TRAFFIC & TRANSPORT ENGINEERING

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PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL
Approval no: DEV2020/1093
Date: 18 December 2020
Queensland Government

30 July 2020

Statewide Survey Group
123 Link Road
Victoria Point QLD 4165

Attention: Brayden Mason

Dear Brayden,

**RE: 3 MOORES ROAD, REDLAND BAY**
**TRAFFIC ENGINEERING ASSESSMENT**

## INTRODUCTION

This report has been prepared by Pekol Traffic and Transport (PTT), as requested by Statewide Survey Group, to assess the traffic engineering aspects of a proposed residential development at 3 Moores Road, Redland Bay. This letter is in response to Item 4 of the State Development, Manufacturing, Infrastructure and Planning's Further Issues letter (Reference DEV2020/1093), dated 12 March 2020.

## EXISTING CONDITIONS

The subject site is described as Lot 100 on SP309514, is currently vacant and falls within the planning jurisdiction of Economic Development Queensland (EDQ). The site forms part of the Weinam Creek Priority Development Area (PDA). The site is bounded to the north and east by residential properties, to the west by a construction site and to the south by vacant land and Moores Road, as shown in Figure 1.

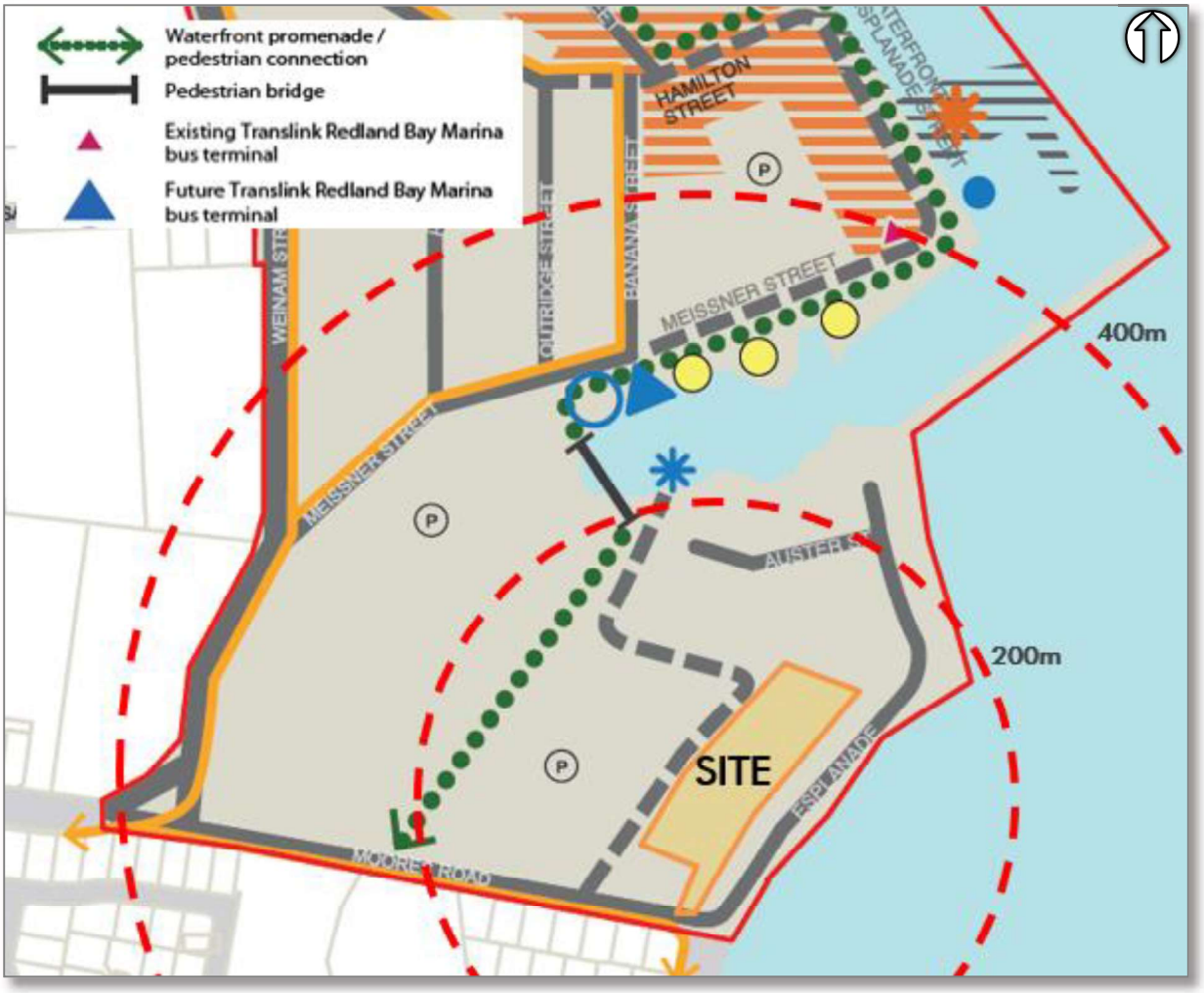
The surrounding area is a mix of residential and commercial uses. According to the Redlands City Council 2018 City Plan, Moores Road is classified as a local street (ie minor road).

There are no existing driveway crossovers from Moores Road to the subject site. There are currently pedestrian footpaths on both sides of Moores Road, but no on-road cyclist facilities. Moores Road is identified as a cycle path according to the Weinam Creek PDA Development Scheme.

**Figure 1: EXISTING SITE LOCALITY**


The subject site has limited accessibility to public transport. The closest bus stops are located approximately 450m west of the site, on Government Road and service three bus routes. The Redland Bay Marina bus stop is located approximately 500m north of the site and is proposed to be relocated as part of the Weinam Creek PDA Scheme, as shown in Figure 2. With the addition of new pedestrian facilities, as outlined in Figure 2, most of the site will be within 400m walking distance of the relocated Redland Bay Marina bus stop.

