11-23 MACARTHUR AVENUE MINOR CHANGE TIA



Traffic Impact Statement

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL



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5Point Projects

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Gold Coast

Suite 26, 58 Riverwalk Avenue Robina QLD 4226 P: (07) 5562 5377

Brisbane

Level 2, 428 Upper Edward Street Spring Hill QLD 4000 P: (07) 3831 4442 **Sydney**

Studio 203, 3 Gladstone Street Newtown NSW 2042 P: (02) 9557 6202

E: admin@bitziosconsulting.com.au

W: www.bitziosconsulting.com.au

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1. Introduction

1.1 Background

Bitzios Consulting has been commissioned to prepare a traffic impact statement (TIS) for a mixed-use residential development in support of a change application located at 11-23 MacArthur Avenue, Hamilton.

The subject site is located with frontages on MacArthur Avenue and Wharf Street. The site location is shown in Figure 1.1.



Figure 1.1 Site Location



1.2 Change Development Details

The proposal is to change a mixed-use development approval comprised of:

- 429 Apartments
- 295m² of retail
- 687 car parking spaces located across four (4) levels of parking podium parking, plus ground floor retail/visitor parking

Architectural plans (relevant to transport and traffic) are provided in **Appendix A**.

Table 1.1 summarised differences between the previous approved development and minor change.

Table 1.1 Development Change Comparison

| Development Detail | Previous Approved Application | Change Application | Difference |
|---------------------------------|-------------------------------|--------------------|------------|
| Units | 560 | 429 | -131 |
| Shop / Food and Drink Outlet | 142m² | 295m² | |
| Office | 639m² | - | -761m² |
| Indoor Sport & Recreation (gym) | 275m² | - | |
| Car Parking Provision | 420* | 687 | +267 |

^{*} Car parking shortfall provision under the previous approved development were supplemented by 16 car share vehicles/spaces and 65 motorcycle spaces

1.3 Scope

This report details the following assessments for the change development application:

- Estimation of the proposed development's trip generation is comparison to the previous approved development
- Assessment of the minor change development against provisions under the Northshore Hamilton Priority Development Area Development Scheme and Brisbane City Council's (Council's) Transport, Access, Parking & Servicing Planning Scheme Policy (TAPS PSP)
- Assessment of car and bicycle parking provision against Council's TAPS
- Assessment of the development's internal road network and on-site parking in accordance with AS2890.1, AS2890.2 and EDQ and Council's TAPS Code requirements
- Assessment of the development's access locations and form against EDQ, Council's and AS2890.1 requirements
- A review of the development's facilities for loading and refuse collection.



2. Parking Assessment

2.1 Car Parking Requirements

The previous development approval was assessed under EDQ's Northshore Hamilton Priority Development Area Development Scheme.

Given the existing approval over the subject site, this development proposal (change) seeks to additional parking spaces at a provision rate that is reflective with the Development Scheme. It is noted that the Development Scheme does not require parking for the Retail/Food and Beverage uses to be provided on-site. Further, the development proposal results in no net worsening with respect to residential and retail parking provision.

The relevant car parking rates, requirements and proposed provisions for the proposal are outlined in Table 2.1.

Table 2.1 Car Parking Requirements and Provision

| Land Use | Туре | Quantity | Parking Rate | Parking Required | Parking Provided | |
|------------------------------|-----------------------|----------|--|----------------------|---------------------|--|
| Stage 1 | | | | | | |
| Residential use | Resident | 208 | Minimum 0.75 and max of 2.0 space per dwelling | Min. 278 Max. 416 | 296 | |
| | Visitors | | 0.15 spaces per dwelling | 32 | 49 | |
| Retail, Food & Beverage | Visitor / employee | 234 | Max 2 space per 100m ² of GFA | Min. 0 Max. 5 | 0 | |
| STAGE 1 TOTAL PARKING SPACES | | | | Min. 310 Max. 453 | 345 | |
| Stage 1 + 2 | | | | | | |
| Residential use | Resident | 429 | Minimum 0.75 and max of 2.0 space per dwelling | Min. 322 Max. 858 | 622 | |
| | Visitors | 429 | 0.15 spaces per dwelling | 64 | 65 | |
| Retail, Food & Beverage | Visitor / employee | 295 | Max 2 space per 100m ² of GFA | Min. 0 Max. 6 | 0 | |
| | • | | TOTAL PARKING SPACES | Min. 386 Max. 928 | 687 | |

As demonstrated in Table 2.1, the proposed development provides sufficient car parking spaces in accordance with the requirements of the EDQ's Development Scheme. Visitor parking is freely accessible on ground floor and within level 02 podium parking.

The development also include provision for three (3) resident and one (1) visitor motorcycle parking space.

2.2 Bicycle Parking Requirements

The proposed bicycle parking rate provisions are consistent with the previous approval. For resident bicycle parking Council's TAPS PSP rates had been adopted however the previous approval's visitor bicycle parking rates adopted requirements outlined in Austroads *Guide to Traffic Management Part* 11: Parking Management Techniques (AGTM – Part 11).



A summary of the bicycle parking requirements for the proposed development is provided in Table 2.2.

Table 2.2 Bicycle Parking Requirements and Provision

| Land Use | Quantity | Parking Rate | Parking Type | Spaces Required | Spaces Provided |
|-------------|----------|----------------|--------------------|--------------------|--------------------|
| Stage 1 | · | | | | |
| Residential | 200 | 1 per unit | Resident (Class 2) | 208 | 215 |
| | 208 | 1 per 12 units | Visitor (Class 3) | 18 | 18 |
| | | | TOTAL | 465 | 466 |
| Stage 1 +2 | | | | | |
| Residential | 420 | 1 per unit | Resident (Class 2) | 429 | 430 |
| | 429 | 1 per 12 units | Visitor (Class 3) | 36 | 36 |
| | | | TOTAL | 465 | 466 |

As shown, the bicycle parking is provided achieves the minimum requirement stipulated in the Council's TAPS and Austroads, respectively. The proposed provision of off-street bicycle parking is appropriate to meet the needs and volumes of predicted cyclist users.

2.3 Geometric Layout Assessment

The on-site parking geometric layout has been assessed against Council's *TAPS* and the relevant sections of *AS2890.1:2004 Off-Street Car Parking*, with key features outlined in Table 2.3.

