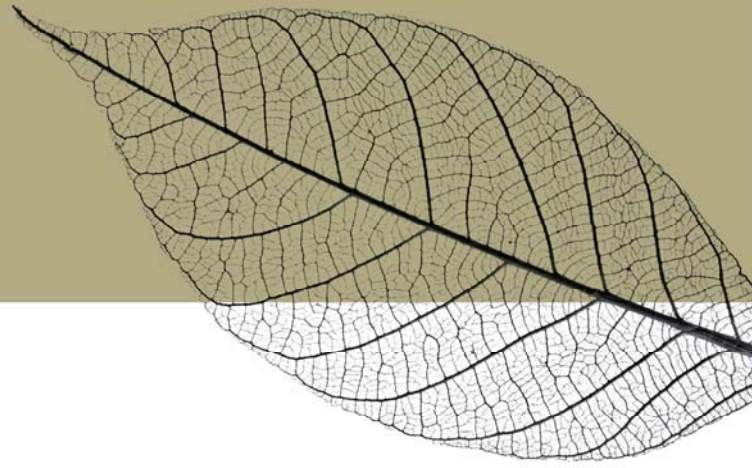
It is proposed to use a signalling system to manage two-way use of a single-lane ramp. The location for infrastructure associated with the signalling system is included in development plans. This includes vehicle waiting positions, noting that these allow vehicles travelling in the opposite direction to pass.

Swept path assessments demonstrating accessibility of the single lane ramp are provided at Appendix B to this report.

Given the low turnover of car parking (see Section 4), the two-way traffic volumes on the ramp are not expected to create notable queuing.

3.3 Pedestrian Access

The development proposes to connect to the existing pedestrian path in Folkestone Street, via a dedicated pedestrian entry which connects to the lobby.



3.4 Bicycle Parking

The bicycle parking requirement for this development is as per the City Plan's TAPS Policy, which is:

- 24 resident bikes (1/unit).
- 6 visitor bikes (1/4 units).

Locations for the provision of this parking are shown at Appendix A.

3.5 Gradients

A review of potential gradients within the site against the requirements of the Australian Standards (AS/NZS2890.1:2004) identifies the following can be achieved:

- A minimal gradient for the majority of the ground floor level, sufficient to accommodate loading by service vehicles (maximum 1:20) and PWD parking (maximum 1:40).
- A 1:8 (12.5%) transition gradient over a length of 2m.
- A maximum 1:5 (20%) gradient on the ramp.

The above ramp gradients are appropriate for a private car park **noting that the intended gradients should be clearly shown on development plans.**

3.6 Servicing

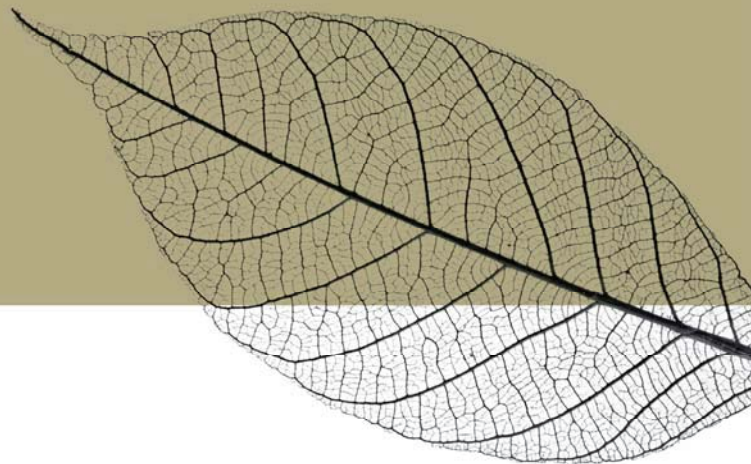
There are no specific requirements in terms of servicing provision within the *Development Scheme*.

Swept path assessments have been undertaken which show a 12.5m Heavy Rigid Vehicle (HRV), up to 4.0m in height, reversing onto the site, loading from the parking aisle and exiting in a forward gear. Exiting in a forward gear meets the requirement of Schedule 3 of the *Development Scheme*. Relevant swept path assessments demonstrating the above are shown at Appendix B to this report.

In relation to the occasional truck parking on the ramp, the following are noted:

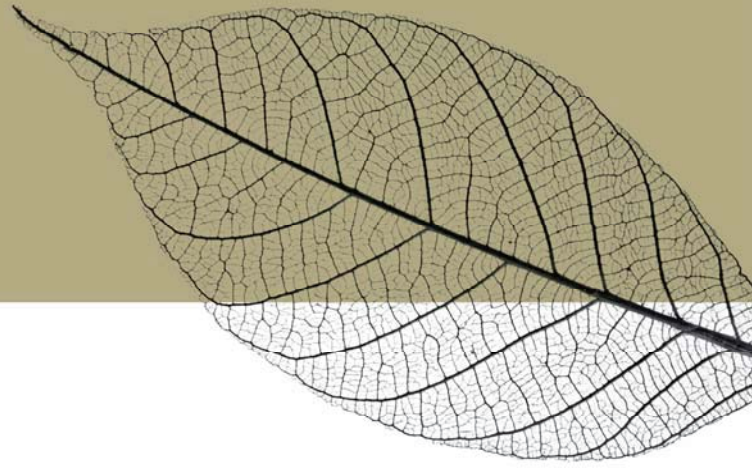
- Primarily on-site truck loading is provided for refuse collection, with the refuse truck to load from the aisle.
- The position of a refuse truck whilst it is loading is such that a passenger vehicle can pass. The truck does not block access, rather, temporarily reduces access to single lane flow. A swept path assessment which clearly shows the ability for a passenger vehicle to pass a truck whilst it is loading is reproduced at Appendix B to this report.

On the basis of the above, a temporary reduction of the site access to single lane flow whilst a truck is loading is unlikely to have a notable impact on the operation of the surrounding road network.



3.7 Vehicle Access

The development proposes a 6.6m Type B2 crossover to Folkestone Street, which will provide appropriate accessibility to the site.