**Figure 2: PUBLIC TRANSPORT ACCESSIBILITY**



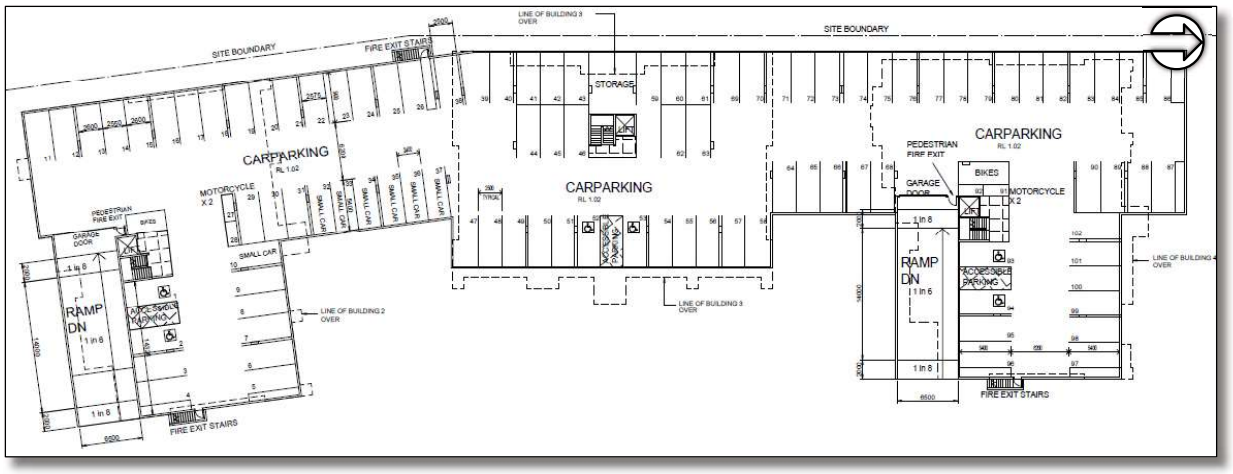
## PROPOSED DEVELOPMENT

The proposal involves the construction of a new 62 dwelling residential development comprising:

- eight townhouses
- 52 apartments

The basement level layout of the proposal is shown in Figure 3, with dimensioned plans attached.

**Figure 3: PROPOSED DEVELOPMENT – BASEMENT LEVEL LAYOUT**




## ACCESS

Council's Planning Scheme Policy 2 – Infrastructure Works requires driveways to be designed in accordance with Australian Standard AS2890.1:2009 Parking Facilities Part 1: Off-street Parking and Council's Standard Drawings.

### *Driveway Crossover*

AS2890.1 requires a 6.0-9.0m wide crossover for a Category 2 facility. The proposed access has been designed as a 7.1m wide crossover, consistent with AS2890.1. It is recommended that the driveway crossover be designed consistent with Council's Standard Drawing R-RCC-2.

### *Sight Distance*

On a 50km/h road (ie Moores Road), AS2890.1 requires an absolute minimum sight distance of 45m, with a desirable sight distance of 69m. On-site observations indicate that well in excess of 69m sight distance is available to the west of the site access driveway. Approximately 47m of sight distance is available to the east of the site access, to the Moores Road / The Boulevard / Esplanade priority-controlled intersection. This is consistent with the absolute minimum requirement from AS2890.1 and is considered acceptable given the lower speeds of vehicles as they approach the intersection and negotiate the bend. Therefore, the available sight distance is consistent with the requirements of AS2890.1 and Council's Transport, Servicing, Access and Parking Code.

### *Queuing*

AS2890.1 identifies that a minimum on-site queuing space of seven cars (ie 42m) is required for a development with 136 parking spaces (ie the proposed development). The proposed access point incorporates 43.8m of queuing space. Therefore, the proposed on-site queuing provision will be sufficient to cater for the proposed development and meets the requirements of AS2890.1.

## PARKING

### *Requirement*

The parking requirement for the site has been determined based on the parking provision rates within Council's Transport, Servicing, Access and Parking Code for multiple dwelling use. A parking provision of 134 spaces is required, as shown in Table 1.

**Table 1: PARKING REQUIREMENTS**

| LAND USE | SCALE | RATE | REQUIREMENT |
|---|---|---|---|
| One-Bedroom Dwelling | 12 dwellings | 1.5 spaces per dwelling | 18 spaces |
| Two-Bedroom Dwelling | 26 dwellings | 2 spaces per dwelling | 52 spaces |
| Three-Bedroom Dwelling | 24 dwellings | 2 spaces per dwelling | 48 spaces |
| Visitor | 62 dwellings | 1 space per 4 dwellings | 16 space |
| **Total** | | | **134 spaces** |

### *Provision*

A parking provision of 134 spaces is proposed, consistent with the requirements of Council's Transport, Servicing, Access and Parking Code, including:

- eight resident double garages (ie 16 parking spaces)
- 98 basement resident parking spaces
- four resident motorcycle parking spaces
- 16 visitor parking spaces

For developments with more than 50 parking spaces provided, Council's Transport, Servicing, Access and Parking Code requires 2% of spaces to be provided as motorcycle parking spaces. For this development, this equates to three parking spaces being dedicated for motorcycles. Since four motorcycle parking spaces are proposed, this provision is consistent with Council's requirement.

### *Persons with Disability Spaces*

Council's Transport, Servicing, Access and Parking Code requires provision for persons with a disability (PWD) parking, but does not provide PWD parking rates. The rate for PWD spaces has been adopted from the Building Code of Australia (BCA), which defines the development as a Class 2 building. The BCA does not define a PWD parking rate for a Class 2 building therefore, no PWD parking is required for the development. Nevertheless, six PWD parking spaces have been provided.