Table 2.3 Geomtric Design Review

| Design Element | AS2890.1 / TAPS Requirement | Provided | Compliant |
|---|---|---|-----------|
| Residential car parking bays (User Class 1A) | 2.4m x 5.4m | 2.4m x 5.4m | YES |
| Visitor/Non-Residential Parking (User Class 2) | 2.5m x 5.4m | 2.5m x 5.4m | YES |
| Parking aisle width | 5.8m | Minimum 5.8m | YES |
| Clearance adjacent to vertical obstructions | 0.3m (i.e. walls, fences) | Min. 0.3m (i.e. walls, fences) | YES |
| Column intrusions | As per Figure 5.2 of AS2890.1 | As per Figure 5.2 of AS2890.1 | YES |
| Blind aisle extension | 1.0m | 1.0m | YES |
| Ramp Width | 5.5m between kerbs and 30mm clearances on both sides to walls | 6.2m | YES |
| Grade (ramps) | Max. 1:4 with transitions | Max. 1:4 with transitions | YES |
| Grade (ramp transitions) | 1:8 (summit and sag) 2m lengths each | 1:8 (summit and sag) 2m lengths each | YES |
| Grades (driveway) | Max. 1:20 for the first 6m into the site | Max 1:20 across the property line | Yes |
| Grades (car parking modules) | Max. 1:16 perpendicular to direction of bay | Max. 1:16 perpendicular to direction of bay | YES |
| Height clearance | 2.3m | Varies but achieves compliance | YES |
| Bicycle Parking | 0.5m x 1.8m x 1.5m | 0.5m x 1.8m x 1.5m | YES |

As demonstrated in Table 2.3 the on-site parking geometric layout generally complies with the relevant requirements of Australian Standards AS2890.



3. TRAFFIC ASSESSMENT

3.1 Overview

The minor change development has reduced development yields to that which was previously approved for the subject site. As such the development will not result in any significant changes to the development's traffic impacts to the state and local road network. However, an assessment of development traffic generation has been provided for comparison.

3.2 Development Traffic

3.2.1 Traffic Generation

Traffic modelling was undertaken by Cardno on the behalf of EDQ, which has informed road planning and the extent of road (and intersection) upgrades within the wider Northshore Hamilton precinct. The scale of the proposed development is consistent with EDQ's expectations for the subject site and the quantum of parking provided for the proposed development is significantly less than the maximum permitted by EDQ for the site (i.e. 928 spaces).

Notwithstanding, Table 3.1 shows the previously approved developments (estimated) traffic generation and the minor change traffic generation.

Table 3.1 Development Traffic Generation

| Table 3.1 Development Trame Generation | | | | | |
|--|---|-------------------------------------|------|-----------------------------------|--|
| Scenario | Land Use | Peak Hour Trip Rate | Unit | Total Vehicle Trips (per hour) | |
| | Residential | 0.53 trips per car space | 420 | (-) 223 | |
| Previously | Retail, Food & Beverage Indoor Sports & Recreation Office | 3.5 trips per 100m ² GFA | 142 | (-) 5 | |
| Approved | | 3.6 trips per 100m2 GFA | 275 | (-) 10 | |
| | | 1.6 trips per 100m ² GFA | 639 | (-) 11 | |
| | (-) 249 | | | | |
| Minor | Residential | 0.53 trips per car space | 622 | (+) 330 | |
| Change | Retail, Food & Beverage | 3.5 trips per 100m ² GFA | 295 | (+) 10 | |
| | (+) 340 | | | | |
| Difference (N | (+) 91 trips | | | | |

The change in traffic generation of the site is generally consistent with EDQ's previous approval over the site and will not result in any significant changes to the development's traffic impacts to the state and local road network.



4. Access and Servicing

4.1 Vehicular Access

4.1.1 Location and Form

Vehicular access to the development is proposed via:

- An access branching from the existing driveway crossover from Wharf Street to provide access to ground and podium parking areas
- Servicing aisle branching from the existing driveway crossover on MacArthur Avenue to provide access to the Tower 1 loading dock
- Driveway crossover access from Wharf Street to access the Tower 2 loading dock.

The proposed access arrangements are generally in accordance with the previous approval with the exception of the proposed service access from Wharf Street, though is generally aligned with an existing crossover. The previous approval had parking within a basement ramp configuration while the proposed development includes ground level vehicle access and parking with all residential parking now within podium levels.

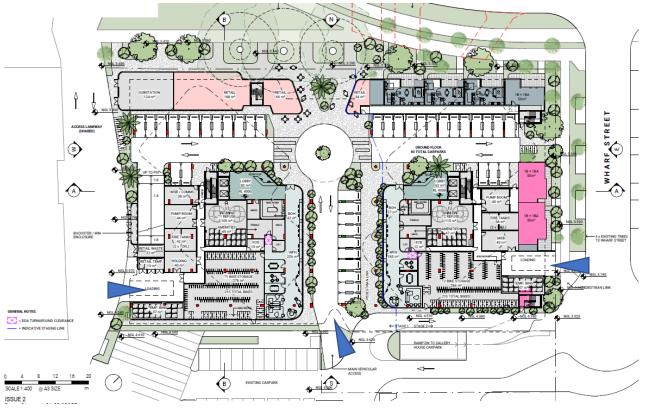


Figure 4.1: Access Locations

A sight distance of approximately 55m would be available to the north along Wharf Street from the proposed access location. Vehicles travelling along this section would also be expected to be travelling at speeds of 40km/h of less due road being a cul-de-sac and entering Wharf Street from a signalised intersection with MacArthur Avenue This sight distance is in line with minimum Safe Stopping Distance (SSD) for 40km/h as stipulated in AS2890.

As per previous approvals it has been identified there is a need to mitigate a conflict at the interface between the Gallery House basement ramp and the one-way circulation road (facilitating vehicular egress from the basement and podium parking areas within the Rivello Building and the ground level parking area within Gallery House).

It is noted that modifications to the existing line marking to improve intervisibility between vehicles were suggested as part of the previous traffic reporting. Line marking updates aligning to these



recommendations have since been enacted in late 2024 (see Figure 4.2 showing historical line marking and current line marking respectively).



Figure 4.2: Historical Conflict Point and Updated Line Marking

The existing basement ramp services 472 spaces for the Galley House Apartments and spaces/traffic generation for the proposed development are noted earlier. With the basement ramp having priority, vehicles exiting the ramp are expected to experience minimal delays. Some queuing will occur on the one-way circulation road while vehicles wait for a gap in any ramp traffic. Short queues (1-3 vehicles) and delays of 10-30 seconds per vehicle are anticipated for users of the one-way circulation road (i.e. the proposed development) during peak hours.

The interface is expected to operate with manageable delays and short queues primarily during peak periods which considered reasonable. Further the existing treatments now in place (i.e. relocated give way line, speed bump and convex mirror) are considered suitable to mitigate potential conflicts and manage vehicle speeds at this interface.

4.2 Pedestrian Access

Pedestrian access to the proposed development is provided at multiple locations on MacArthur Avenue and Wharf Street. These areas are generally proposed separate to vehicle accesses. Internal to the proposed development, adequate pedestrian connectivity is provided between parking areas and lift lobbies with standing area provided.

4.3 Servicing and Refuse Collection

The Northshore Hamilton Priority Development Area Development Scheme provides no commentary regarding the number of service bays required for any particular development. As such, the requirements outlined in Council's TAPS PSP have been adopted.

Based on the TAPS PSP the following service vehicle requirement are noted:

- Residential: Regular access for a Refuse Collection Vehicle (RCV) and occasional access for Long Rigid Vehicles (LRV)
- Retail/Food and Drink Outlet: Regular access for a Van and occasional access for an RCV.

