# Allis Street Flagstone Childcare Centre

## Traffic Impact Statement

Flag Land Pty Ltd

6th May 2021

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2021/1189

Date: 18-Jun-2021

Queensland Government

**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



## Document Issue History

| Report File Name | Prepared | Reviewed | Issued | Date | Issued to |
|---|---|---|---|---|---|
| P5111.001R Allis St Flagstone Childcare TIS | F. Jones & E. Secondes | M. Kimmins | F. Jones | 06/05/2021 | Dylan Torv via email dylan@torv.co |
| P5111.002R Allis St Flagstone Childcare TIS | F. Jones & E. Secondes | M. Kimmins | F. Jones | 06/05/2021 | Dylan Torv via email dylan@torv.co |

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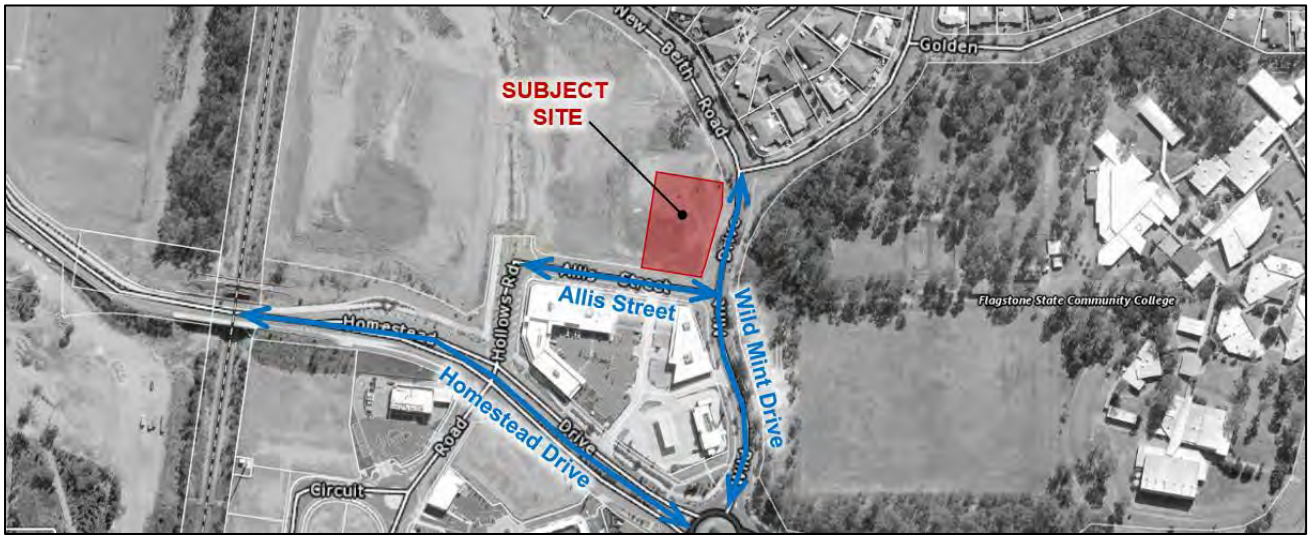
# 1. INTRODUCTION

## 1.1 Overview

Bitzios Consulting was engaged by Flag Land Pty Ltd to provide traffic engineering services in relation to a proposed childcare centre development to be located on the corner of Allis Street and Wild Mint Drive in Flagstone (subject site). The subject site is formally described as Lot 906 on SP290276 and is located within the Logan City Council (Council) Local Government Area (LGA).

The location of the subject site is shown indicatively on Figure 1.1.




*Source: Queensland Globe*

**Figure 1.1: Site Location**

## 1.2 Development Overview

Key development details are summarised below:

- **Yield**: Child Care Centre with provision for up to 135 enrolments
- **Vehicular Access**: One (1) all movements 6.5m wide "Type B2" driveway crossover on Allis Street
- **Parking**: 36 on-site car parking spaces including one (1) Person with Disability (PWD) bay
- **Servicing**: on-site refuse collection and general deliveries.

A copy of the proposed development plans is included at **Appendix A**.

## 1.3 Scope of Works

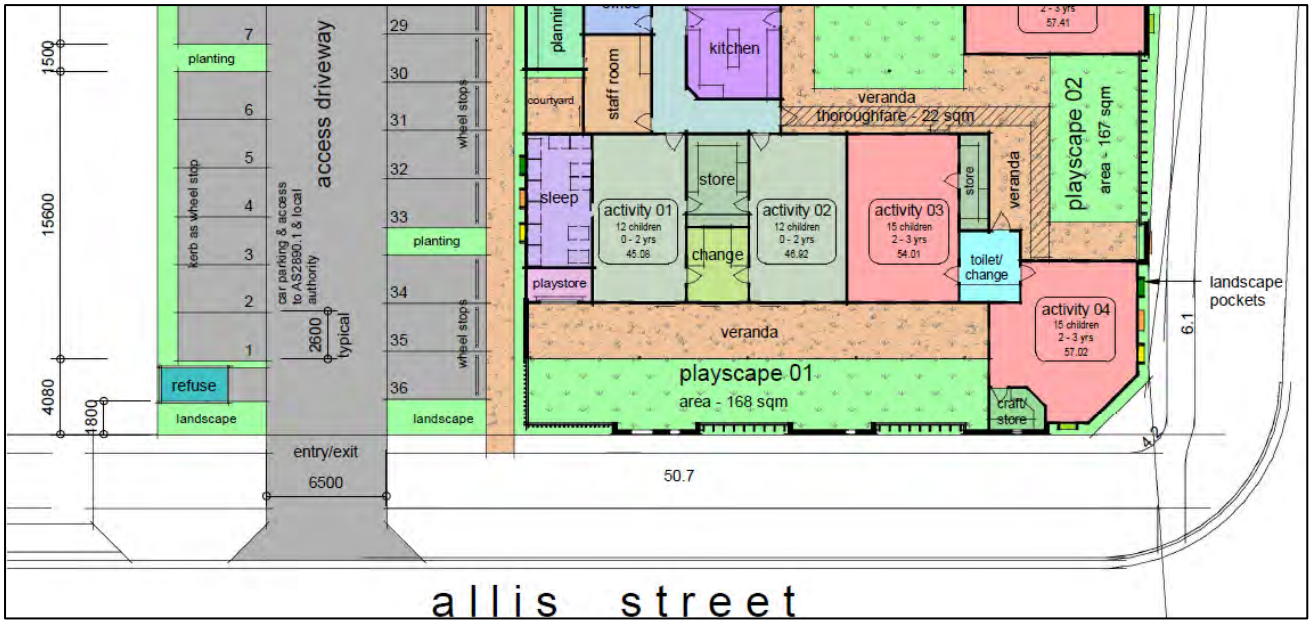
The scope of works of this Traffic Impact Statement (TIS) included the following tasks:

- Reviewing the proposed site access arrangement against Council's Planning Scheme Policy (PSP) and Australian Standards (AS2890)
- Reviewing the proposed car parking provision against Council's PSP requirements, and typical estimated demands
- Reviewing the proposed internal car parking layout against Council's PSP and AS2890 requirements
- Reviewing the ability for design vehicles to access and service the site, including preparing swept paths using AutoTURN software.

# 2. TRAFFIC REVIEW

## 2.1 Site Access

Figure 2.1 shows the proposed site access arrangements for the subject site.




*Source: Raymond Design, Drawing Number RD20029, Issue DA3, Dated 21/04/2021*

**Figure 2.1: Proposed Site Access Arrangement**

### 2.1.1 Location

Table 2.1 summarises our review of the site access location against AS2890 requirements.

**Table 2.1: Site Access Review**

| Road Type | Direction | Required Separation | Proposed Separation | Compliant |
|---|---|---|---|---|
| Minor | East | 6m from the tangent point of an intersection | >6m | Yes |
| | West | | | Yes |

In summary, the proposed driveway location complies with AS2890 requirements. The proposed access location does conflict with an existing kerb ramp, however, it is understood that this kerb ramp was intended for a historic ROL design and is intended to be removed to make way for the proposed driveway. We understand the proposed access location is the nominated access location for the site under the revised ROL and operational works application. Furthermore, we are of the opinion that the existing kerb ramps at either end of Allis Street provide a sufficient level of pedestrian connectivity.

Table 2.2 summarises our sight distance review of sight distances against AS2890 requirements.

**Table 2.2: Driveway Sight Distance Review**

| Access Location | Posted Speed | Direction | Minimum SISD Requirements | Available Sight Distance | Compliant |
|---|---|---|---|---|---|
| Douglas Street | 50km/h | East | 45m | ~55m to intersection | Yes |
| | | West | | ~85m to intersection | Yes |

In summary, the available sight distances comply with AS2890 requirements.

### 2.1.2 Configuration

Table 2.3 summarises our review of the site access configuration against AS2890 requirements.

**Table 2.3: Site Access Review**

| Access Location | Access Direction | No. Parking Spaces | Requirement | Provided |
|---|---|---|---|---|
| Minor Road | Entry / Exit | 36 | 6.0 - 9.0m | 6.5m |

The proposed access width is sufficient to accommodate an RCV to reverse on site, service the required area and exit the site in a forward gear. Swept path diagrams have been prepared which demonstrate that a 6.5m driveway with Type B2 flares is suitable to accommodate all servicing requirements.

In summary, the proposed access configuration is suitable from a traffic engineering perspective and it is recommended that the development is conditioned to provide Type B2 flares as part of the approval.

A copy of the swept path diagrams is included in **Appendix B.**

## 2.1 Queuing

The proposed layout provides approximately 3m of queue storage between the property boundary and the first car parking space. This is below the minimum requirements of two (2) vehicles. The proposed queuing provisions are considered adequate based on the following:

- The first parking space (space #36) will be designated as a staff car park and will have low turnover, minimising any vehicle queuing for this space. Furthermore, it is expected that staff will arrive / depart outside of peak periods
- All other parking spaces are located at a minimum of 4.1m from the property boundary. This is below the minimum requirements of two (2) vehicles, however, there is adequate distance between all other car parking spaces and the roadway for two (2) vehicles to store clear of Allis Street
- While Council's road hierarchy mapping has not yet been updated to include Allis Street, it is understood that it will operate as a lower order road with relatively low traffic demands.

In summary, the access queueing is considered acceptable from a traffic engineering perspective.

## 2.2 Parking Provision

Table 2.4 summarises our review of the proposed car parking provisions against Council's Planning Scheme.

**Table 2.4: Parking Provision Review**

| Land Use | Quantity | Council Rate | Required Spaces | Proposed Spaces |
|---|---|---|---|---|
| Child Care Centre | 21 employees | 1 space per employee | 21 spaces | 36 spaces |
| | 135 children | 1 space per 10 approved places for children | 14 spaces | |
| **TOTAL** | | | **35 spaces** | **36 spaces** |

In summary, the proposed car parking provision exceeds Council's Planning Scheme requirement.

## 2.3 Servicing

### 2.3.1 Deliveries

The relevant design vehicle for the subject site is an SRV, as per Council's Planning Scheme Policy, however it is currently proposed that the site will be serviced by a VAN (B99).

No dedicated loading bay is proposed as servicing will be scheduled during off-peak periods. We are advised that most families will attend the centre at peak drop-off and pick-up periods and that outside of those hours almost all visitor car parking bays will be vacant. The service vehicle will therefore be able to use a visitor car parking bay. This arrangement is not expected to result in any impacts or conflicts on-site.

Given the off-peak nature of servicing and that a VAN is equivalent to a B99, this arrangement is considered suitable from a traffic engineering perspective.

### 2.3.2 Refuse Collection

It is proposed that refuse collection will be undertaken on-site via a front loading refuse collection vehicle (RCV). This is considered suitable for the following reasons:

- Swept path diagrams have confirmed that a front load RCV is able to reverse on site, perform necessary servicing, and exit the site in a forward gear
- Once the RCV is stored in place the bins will be wheeled from within the storage area to be serviced
- Refuse collection is expected to occur outside of peak hours to avoid conflicts with visitors and staff. Furthermore, swept path diagrams have confirmed that a B85 (car) is capable of passing the RCV during servicing

In summary, the proposed servicing arrangements are considered appropriate and are not expected to result in any operational or safety impacts.