***Car Park Design***

The layout of on-site car parking is generally consistent with the requirements of Council's Transport, Servicing, Access and Parking Code and AS2890.1 in terms of bay dimensions, aisle widths and grades. This is typified by:

- resident parking spaces – dimensioned 2.5m – 2.9m wide by 5.4m long
- small car parking spaces – dimensioned 2.4m – 2.45m wide by 5.4m long
- visitor parking spaces – dimensioned 2.6m wide by 5.4m long
- parallel visitor parking spaces – dimensioned 2.4m wide by 6.5m long
- motorcycle parking spaces – dimensioned 1.2m wide by 2.7m – 2.9m long
- appropriately dimensioned PWD space with adjacent shared space
- parking aisles – dimensioned at least 6.2m wide
- additional 0.3m width provided in spaces adjacent to walls
- end of aisle treatments 1.0m deep
- a maximum ramp gradient of 1 in 6 with 2.0m long 1:8 transitions

It is recommended that the column locations be moved so that they are between 0.75m and 1.75m from the open end of the parking bays, in accordance with Figure 5.2 in AS2890.1.

It is also recommended that the aisle extension adjacent to parking space 5 be increased in width by 0.18m, this can be accommodated by reducing the widths of parking spaces 5 and 6.

Tandem parking spaces are proposed in the basement parking area, it is recommended that the tandem spaces be allocated to the same unit.

## COMMERCIAL VEHICLE SERVICING

Council's Transport, Servicing, Access and Parking Code requires on-site manoeuvring areas to be designed to accommodate a Waste Collection Vehicle (WCV). As shown in Figures 4-6 and attached drawings 20-127-001, 20-127-002 and 20-127-003, the WCV is able to enter the site, service the bin collection areas and exit the site in a forward gear.