In practice, it is anticipated that the primary servicing demands will be met by a Medium Rigid Vehicle (MRV) for furniture removals and deliveries to residential units, and by a rear-lift RCV for refuse collection, which represents the largest design vehicle expected on a regular basis.

The development provides two separate service vehicle/loading docks, each servicing a different building. Both loading areas offer a minimum clearance height of 4.5 metres, which satisfies Council's TAPS requirements.

While access by LRVs is expected to be infrequent, provision has been made to accommodate LRV access to the site's loading dock areas. Swept paths for MRV, RCV, and LRV vehicles are included in **Appendix B**. All service vehicles will reverse into the site and exit in a forward gear.



These service vehicle types and anticipated demands are generally consistent with the previous approval for the site.

For the western loading dock, the location of the bin storage area on the service laneway (servicing the shop/food & drink outlet land uses within the established Portside Wharf precinct) means that service vehicle access, particularly by LRVs, will need to be managed to avoid coinciding with refuse collection times. This management approach is already in place for the existing service vehicle area on the opposite side of the service laneway.

For multiple unit dwelling developments, access for furniture removalists and delivery companies can be effectively managed by the building manager, who can allocate specific time periods for tenants to reserve a lift and use the service vehicle bays. As such, it is expected that service vehicle access, especially by LRVs, can be adequately coordinated to avoid conflicts with refuse collection.

Wharf Street is a low-speed, cul-de-sac environment. In such settings, it is common and accepted practice, particularly within Brisbane City Council and similar jurisdictions, for service vehicles to reverse from the public roadway into loading docks. This arrangement is considered safe and appropriate given the low traffic volumes and speeds. As demonstrated in the swept paths, vehicles can reverse into the dock through a straightforward and efficient manoeuvre with reverse operations typically able to be completed within approximately 10 seconds.

In summary, the proposed service vehicle arrangements are considered appropriate to meet the operational demands of the development.



5. SUMMARY

The key findings of the TIA for the proposed development located at 11-23 MacArthur Avenue, Hamilton, are as follows:

- The proposed residential development consists of 429 units and 295m² GFA of retail/food & beverage use. Parking provisions are in in excess of EDQ minimum requirements and do not exceed maximum parking provisions allowed for the site under the PDA Development Scheme.
- The change results in a reduction in dwellings and non-residential GFA, when compared with the previous approved development, however, has an increase in the number of car parking spaces
- With the increase in parking spaces there would be a minor increase in vehicle trips. The change in traffic generation of the site is generally consistent with EDQ's previous approval over the site and would not result in any significant changes to the development's traffic impacts to the state and local road network.
- Based on the above assessment, we conclude that there are no significant traffic or transport impacts associated with the proposed minor change development to preclude its approval and relevant conditioning on transport planning grounds.

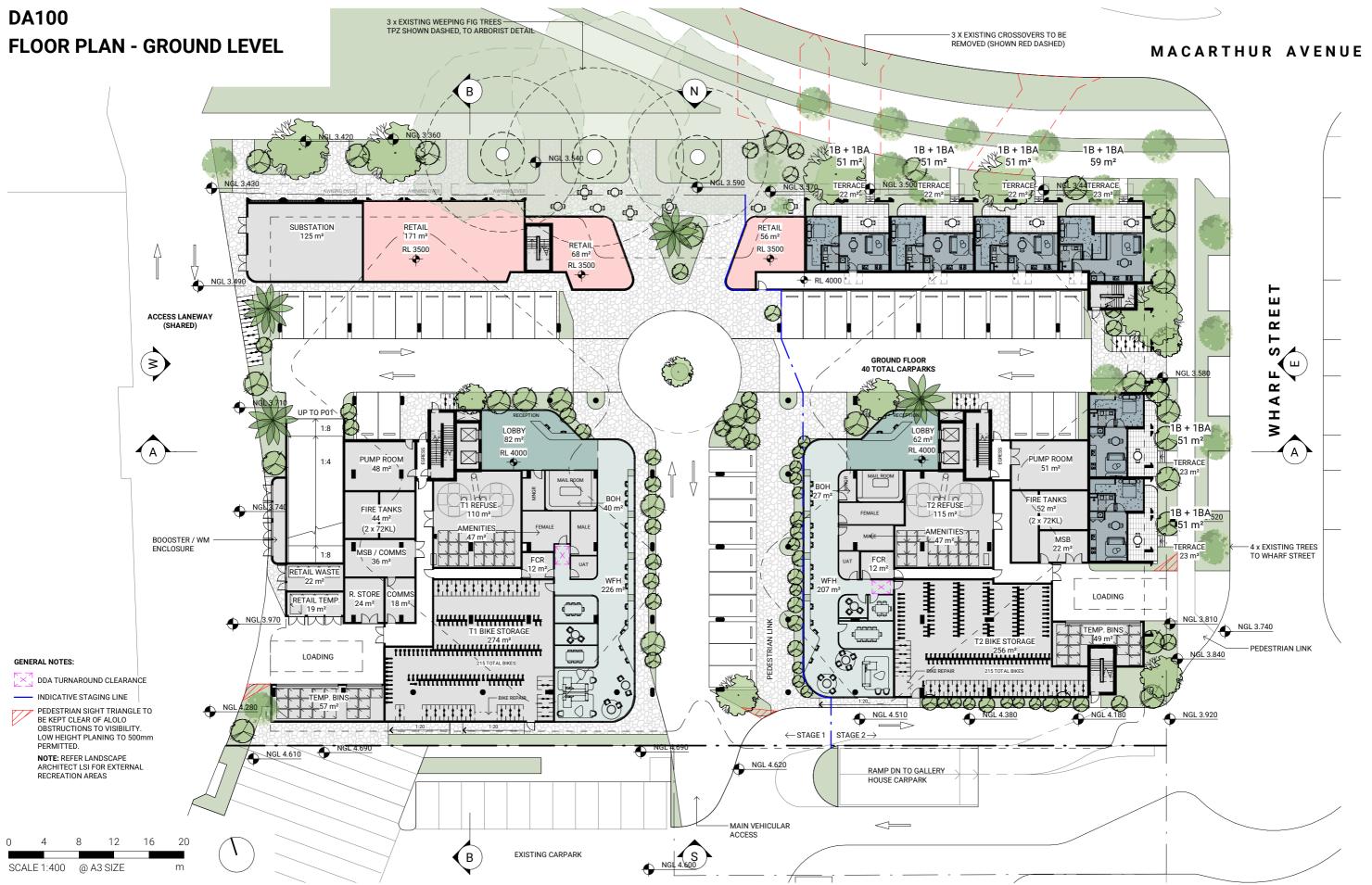


Appendix A: Architectural Plans (Transport and Traffic Related)