A copy of the swept path diagrams is included in **Appendix B.**

## 2.4 Car Park Layout

### 2.4.1 Geometric Layout Review

Table 2.5 summarises our review of the car parking area against AS2890 requirements.

**Table 2.5: Car Park Layout Review**

| Design Element | Proposed | AS2890 Requirement | Compliant |
|---|---|---|---|
| Parking Spaces | 2.6m x 5.4m | 2.4m x 5.4m | Yes |
| PWD Parking Space | 2.6m x 5.4m with shared zone | 2.4m x 5.4m with shared zone | Yes |
| Aisle Width | 6.5m | 6.5m | Yes |
| Turnaround Bay | 4.4m x 5.4m | 2.4m x 5.4m | Yes |
| Clearance to High Walls | Minimum 0.3m | 0.3m | Yes |
| Aisle Extension | 1.0m | 1.0m | Yes |

In summary, the car parking area complies with AS2890 requirements.

### 2.4.2 Speed Controls

As the site has a 57m long straight parking aisle, it warrants the need for speed control measures to prevent speeding / unsafe driving throughout the carpark.

As such, it is recommended that a Type 2 speed hump is implemented towards the centre of the site in accordance with AS2890 requirements. This will result in two (2) separate parking aisles at approximately 25m length. This can be conditioned by Council as part of the approval.

# 3. SUMMARY

Key findings are summarised below.

- The applicant seeks approval for a child care centre located at the corner of Allis Street and Wild Mint Drive in Flagstone
- Access is proposed via a 6.5m wide “Type B2” driveway crossover to Allis Street
- The proposed access location, configuration and queuing provision generally complies with relevant AS2890 requirements
- The proposed car parking provision complies with Council’s Planning Scheme
- The proposed car parking layout complies with AS2890 requirements
- The proposed servicing arrangement is considered suitable from a traffic engineering perspective and is not expected to result in any operational or safety impacts
- As part of the approval it is recommended that the applicant is conditioned to:
  - Provide Type B2 flares for the access driveway
  - Provide a Type 2 speed hump towards the centre of the internal parking aisle.

Based on the findings of the report, we are of the view that there are no other traffic engineering related matters to preclude approval of this development application.

# Appendix A: Development Plans

# proposed 135 place childcare centre , allis street, flagstone, qld

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site data / analysis

## proposal
- 135 place childcare centre

r.p.d.
lot 25008, allis street, flagstone, qld

local authority Logan City Council

site area 3500 sqm
site cover 1287 sqm (36.7 %)
gross floor area - 865 sqm

## building area

| | |
|---|---|
| ground floor area | - 865 sqm |
| veranda area | - 403 sqm |
| safety zone area | - 10.9 sqm |
| playstore | - 8.1 sqm |

## childcare centre

no. of children - 135
no. of activity rooms - 8

## staff
- 21 contact

## playscape

provided -- 1081 sq.m.

## car parking

childcare centre
car bays provided - 36 bays inc. disabled bay

cars required - 34.5 bays
(1/employee + 1/10 children)

## operating hours

monday - friday 6:30am - 6:30pm tbc

## index to sheets



## development statement

built environment

the development will comply with the requirements of the Logan City Council, the NCC 2019 Vol 1 and the National Quality Framework and standards.

car parking

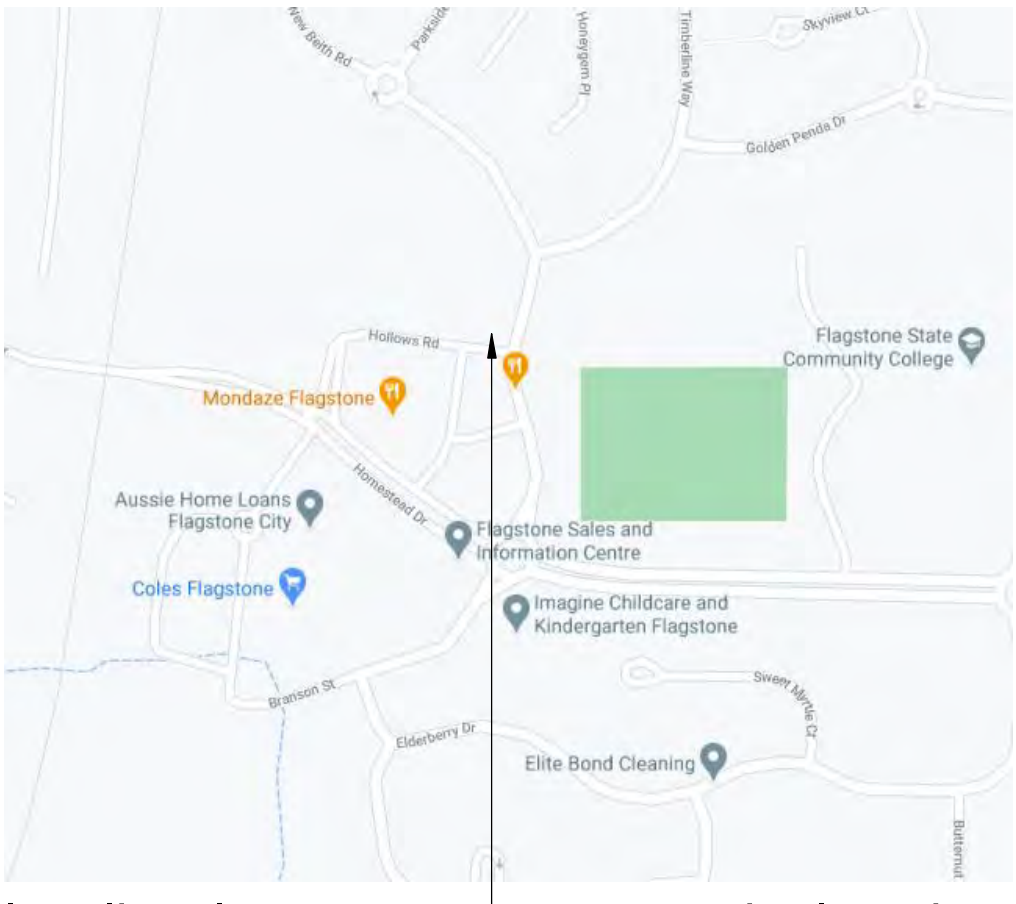
all car parking and access shall accord with AS2890.1

area calculations

all area calculations are based on design and are subject to final design development. final figures shall accord with minimums or maximums allowed by council and shall not vary by more than 5% of that stated

garbage collection

garbage is to be collected on site, bins to be stored in screened service area




locality plan site location

**01.**

face sheet/ site data

proposed chidcare centre, allis st, flagstone, qld.