**Figure 4: WCV SERVICING COLLECTION AREA 1**

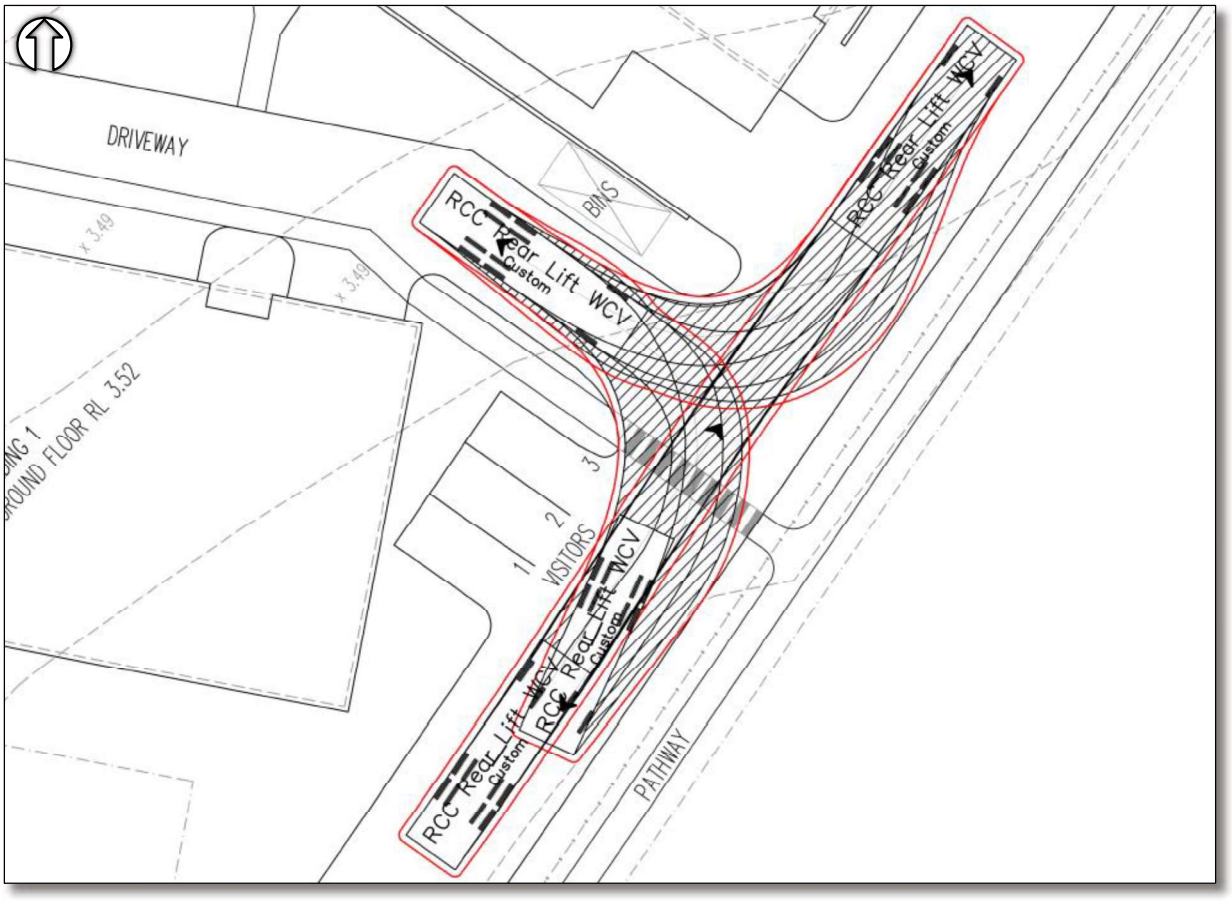



**Figure 5: WCV SERVICING COLLECTION AREA 2**

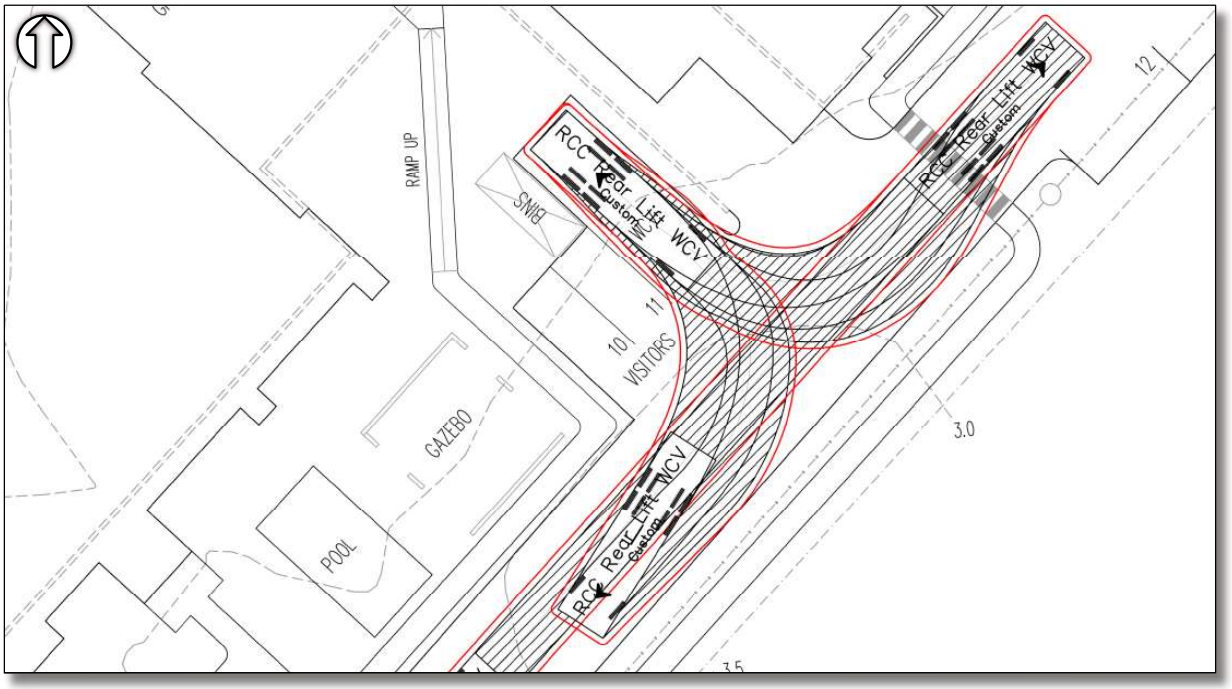
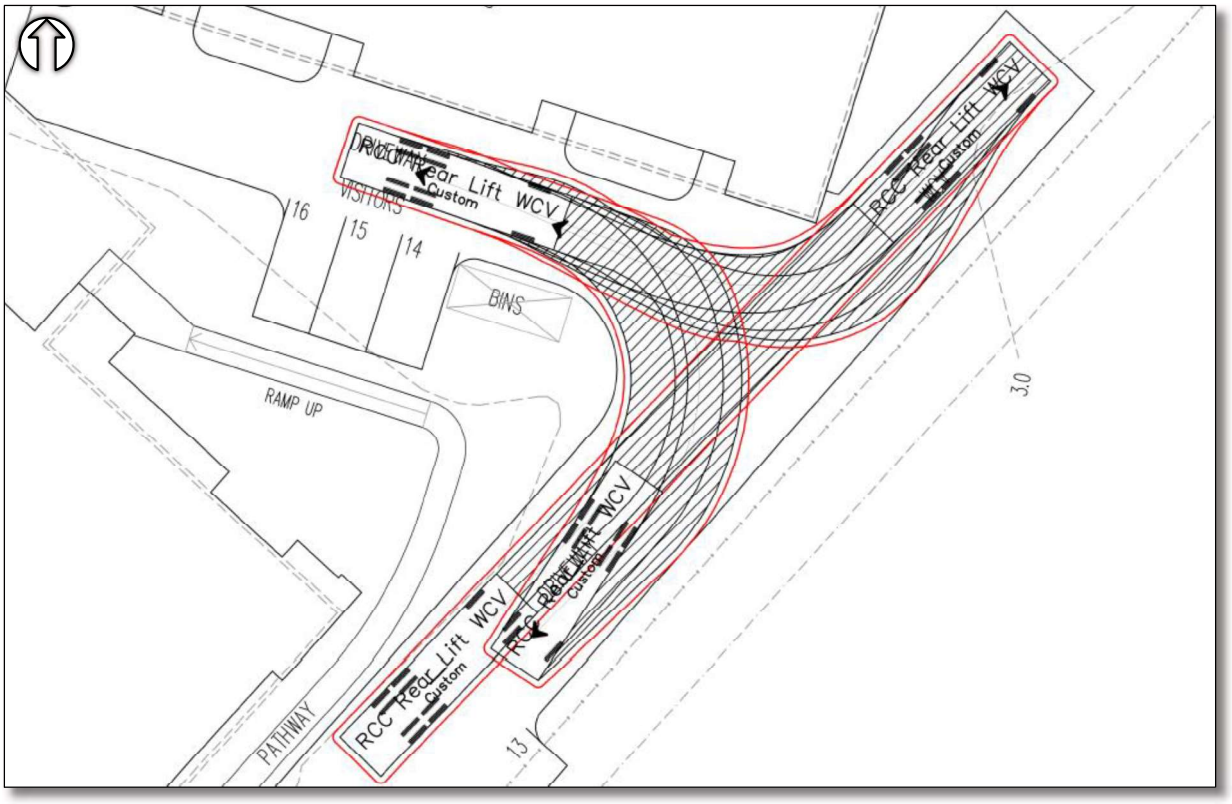


**Figure 6: WCV SERVICING COLLECTION AREA 3**




## ACTIVE TRANSPORT

### *Pedestrians*

A separate pedestrian entrance is proposed for the site with an associated pedestrian footpath located on the eastern side of the internal access roadway. Pedestrian crossings are provided periodically along the roadway to allow pedestrians to cross the roadway towards the buildings.