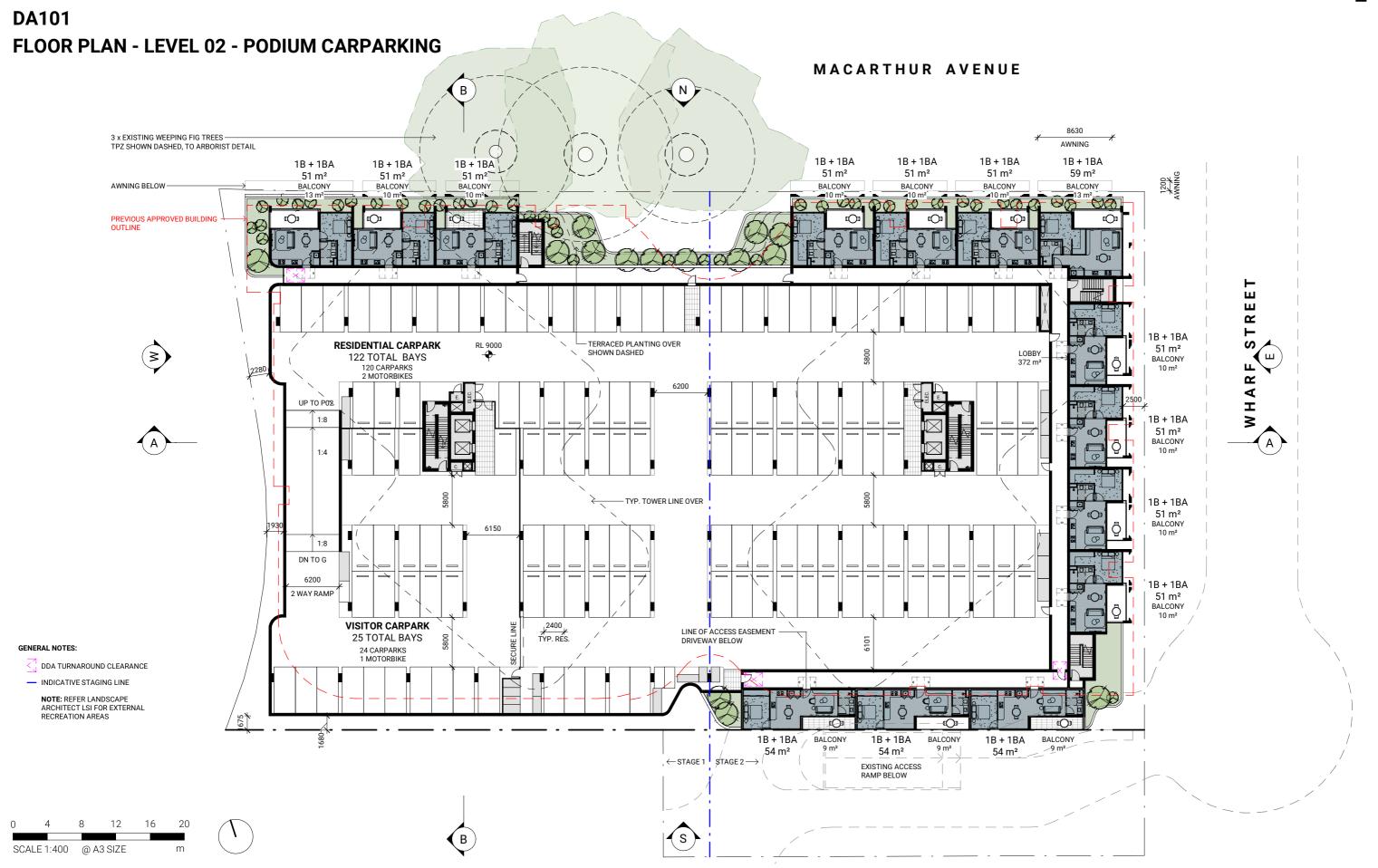




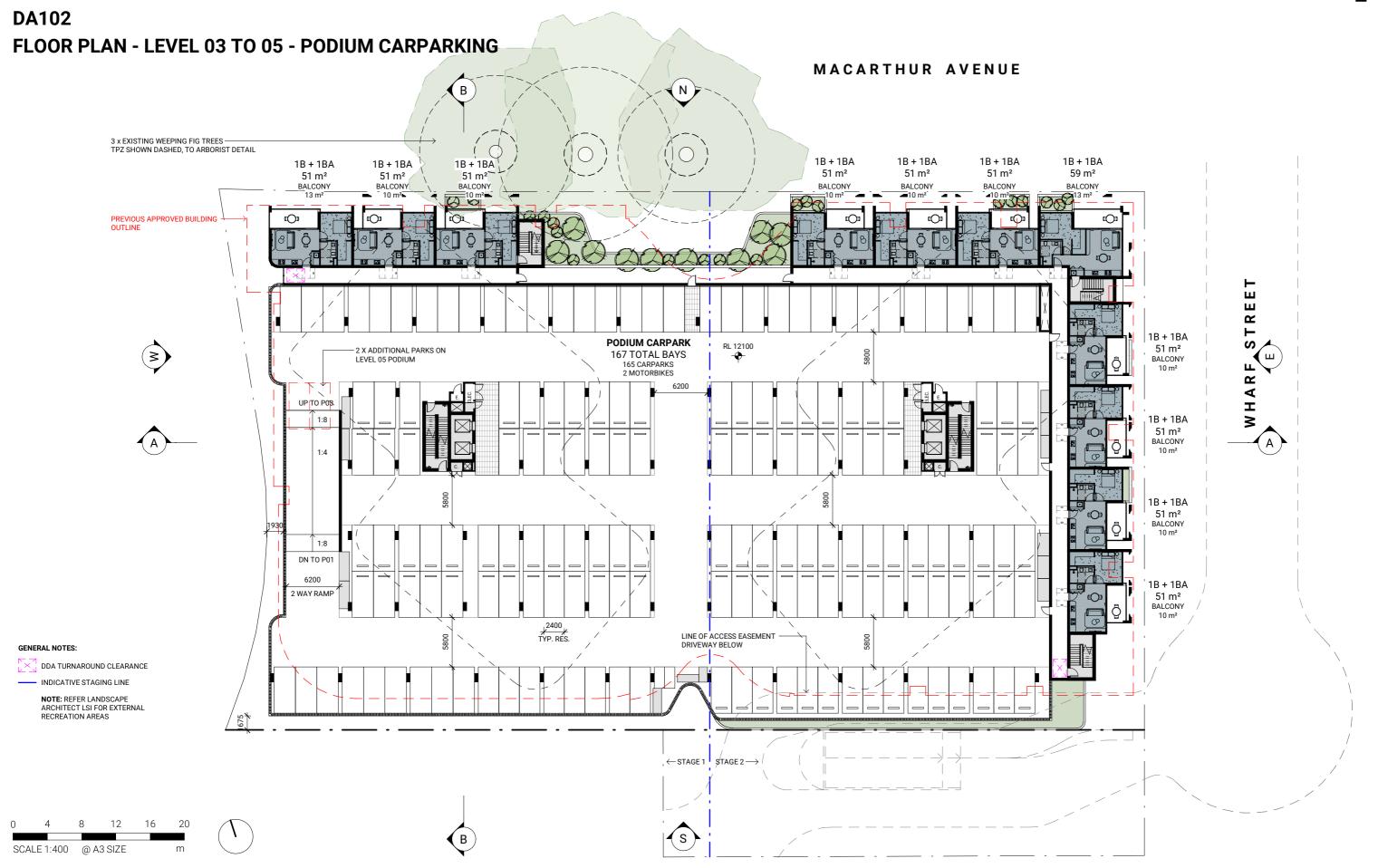






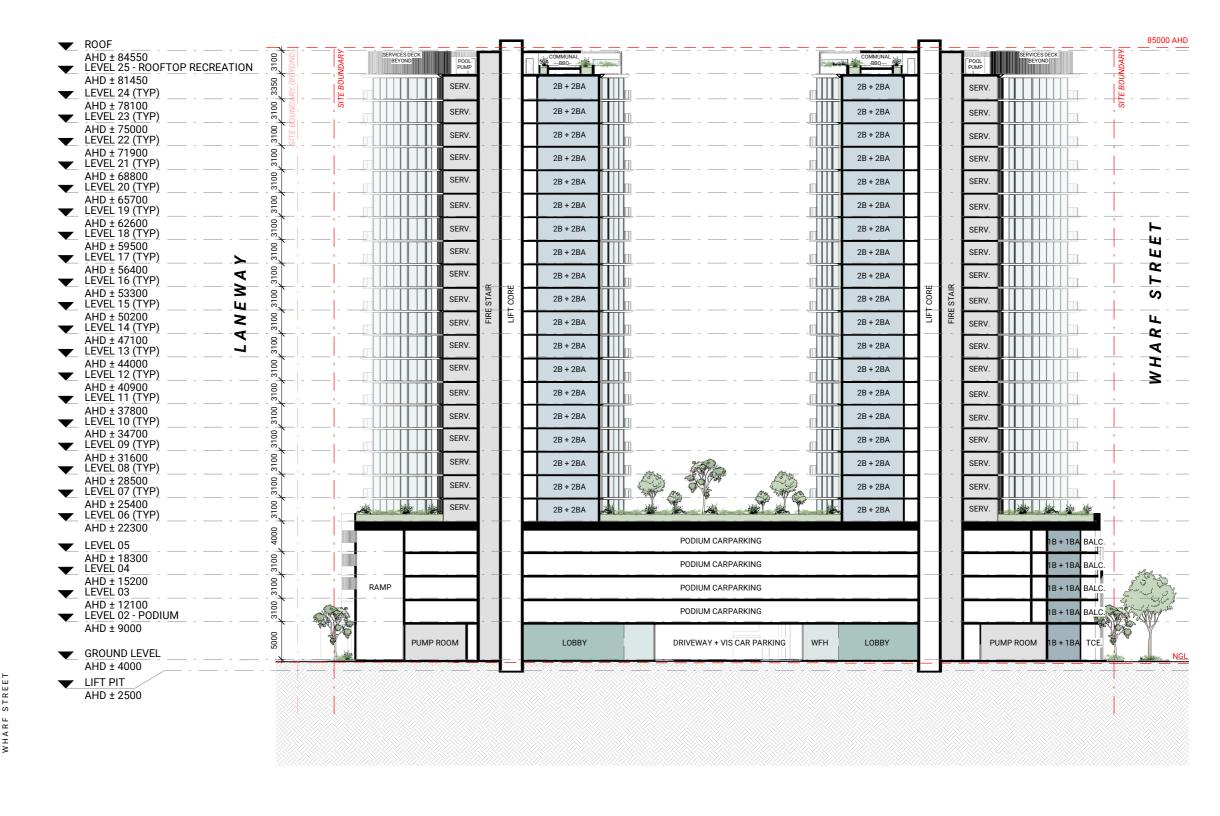


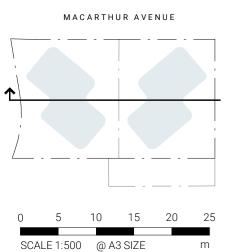