4 Traffic Impacts

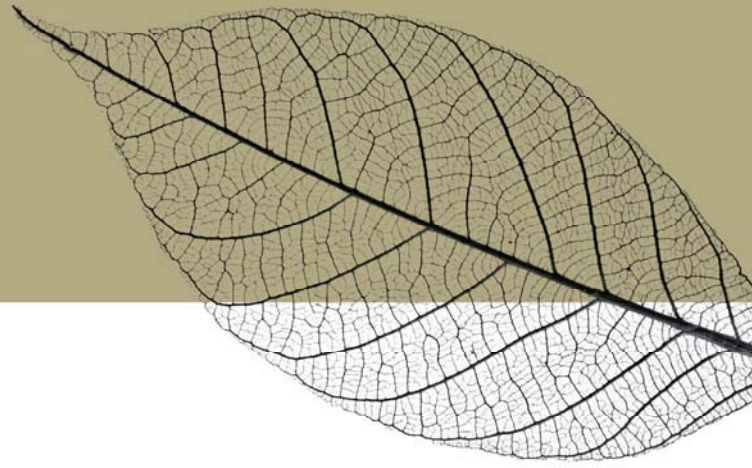
The proposed development includes a total of 24 residential units.

Reference to the Department of Transport and Main Roads' *Road Planning and Design Manual* indicates that high-density residential development could generate in the order of 0.4 trips in the road network peak hour or 3 - 6 trips per unit per day (referenced Queensland Transport data).

Application of these rates to the proposed 24 units anticipates some 10 trips in the road network peak hour or 72 - 144 trips per day. Further to which, noting the site's proximity to public transport, it is reasonable to expect that trip generation would be at the lower end of the typical ranges.

This traffic volume represents, on average, one vehicle every six minutes in the road network peak hour. This traffic is capable of being absorbed by the surrounding road network, noting that traffic has the following routing options:

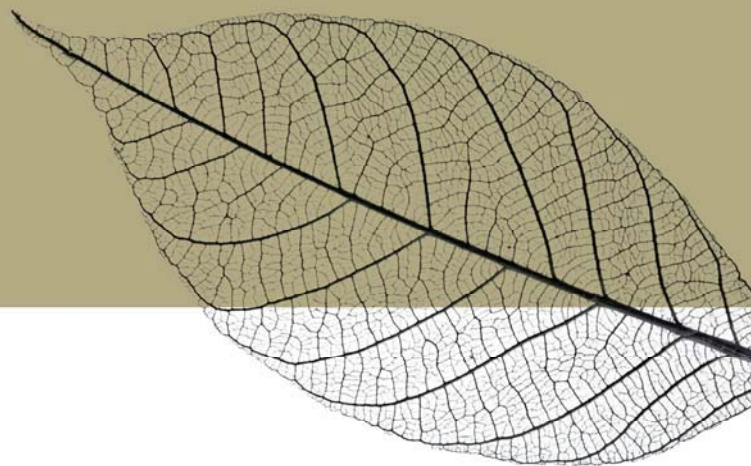
- Utilise the traffic signals at Abbotsford Road / Folkestone Road.
- Access the Inner City Bypass and associated toll road network via Edmonstone Road and Thompson Street.
- Utilise the traffic signals at Edmonstone Road / Breakfast Creek Road.
- Access Montpelier Road via Cintra Road.



5 Conclusions

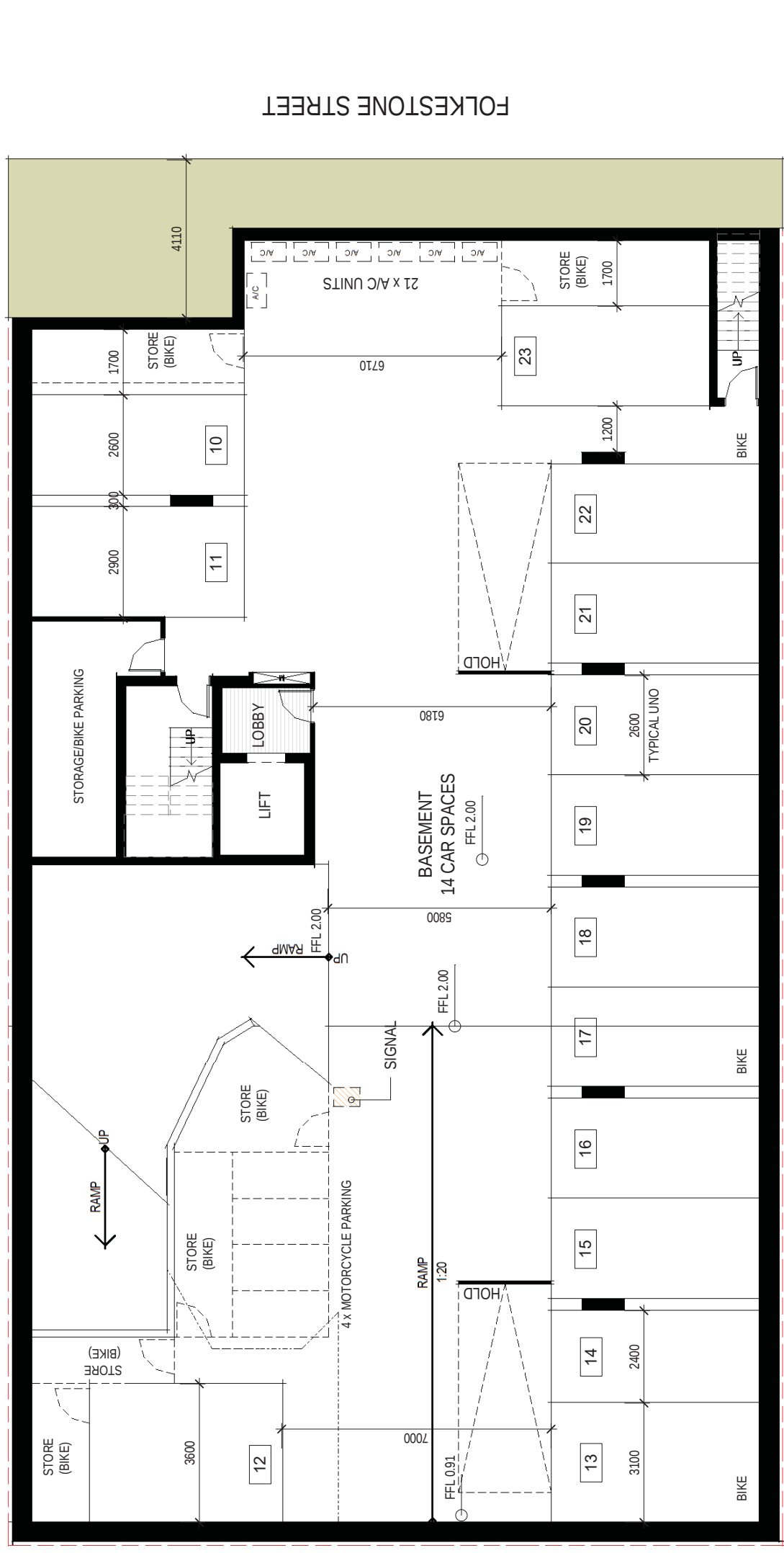
Following the assessment and analyses presented in this report, it is concluded that:

- The car parking requirement for the development as per the EDQ Guidelines is 23 spaces.
- The proposed car parking provision of 23 spaces can meet the requirements of the EDQ Guidelines.
- A detailed review, commentary and recommendations are provided in this report in relation to the layout and operation of the car park.
- Pedestrians will enter the building lobby from the existing pathway in Folkestone Street.
- The development includes adequate space for the provision of 24 resident and 6 visitor bicycle parking spaces.
- The development provides appropriate service vehicle access for vehicles whilst maintaining room for a passenger vehicle to access the car park.
- The development is anticipated to generate 10 trips in the road network peak hours, with various travel options available to access the surrounding road network.