### *Bicycle Parking*

Council's Transport, Servicing, Access and Parking Code requires provision for bicycle parking, but does not provide bicycle parking rates. Therefore, the rates from Austroads Guide to Traffic Management Part 11 have been adopted. The minimum requirement is shown in Table 2.

**Table 2: BICYCLE PARKING REQUIREMENTS**

| LAND USE | SCALE | PARKING RATE | SOURCE | REQUIREMENT |
|---|---|---|---|---|
| Resident | 62 dwellings | 1 space per 4 dwellings | Austroads | 16 |
| Visitor | 62 dwellings | 1 space per 16 dwellings | Austroads | 4 |
| TOTAL | | | | 20 |

The proposed development provides two storage areas in the basement to store bicycles on-site. The provision of this storage facility is consistent with Austroads requirements. These spaces are not readily accessible by visitors to the site therefore, it is recommended that bicycle parking racks with capacity for at least four bicycles be provided on the ground level in close proximity to the building entrances.

## TRAFFIC GENERATION

The peak hour traffic generation of the proposed uses has been estimated based on published trip rates in the Department of Transport and Main Roads' Road Planning and Design Manual 1st Edition. The predicted peak hour traffic generation for the site is shown in Table 3.

**Table 3: DEVELOPMENT PEAK HOUR TRIP GENERATION**

| LAND USE | SCALE | RATE | TRIPS (VEH/HR) | IN : OUT SPLIT | IN : OUT SPLIT (VEH) |
|---|---|---|---|---|---|
| **Morning Peak Hour** | | | | | |
| Medium Density Residential | 60 dwellings | 0.6 trips per dwelling | 36 | 20 : 80 | 7 : 29 |
| **Evening Peak Hour** | | | | | |
| Medium Density Residential | 60 dwellings | 0.6 trips per dwelling | 36 | 80 : 20 | 29 : 7 |

As outlined in Table 3, the proposed development is estimated to generate 36 vehicle trips during the weekday peak hour. This equates to approximately three vehicles every five minutes, which is not expected to have an adverse impact on the surrounding road network. Additionally, the development traffic will distribute through the road network from the Moores Road / Government Road / Meissner Street intersection.

## CONCLUSIONS AND RECOMMENDATIONS

### *Conclusions*

The proposed development has been evaluated in terms of its site access arrangements, parking and servicing operations. The main points to note are:

- the proposed development includes 62 residential dwellings, comprised of:
  - eight townhouses
  - 52 apartments
- access is proposed via a new 7.1m wide driveway crossover on Moores Road
- sight distance and queuing of the access driveway are consistent with AS2890.1
- the proposed development incorporates 134 parking spaces, consistent with Council's Transport, Servicing, Access and Parking Code
- on-site refuse collection and servicing can be accommodated
- the proposed development provides adequate provision for residents to securely store bicycles on-site
- the proposal provides good connectivity with existing pedestrian and public transport facilities
- the proposed development is not expected to have an adverse impact on the surrounding road network

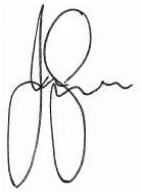
### *Recommendations*

Based on the above, it is recommended that:

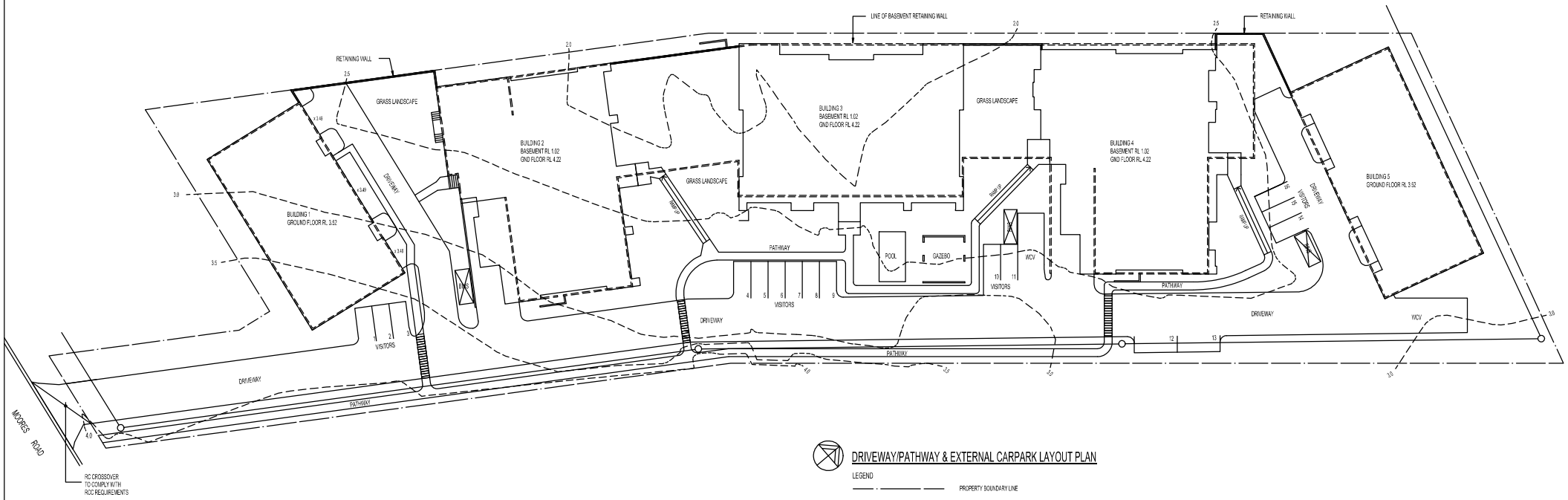
- the driveway crossover be designed consistent with Council's Standard Drawing R-RCC-2
- the column locations be moved so that they are between 0.75m and 1.75m from the rear of the parking bays, consistent with Figure 5.2 in AS2890.1
- the aisle extension adjacent to parking space 5 be increased in width by 0.18m
- tandem parking spaces be allocated to the same unit
- four bicycle parking spaces for visitors be provided

If you have any questions regarding the issues discussed above, please do not hesitate to contact us.