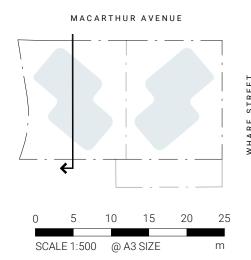
DA300 BUILDING SECTION A





DA301 BUILDING SECTION B

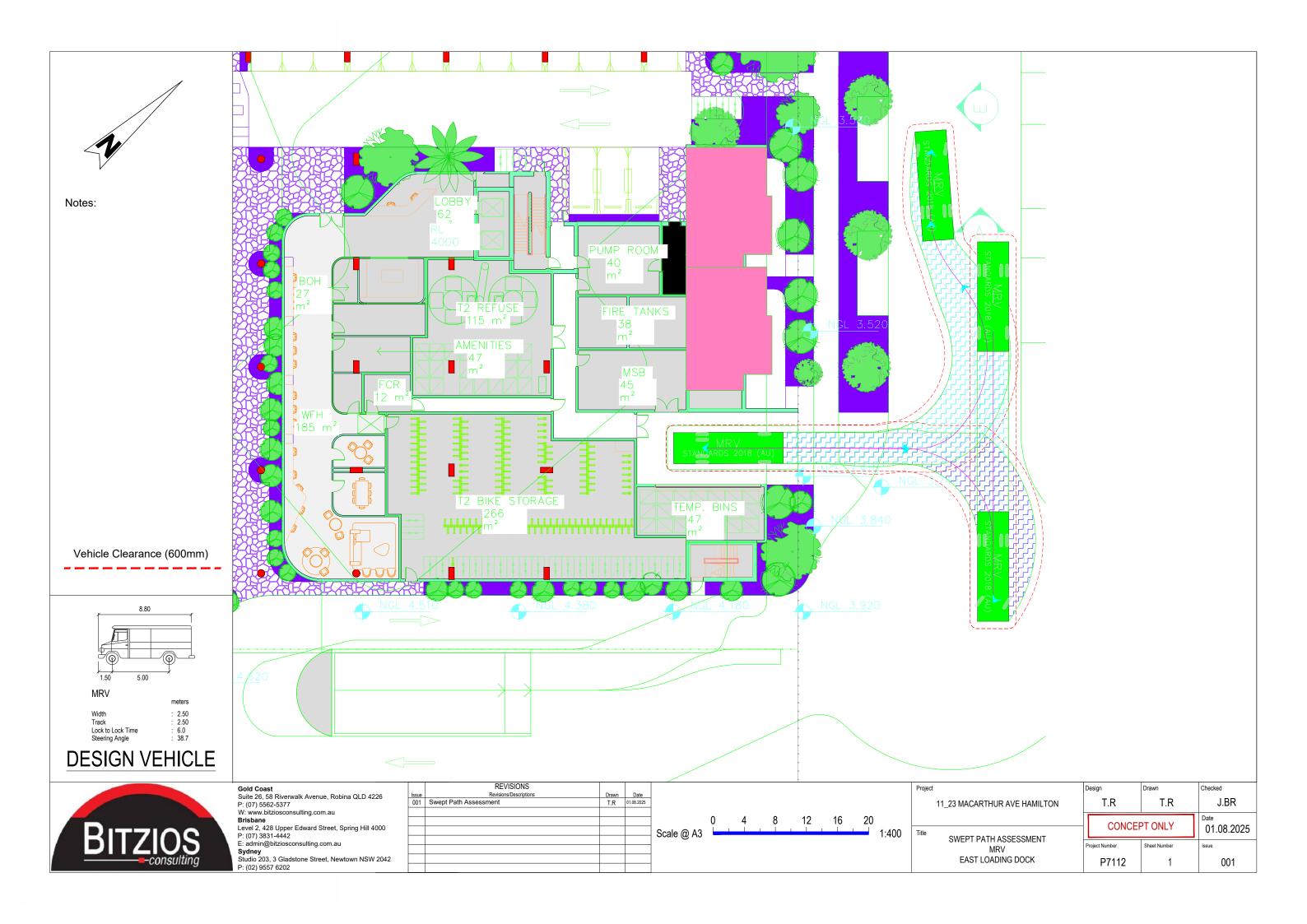


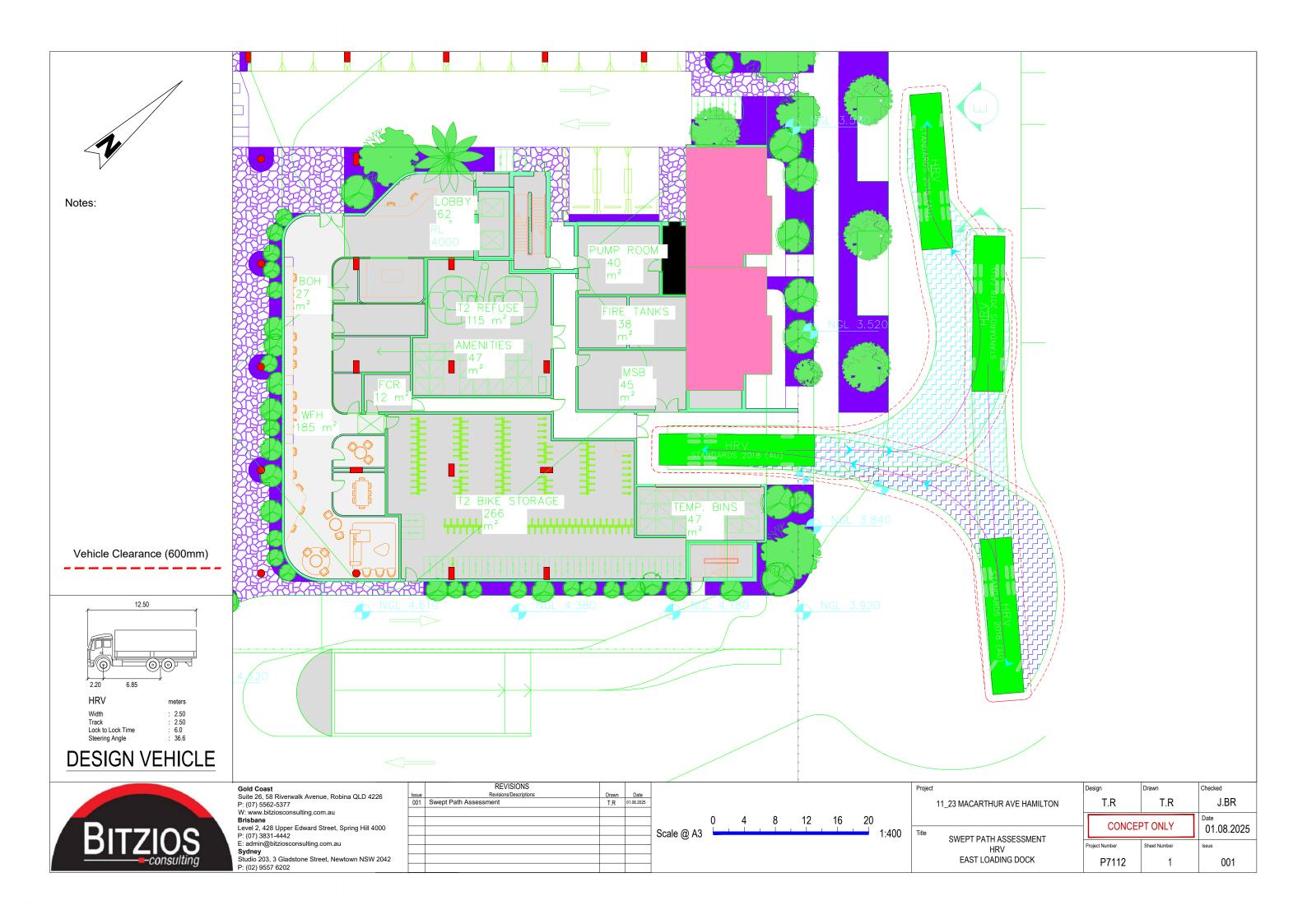