0 m
not to scale



RD20029 : november_2020
issue DA2 -15/04/21
drawn - c. c. r.

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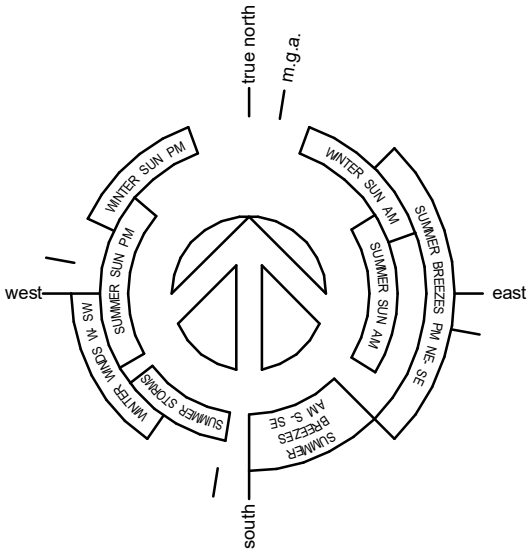
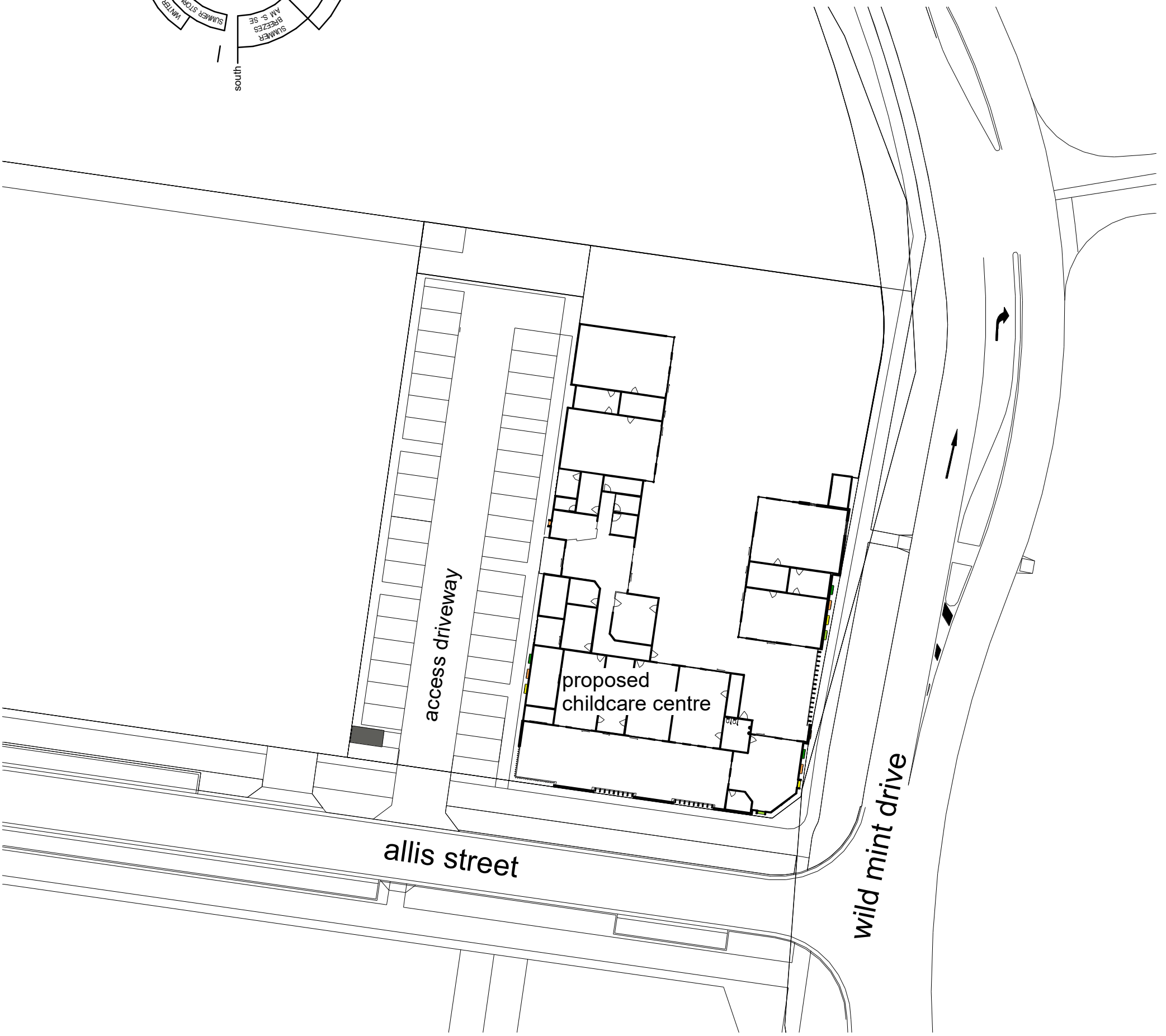
north




**02.**

# overall site plan

# proposed chidcare centre, allis st, flagstone, qld.

0
1:500 (A3)
25m



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issue DA3 -21/04/21
drawn - c. c. r.