Yours sincerely,



James Gannon
Principal Engineer (RPEQ 22233)




## DRIVEWAY/PATHWAY & EXTERNAL CARPARK LAYOUT PLAN

LEGEND

- PROPERTY BOUNDARY LINE
- EXISTING CONTOUR LINE (0.5m INTERVALS)
- EXISTING SEWER LINE
- BINS — 3 BIN ENCLOSURES
  EACH ENCLOSURES :
  2 x 1100L GENERAL WASTE BINS
  2 x 1100L RECYCLING WASTE BINS

CARPARK
– 16 x VISITOR SPACES

| | | | |
|---|---|---|---|
| B | | 26.06.20 | dL |
| A | | 04.06.20 | dL |
| No. | REVISION | DATE | DR'N |

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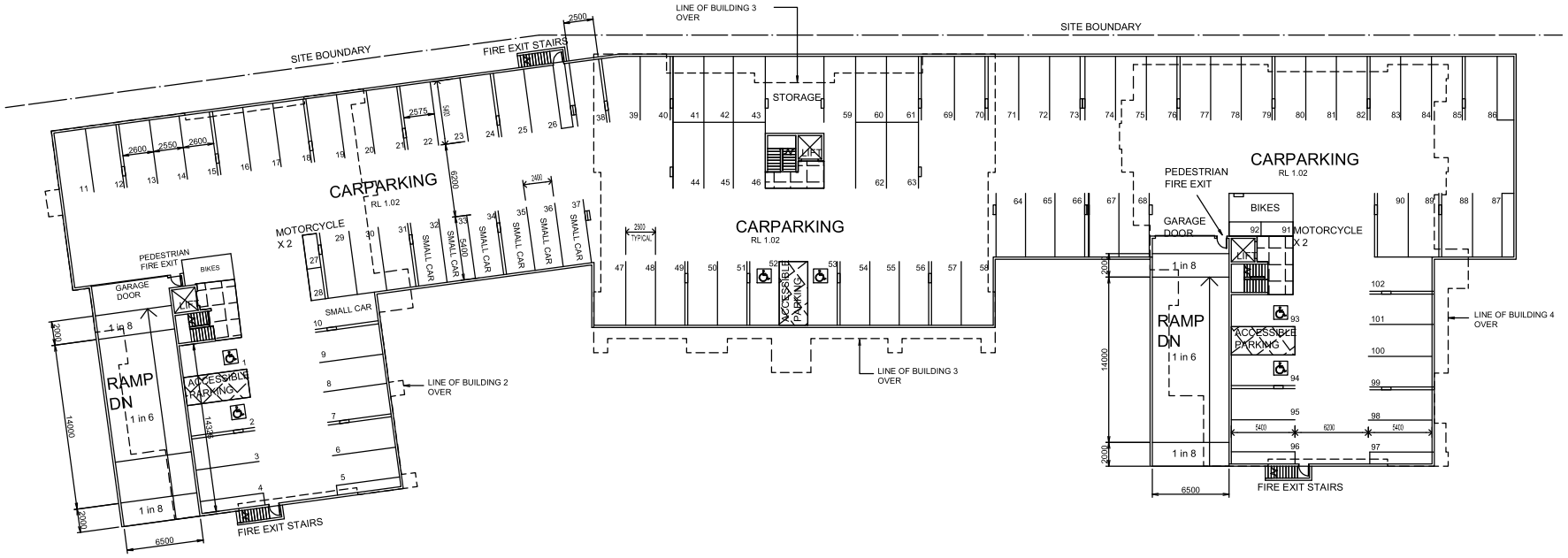
| SCALE | 1:300 @ A1 |
| DRAWN | dL |
| CHECKED | NM |
| ACCEPTED | NM |
| APPROVED | NM |
| DATE | MARCH 20 |

JOB DESCRIPTION
RESIDENTIAL DEVELOPMENT
3 MOORES ROAD
REDLAND BAY

DRAWING TITLE
DRIVEWAY/PATHWAY & CARPARK LAYOUT PLAN

DRAWING NUMBER Q19-323-C08

REVISION NUMBER B




## BASEMENT - CARPARK LAYOUT PLAN

**CARPARKING**

102 x Resident spaces including:

- 5 x tandem spaces
- 4 x motorcycle spaces
- 6 x accessible spaces

| | | | |
|---|---|---|---|
| B | | 26.06.20 | dL |
| A | | 04.06.20 | dL |

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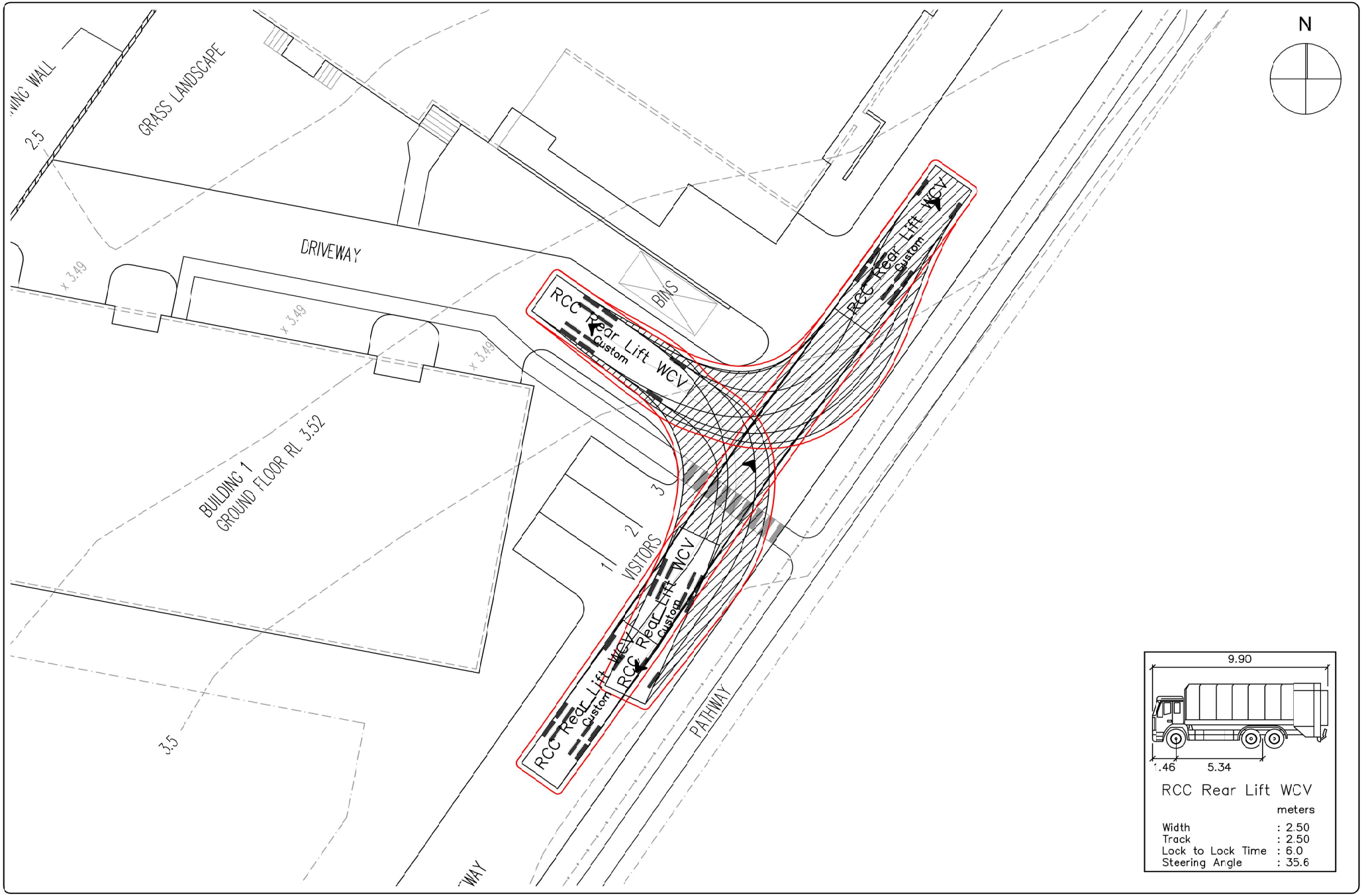
| SCALE | 1:200 @ A1 |
| DRAWN | dL |
| DESIGNED | NM |
| CHECKED | NM |
| APPROVED | NM |
| DATE | MARCH 20 |

DEVELOPMENT
RESIDENTIAL DEVELOPMENT
3 MOORES ROAD
REDLAND BAY

DRAWING TITLE
BASEMENT - CARPARK LAYOUT PLAN

DRAWING NUMBER Q19-323-C09

REVISION B

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| REV. | AMENDMENTS | DRN | DATE |
|---|---|---|---|

PROJECT TITLE: 3 MOORES ROAD, REDLAND BAY

DRAWING TITLE: WCV MANOEUVRING COLLECTION AREA 1

CLIENT: STATEWIDE SURVEY GROUP

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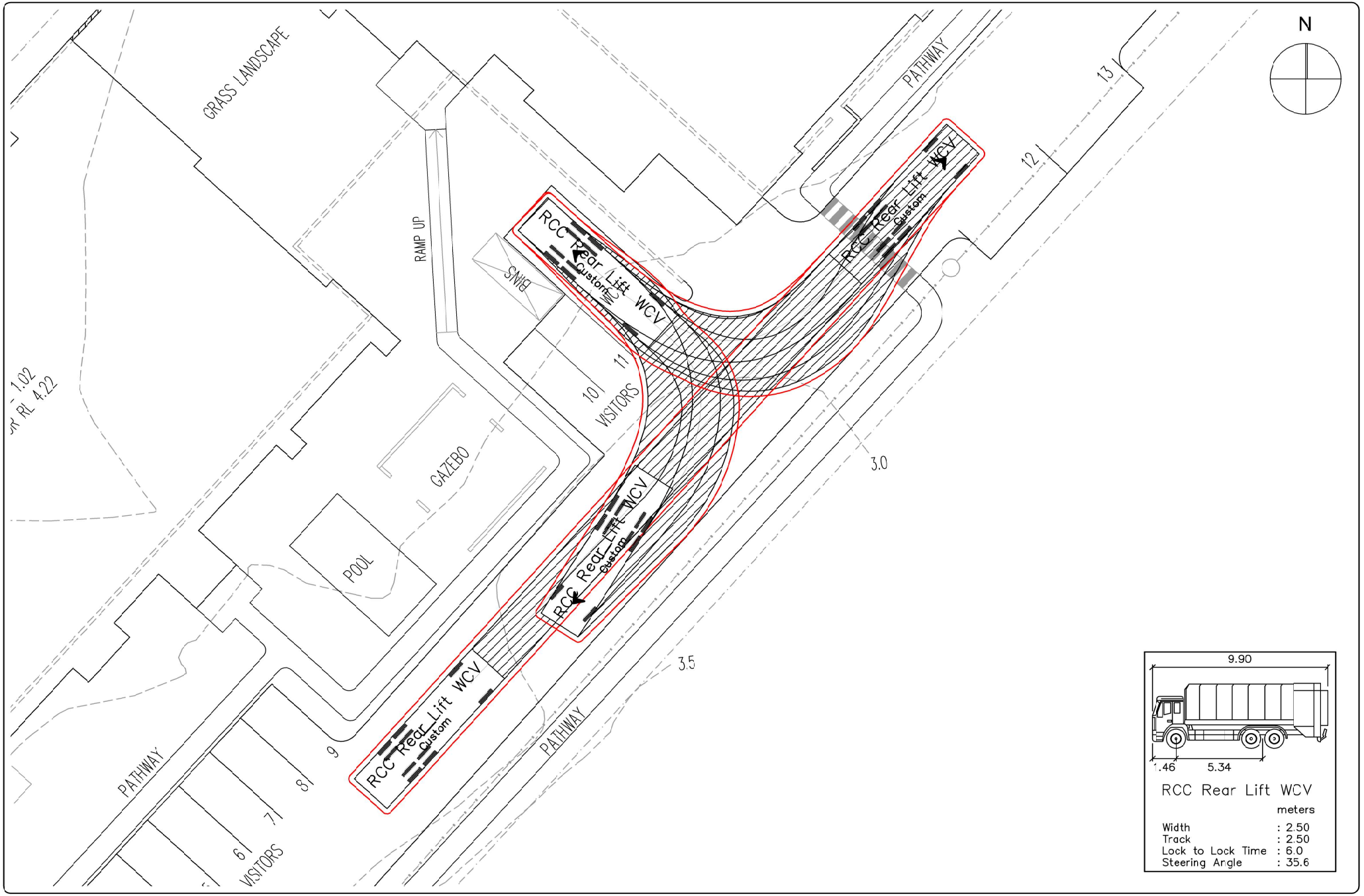