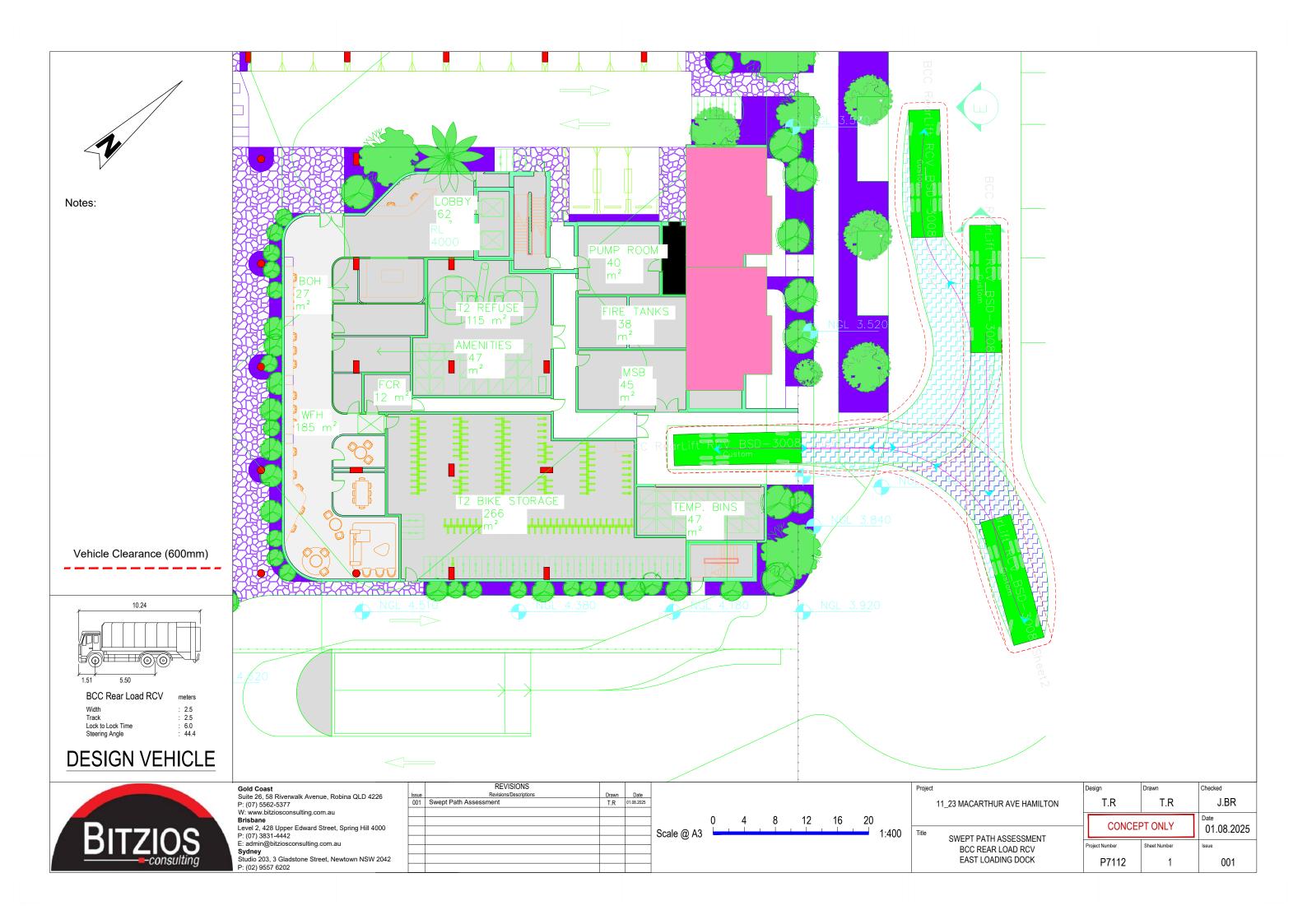
Appendix B: Swept Paths

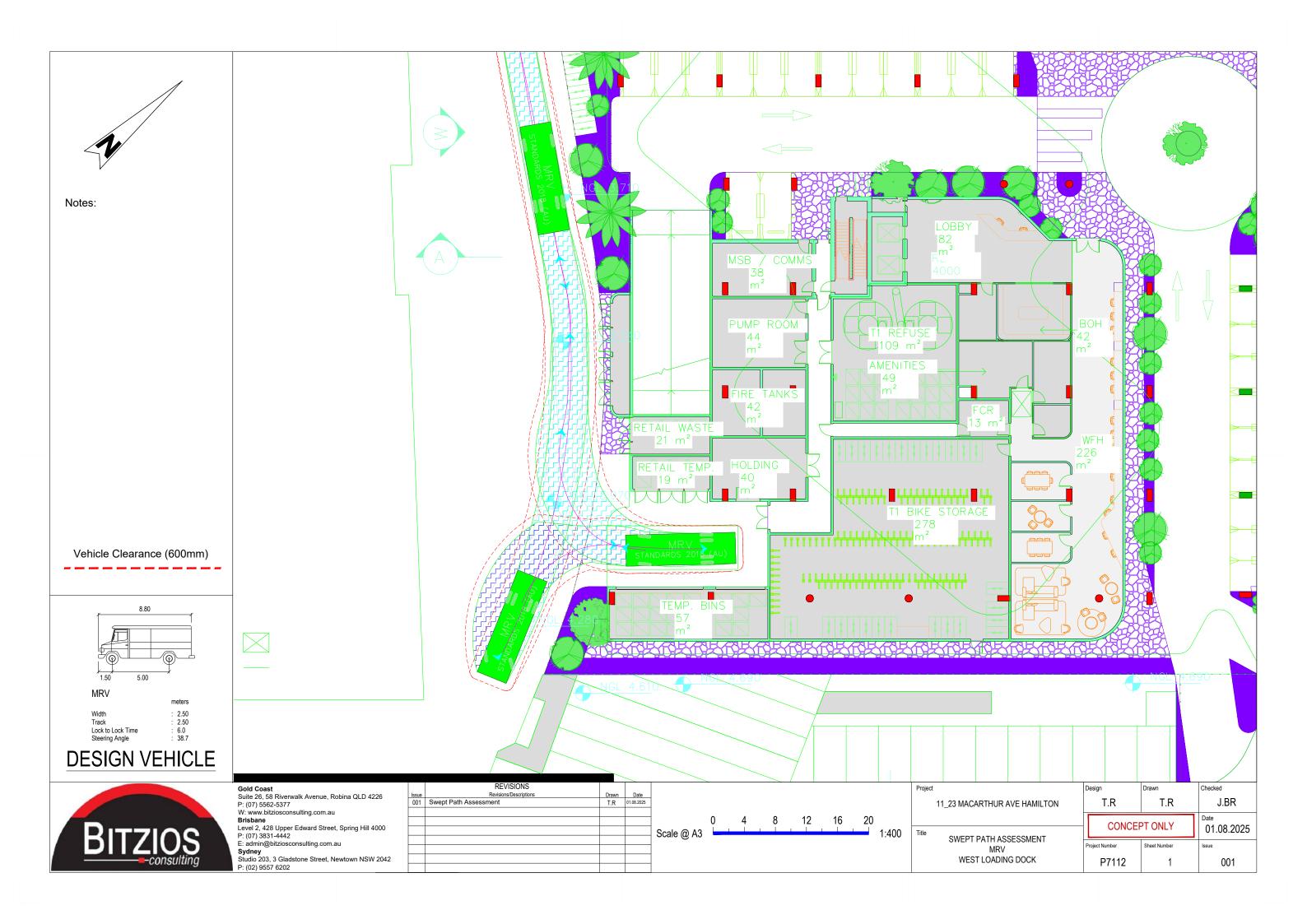


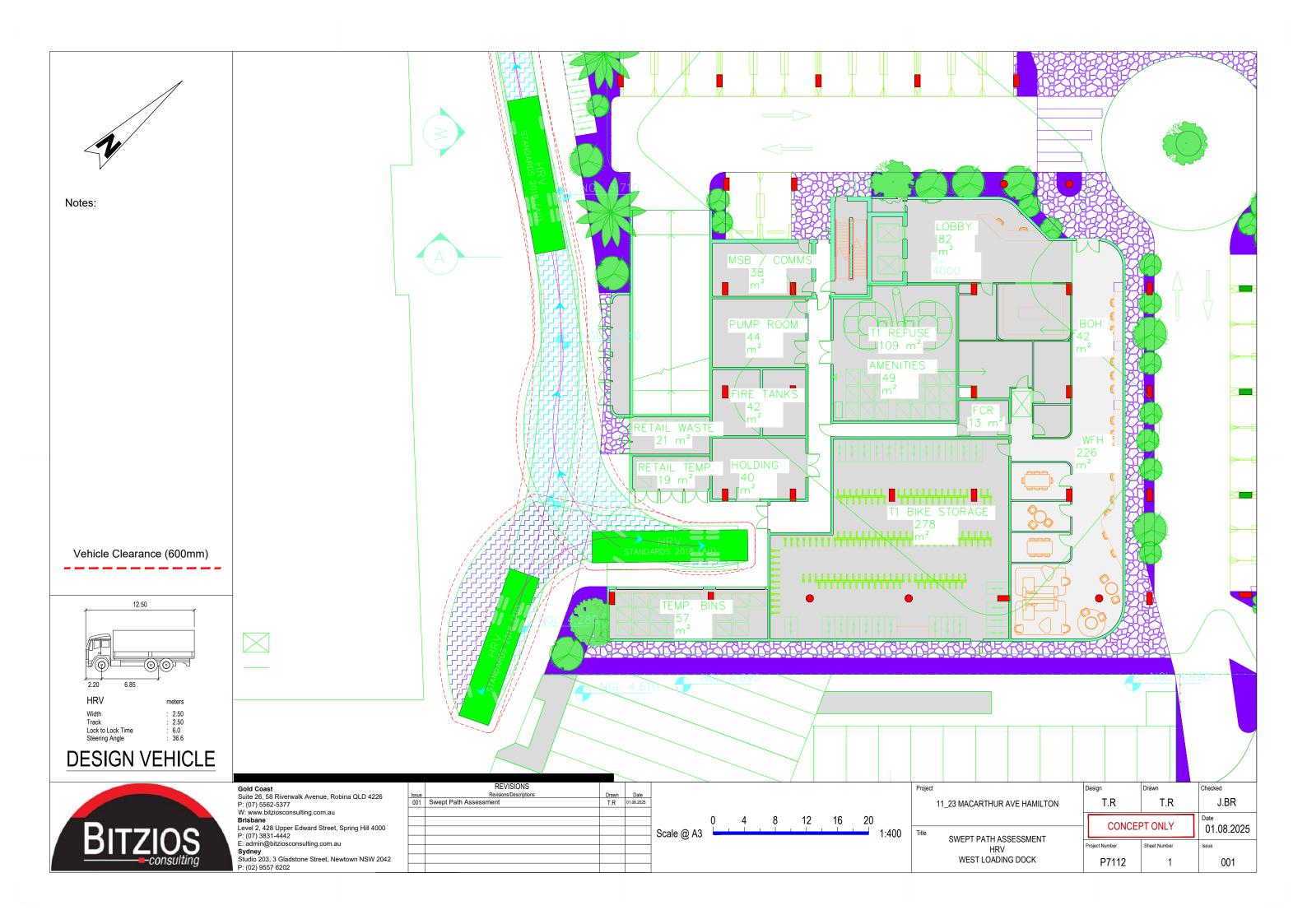