Appendix A

Development Plans



1 BASEMENT FLOOR
1 : 100 @ A3

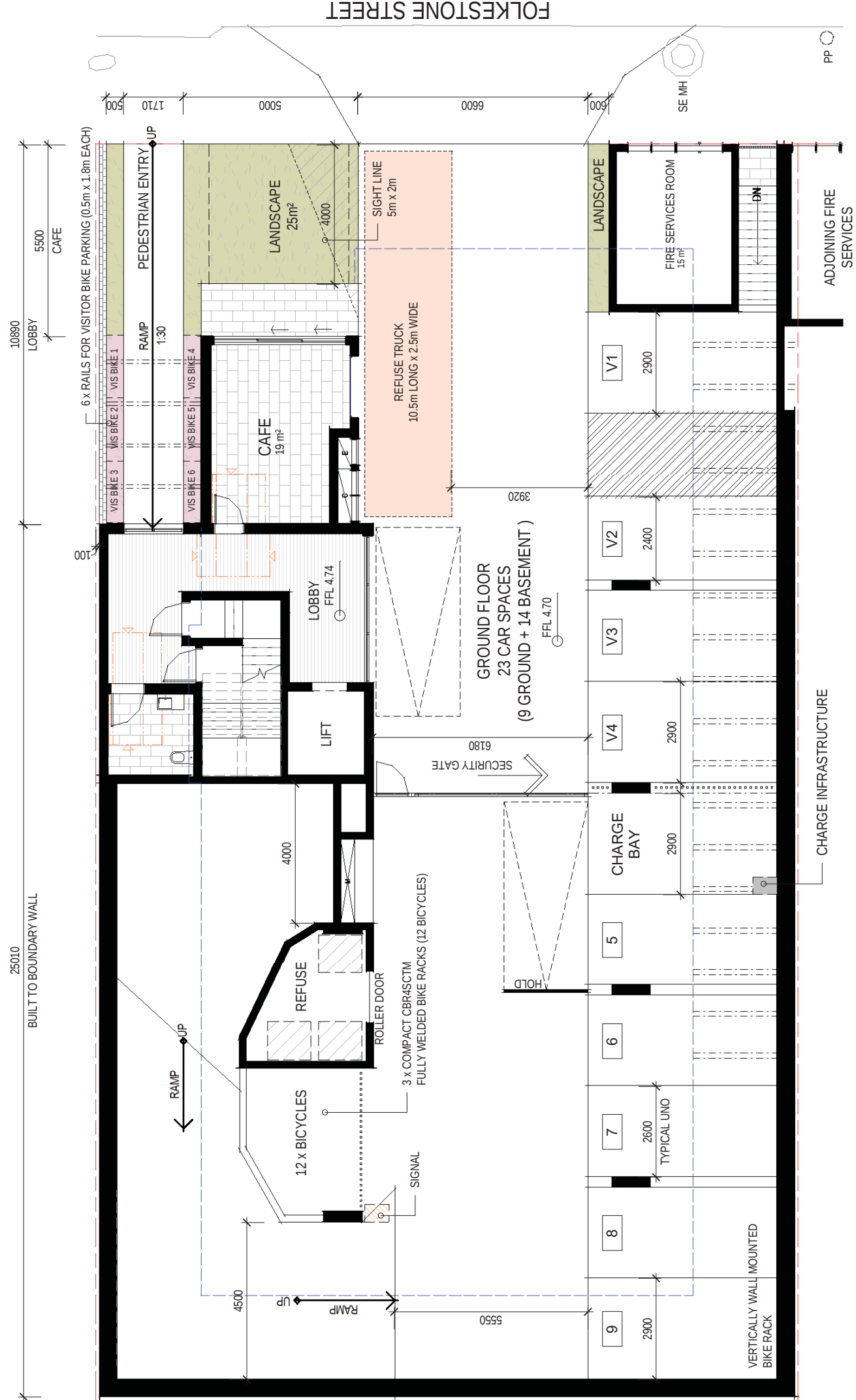
ROTHSCHILD KINGSBRIDGE PTY LTD
client

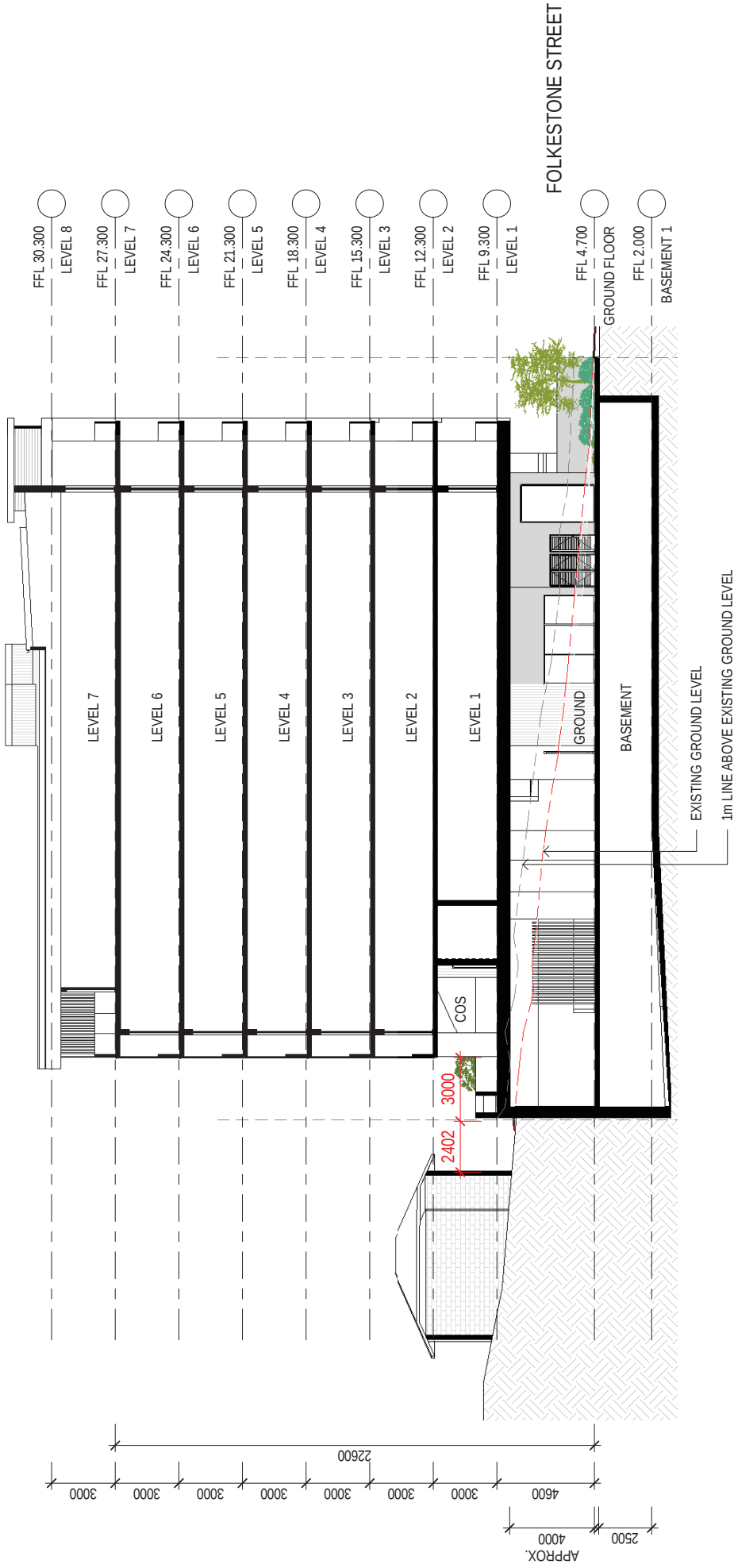
1 & 3 FOLKESTONE ST, BOWEN HILLS
address

FLOOR PLAN - BASEMENT
drawing title

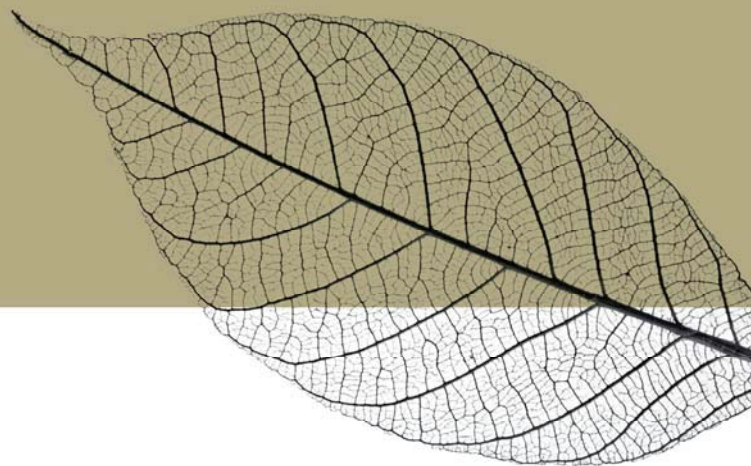
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GROUND FLOOR PLAN