# proposed 135 place childcare centre

north

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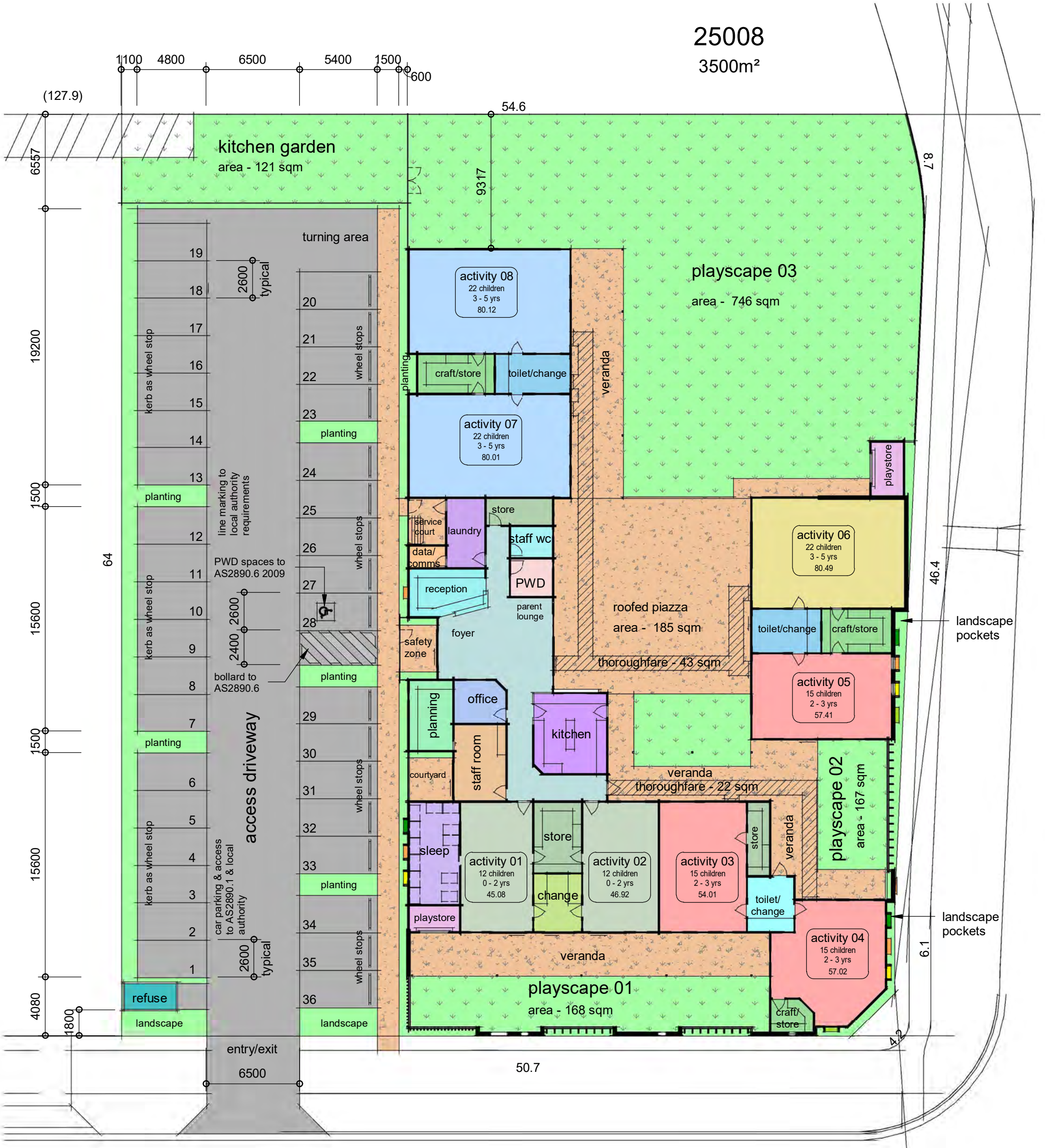


**03.**

site/floor layout

proposed chidcare centre, allis st, flagstone, qld.

0 12.5m
1:250 (A3)