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PROJECT TITLE: 3 MOORES ROAD, REDLAND BAY

DRAWING TITLE: WCV MANOEUVRING COLLECTION AREA 2

CLIENT: STATEWIDE SURVEY GROUP

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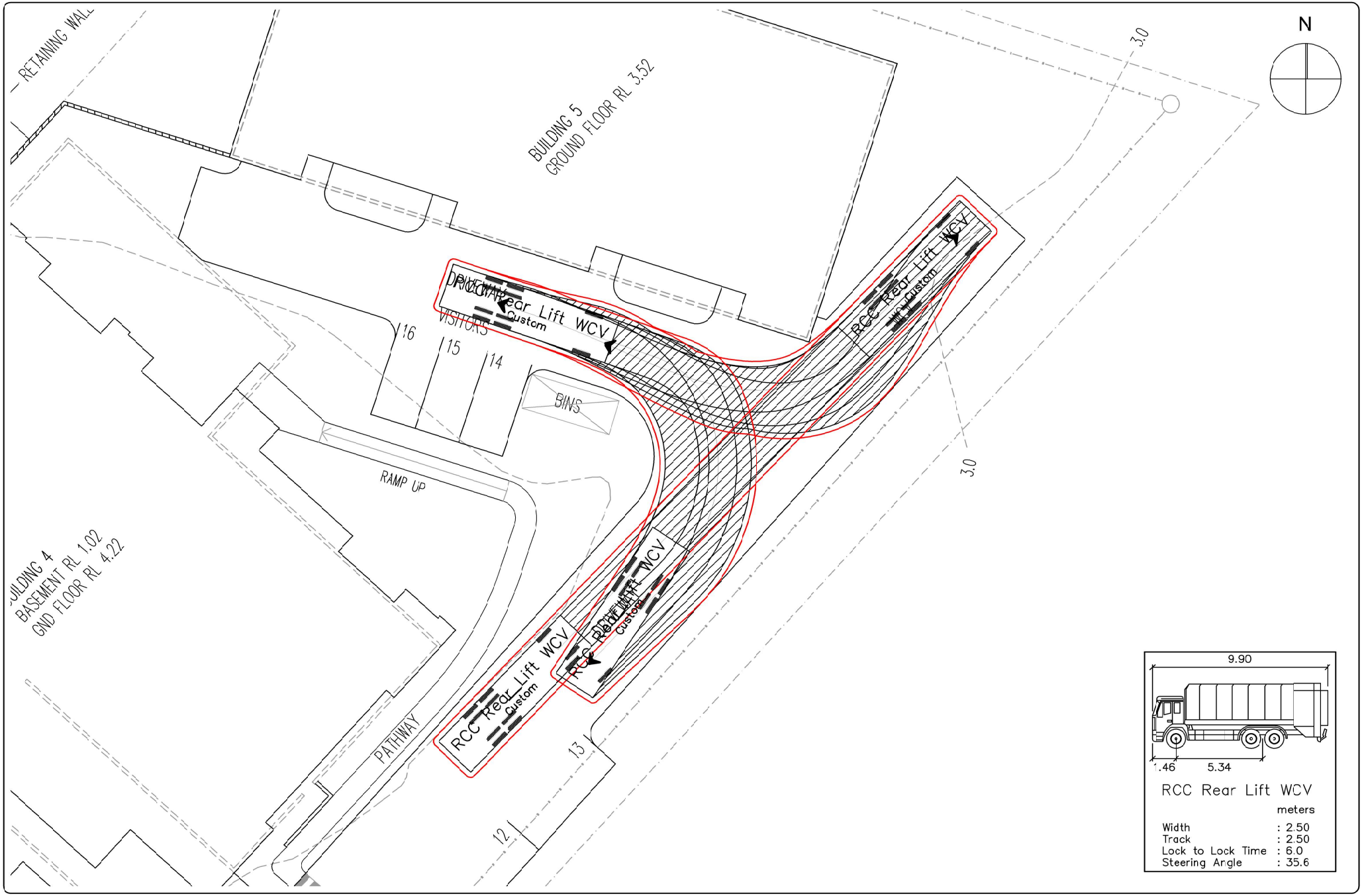


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| REV. | AMENDMENTS | DRN | DATE |
|---|---|---|---|

PROJECT TITLE: 3 MOORES ROAD, REDLAND BAY

DRAWING TITLE: WCV MANOEUVRING COLLECTION AREA 3

CLIENT: STATEWIDE SURVEY GROUP

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