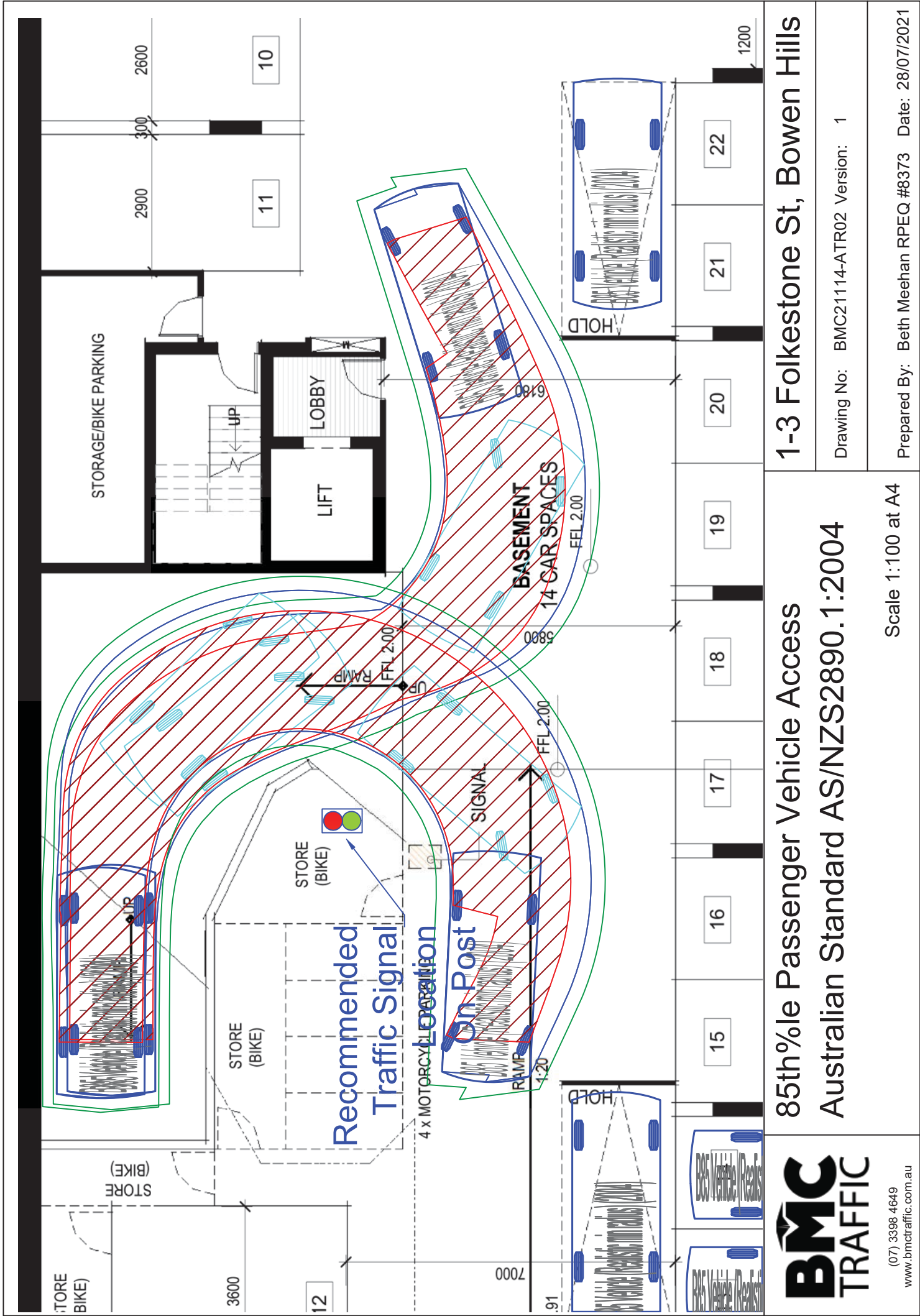


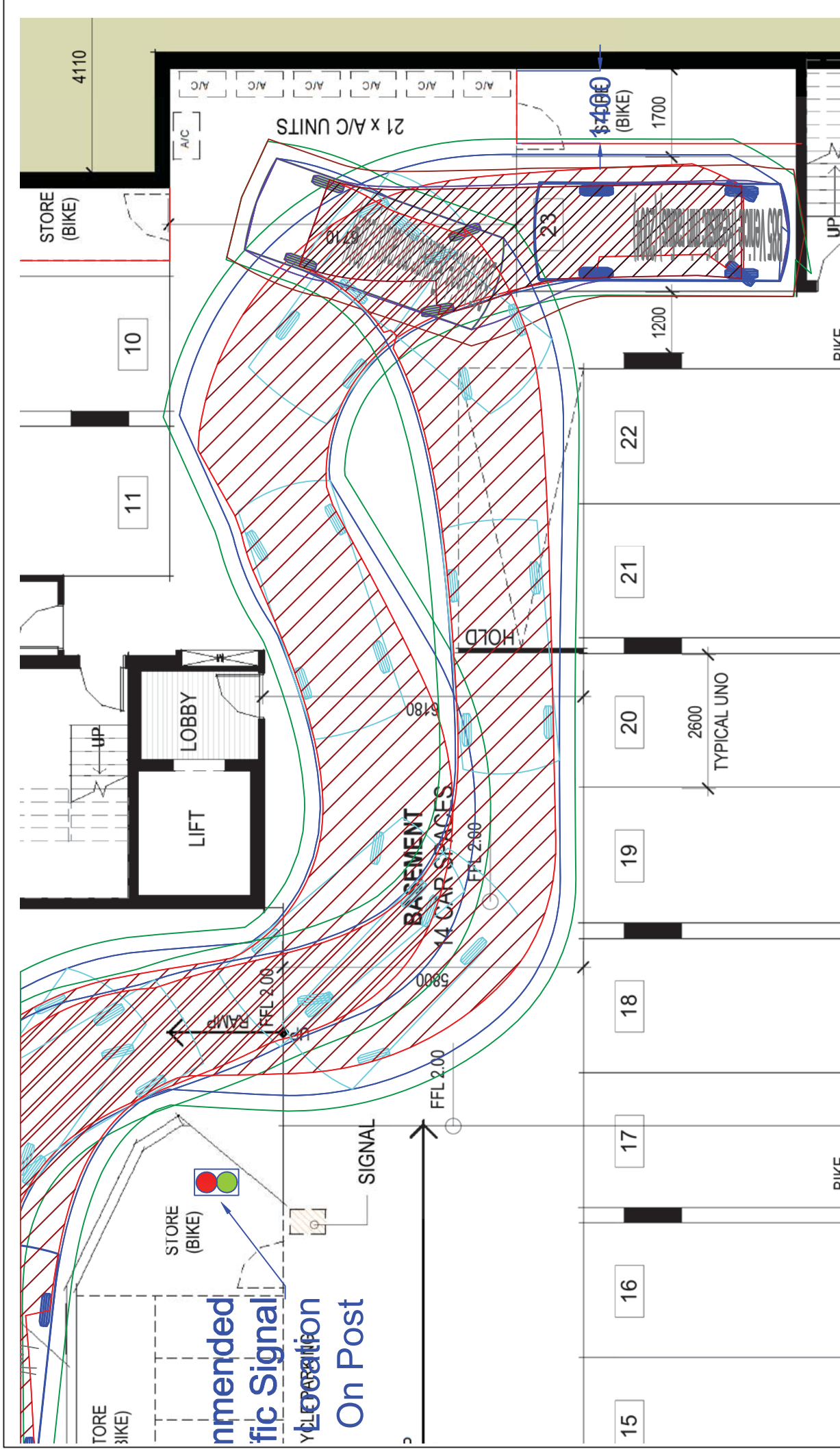
A SCHEMATIC SECTION A
1 : 200 @ A3



Appendix B

Swept Path Assessments



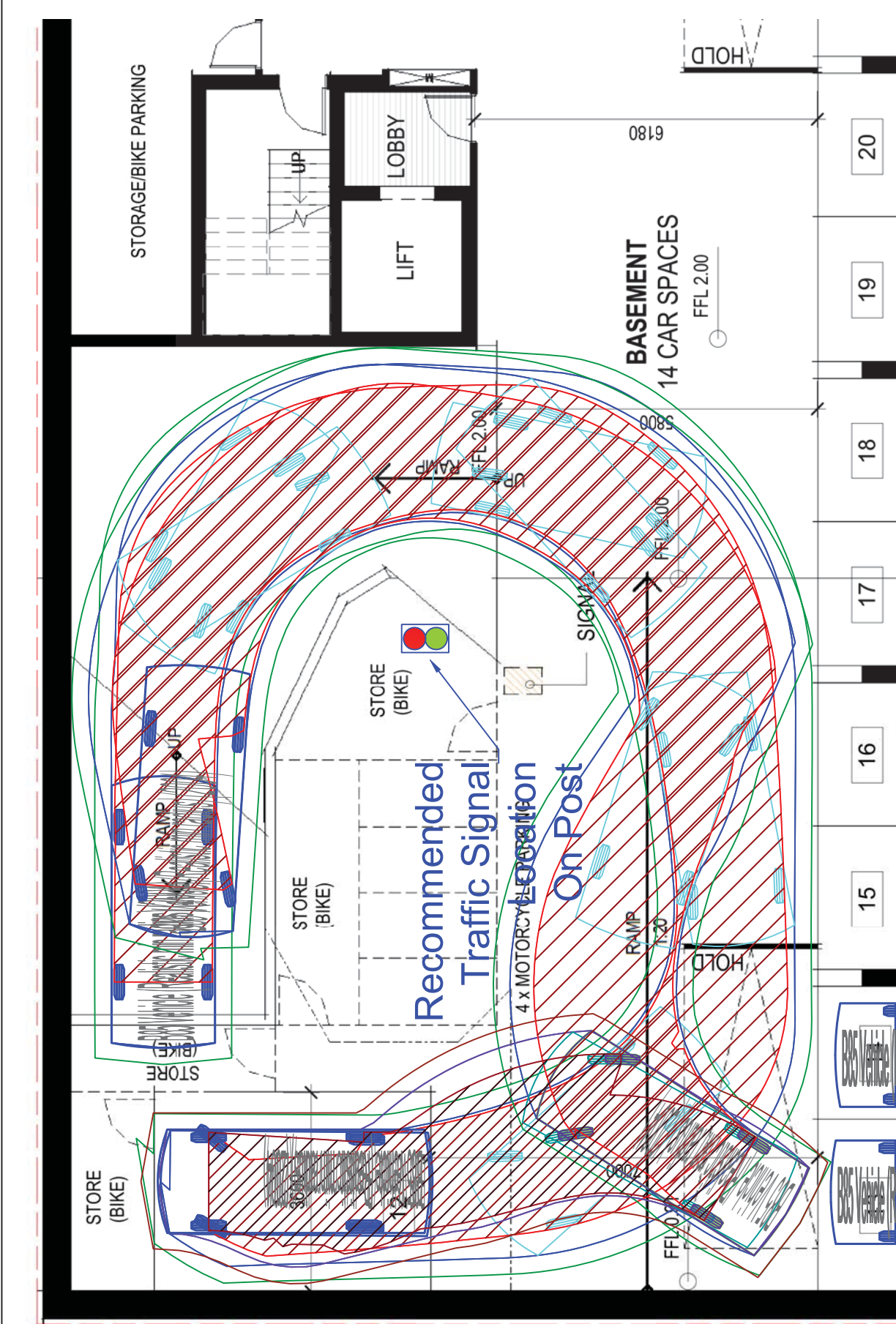


85th%ile Passenger Vehicle Access Australian Standard AS/NZS2890.1:2004	1-3 