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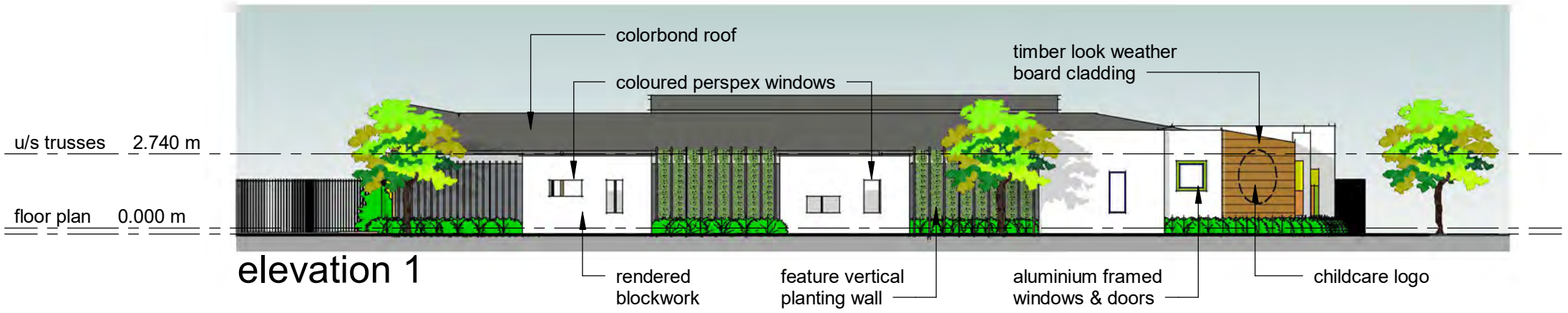
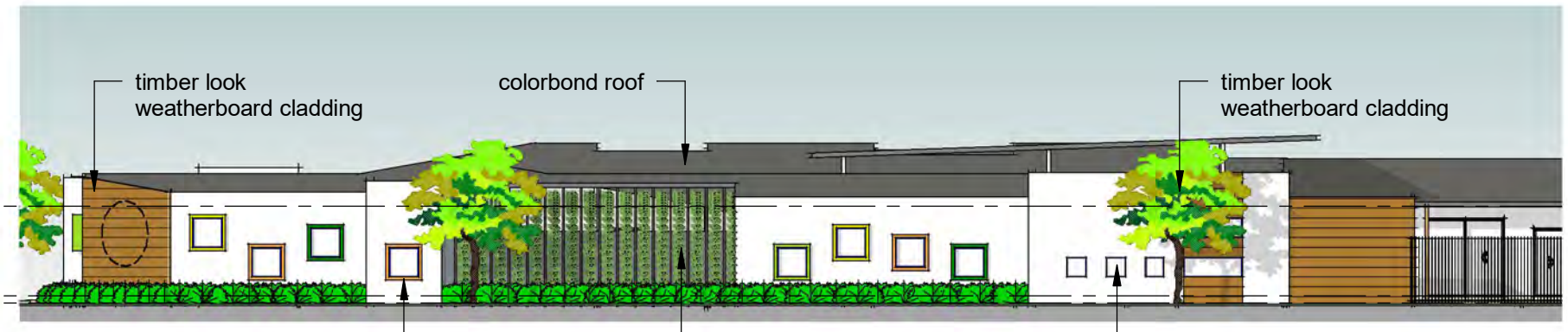
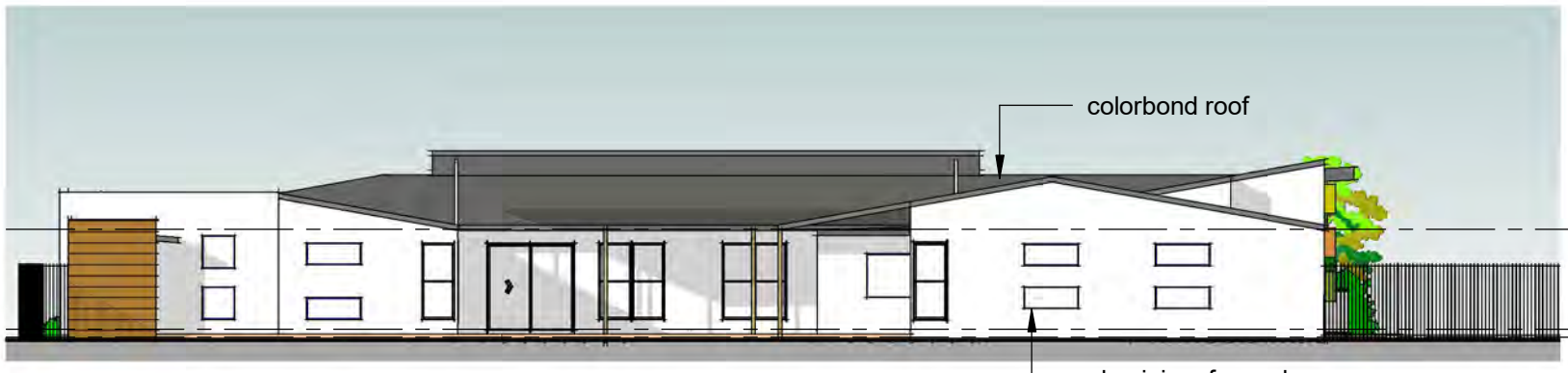



elevation 1




elevation 2




elevation 3


elevation 4 - A


elevation 4 - B

**04.**

elevations

proposed chidcare centre, allis st, flagstone, qld.

0 10m
1:200 (A3)



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**05.**

# 3D views

proposed chidcare centre, allis st, flagstone, qld.

0 m
not to scale



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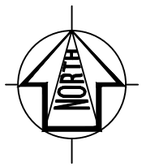
issue DA3 -21/04/21
drawn - c. c. r.