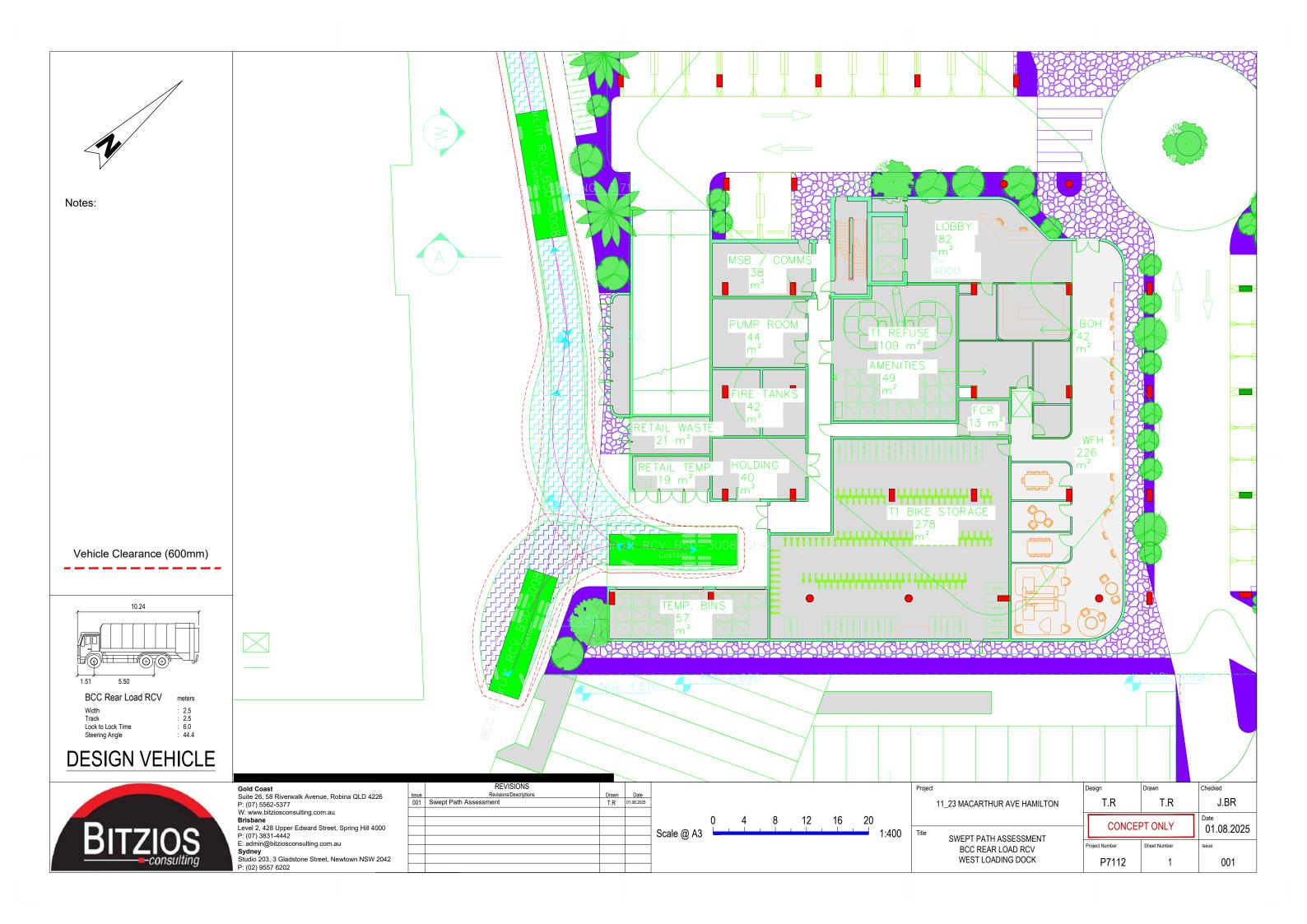












Gold Coast Suite 26, 58 Riverwalk Avenue Robina QLD 4226 P: (07) 5562 5377

Brisbane Level 2, 428 Upper Edward Street Spring Hill QLD 4000 P: (07) 3831 4442

Sydney
Studio 203, 3 Gladstone Street
Newtown NSW 2042
P: (02) 9557 6202



W: www.bitziosconsulting.com.au E: admin@bitziosconsulting.com.au