Folkestone St, Bowen Hills Drawing No: BMC21114-ATR03 Version: 1 Prepared By: Beth Meehan RPEQ #8373 Date: 28/07/2021
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BMC TRAFFIC (07) 3398 4649 www.bmctraffic.com.au	85th%ile Passenger Vehicle Access Australian Standard AS/NZS2890.1:2004	1-3 Folkestone St, Bowen Hills
Drawing No: BMC21114-ATR04 Version: 1		
Prepared By: Beth Meehan RPEQ #8373 Date: 28/07/2021		

Scale 1:100 at A4



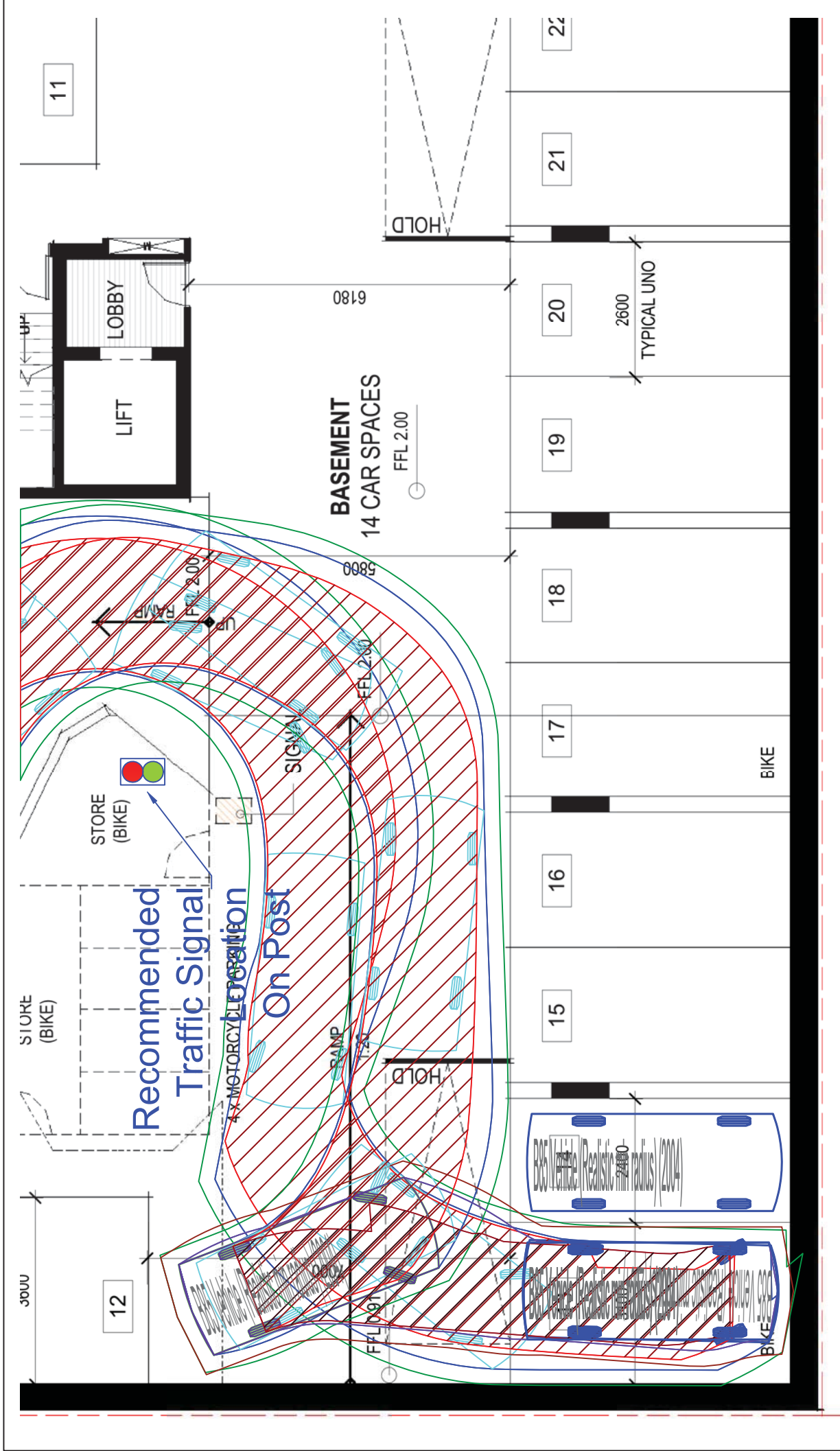
85th%ile Passenger Vehicle Access
Australian Standard AS/NZS2890.1:2004