# Appendix B: Swept Path Diagrams



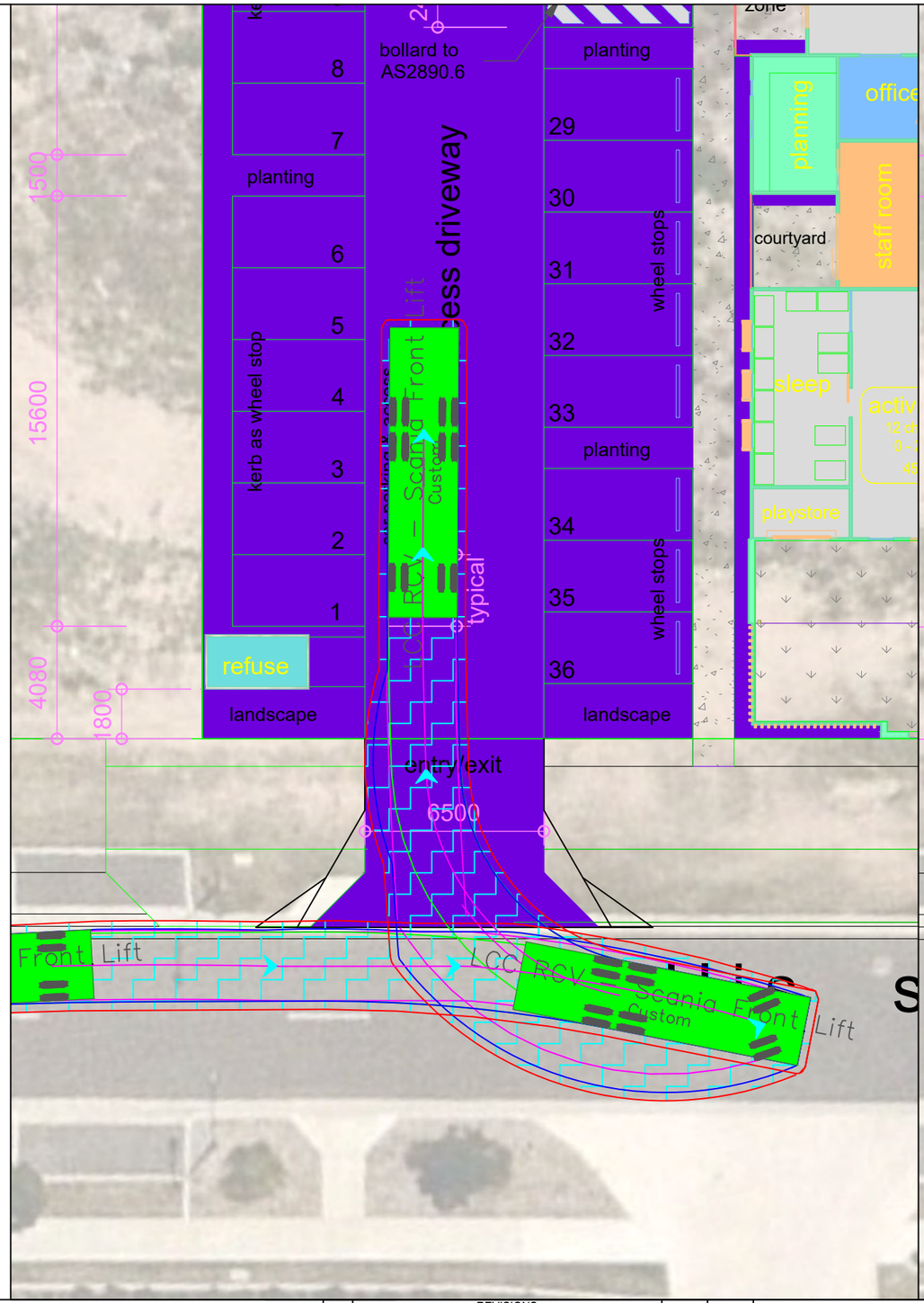




LCC Front Load RCV

| | meters |
|---|---|
| Width | : 2.50 |
| Track | : 2.50 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.7 |

# DESIGN VEHICLE





**Gold Coast**
Suite 26, 58 Riverwalk Avenue, Robina QLD 4226
P: (07) 5562-5377
W: www.bitziosconsulting.com.au
**Brisbane**
Level 2, 428 Upper Edward Street, Spring Hill 4000
P: (07) 3831-4442
E: admin@bitziosconsulting.com.au
**Sydney**
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| Issue | REVISIONS Revisions/Descriptions | Drawn | Date |
|---|---|---|---|
| 001 | SWEPT PATHS FOR TIS | F.J | 05.05.2021 |

Scale @ A3 — 0 2 4 6 8 10 — 1:200

ENGINEERING CERTIFICATION (RPEQ)

| Name | Signature | No. | Date |
|---|---|---|---|
| | | | |

Project: ALLIS STREET, FLAGSTONE CHILDCARE CENTRE

Title: FRONT LOADING RCV ENTRY AND EXIT SWEPT PATHS

| Design | Drawn | Checked |
|---|---|---|
| F.J | F.J | M.K |

CONCEPT ONLY

Date: 05.05.2021

| Project Number | Sheet Number | Issue |
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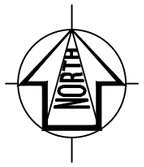
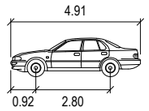
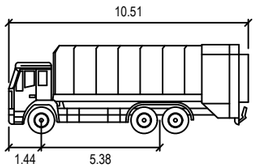



B85 meters

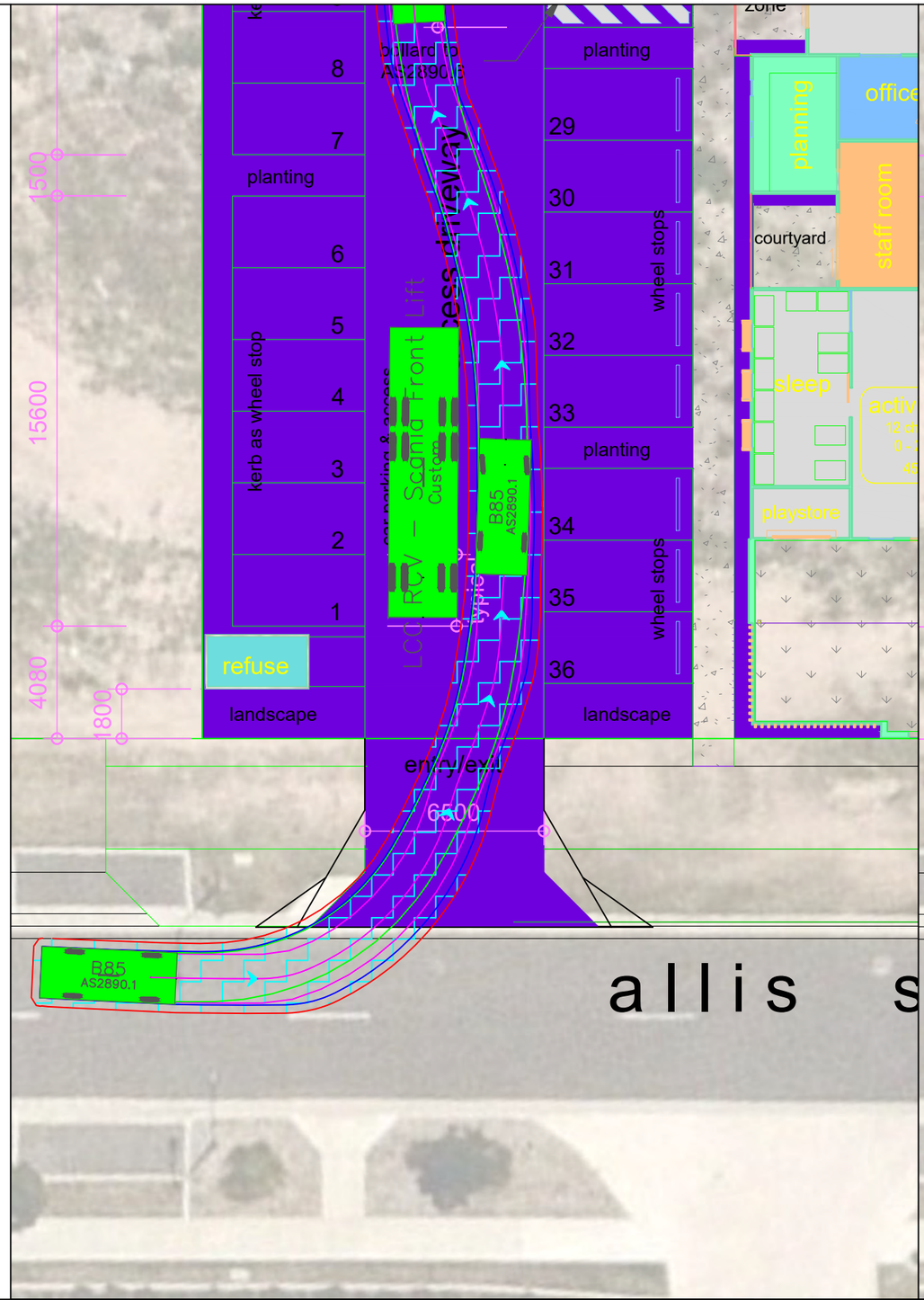
| | | |
|---|---|---|
| Width | : | 1.87 |
| Track | : | 1.77 |
| Lock to Lock Time | : | 6.0 |
| Steering Angle | : | 38.5 |