1-3 Folkestone St, Bowen Hills

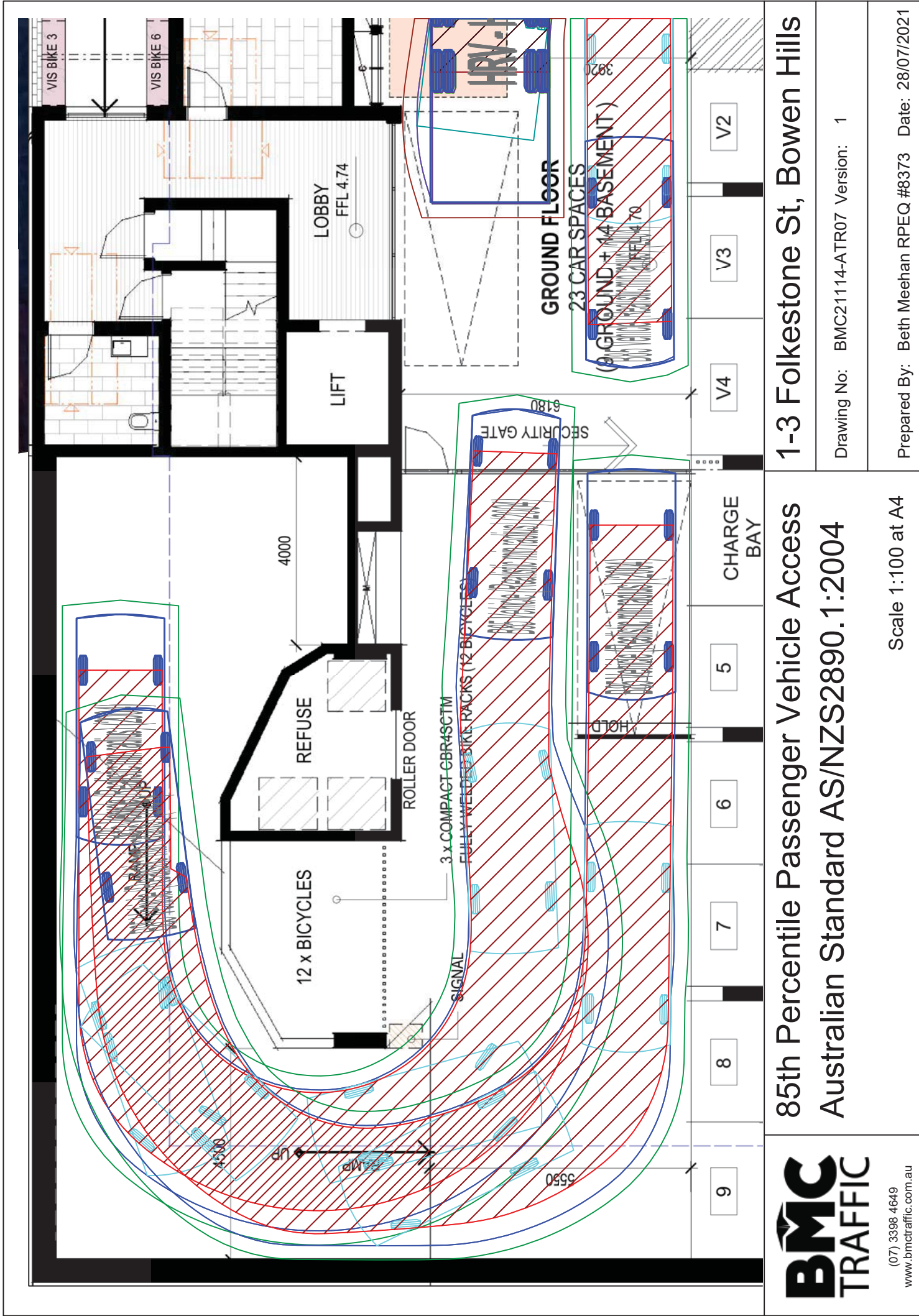
Drawing No: BMC21114-ATR05 Version: 1

Prepared By: Beth Meehan RPEQ #8373 Date: 28/07/2021

Scale 1:100 at A4



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85th Percentile Passenger Vehicle Access

1-3 Folkestone St, Bowen Hills

Australian Standard AS/NZS2890.1:2004

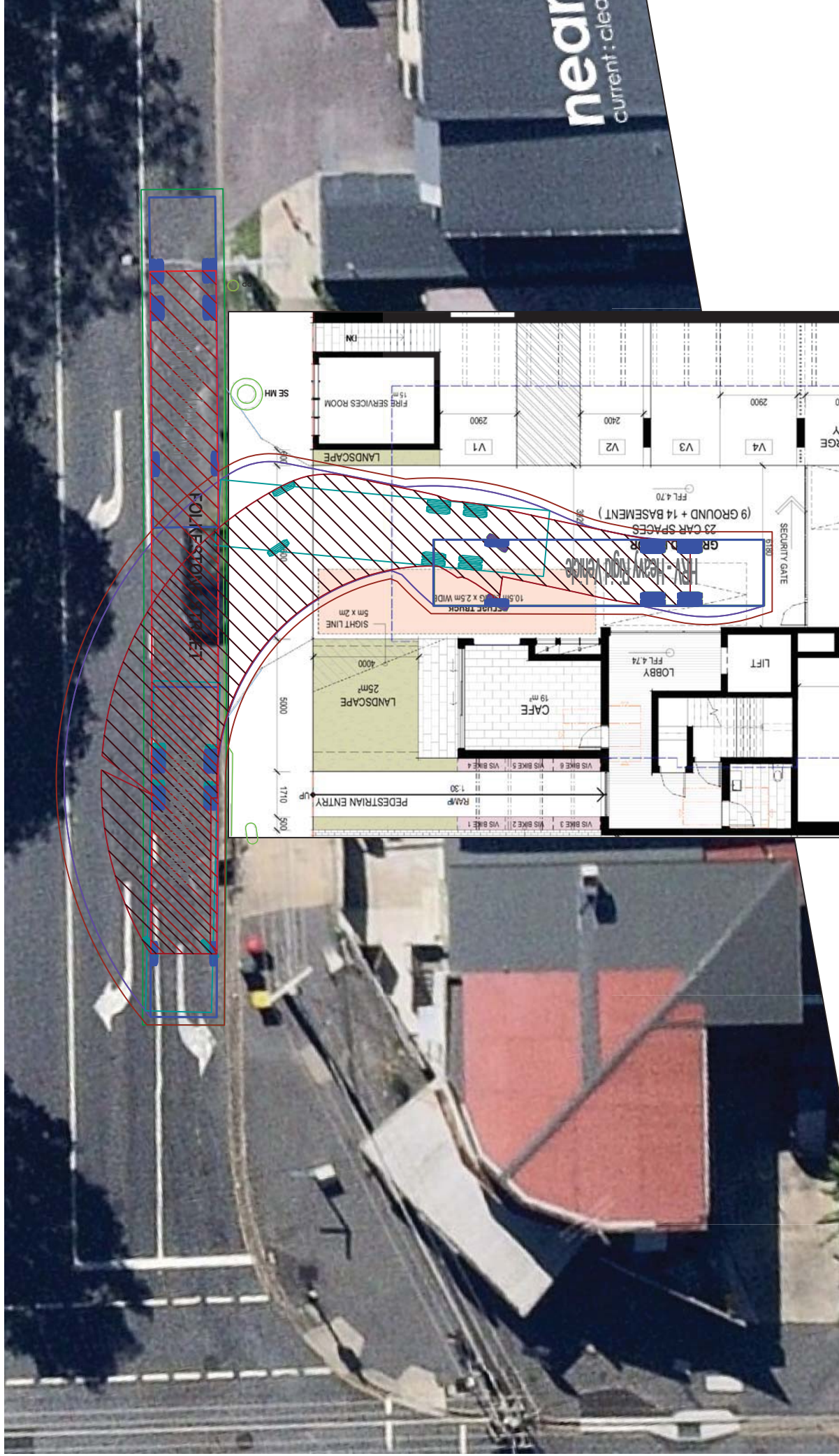
Drawing No: BMC21114-ATR07 Version: 1

Scale 1:100 at A4

Prepared By: Beth Meehan RPEQ #8373 Date: 28/07/2021



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1-3 Folkestone St, Bowen Hills

12.5m Heavy Rigid Vehicle Access
Australian Standard AS/NZS2890.2:2002

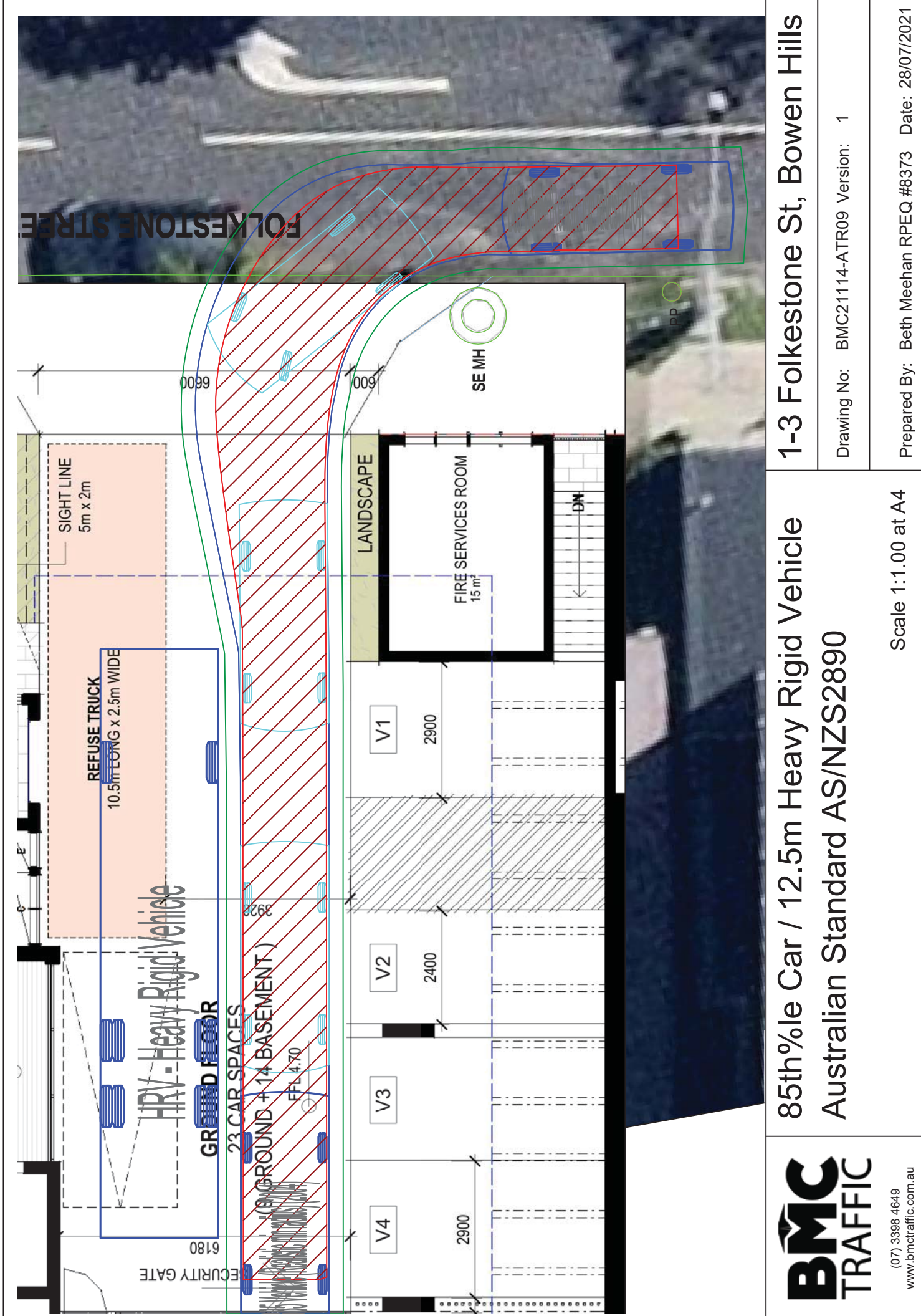
Drawing No: BMC21114-ATR08 Version: 1

Scale 1:200 at A4

Prepared By: Beth Meehan RPEQ #8373 Date: 28/07/2021



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1-3 Folkestone St, Bowen Hills

85th%ile Car / 12.5m Heavy Rigid Vehicle
Australian Standard AS/NZS2890

Drawing No: BMC21114-ATR09 Version: 1

Scale 1:1.00 at A4

Prepared By: Beth Meehan RPEQ #8373 Date: 28/07/2021



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