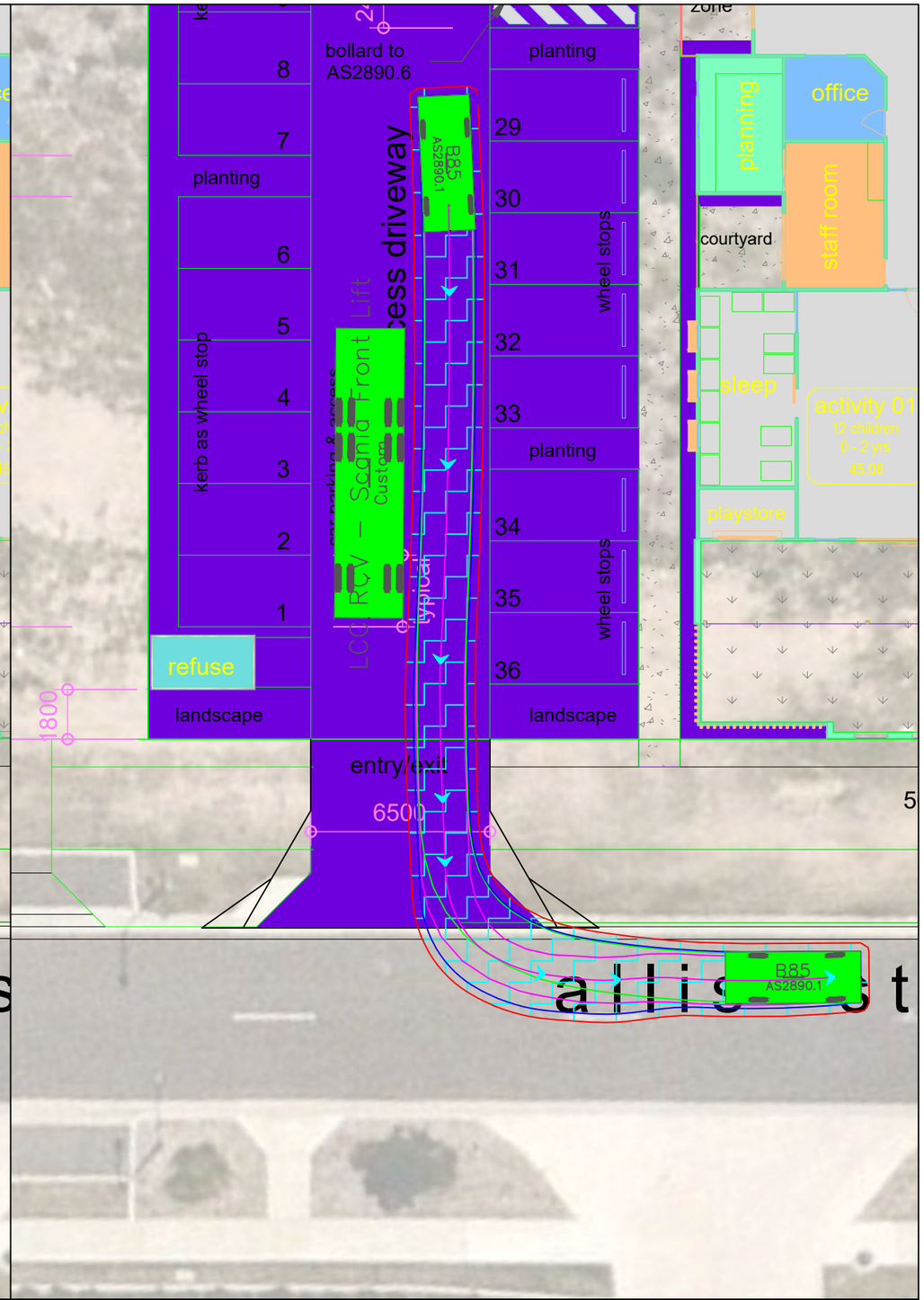



LCC Front Load RCV meters

| | | |
|---|---|---|
| Width | : | 2.50 |
| Track | : | 2.50 |
| Lock to Lock Time | : | 6.0 |
| Steering Angle | : | 31.7 |

# DESIGN VEHICLE




**Gold Coast**
Suite 26, 58 Riverwalk Avenue, Robina QLD 4226
P: (07) 5562-5377
W: www.bitziosconsulting.com.au
**Brisbane**
Level 2, 428 Upper Edward Street, Spring Hill 4000
P: (07) 3831-4442
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ENGINEERING CERTIFICATION (RPEQ)

| Name | Signature | No. | Date |
|---|---|---|---|
| | | | |

Project: ALLIS STREET, FLAGSTONE CHILDCARE CENTRE

Title: B85 ENTRY AND EXIT SWEPT PATHS WITH RCV SERVICING

| Design | Drawn | Checked |
|---|---|---|
| F.J | F.J | M.K |

CONCEPT ONLY

Date: 05.05.2021

| Project Number | Sheet Number | Issue |
|---|---|---|
| P5111 | 2 | 001 |