

APPENDIX 5

TRAFFIC IMPACT STATEMENT

TRANSPORT IMPACT STATEMENT

Lot 571 Stock Road,
Hamilton Hill

December 2024

Rev A



PART OF  **Premise**

HISTORY AND STATUS OF THE DOCUMENT

Revision	Date issued	Reviewed by	Approved by	Date approved	Revision type
Rev A Draft	29.10.2024	M Kleyweg	M Kleyweg	29.10.2024	Issued for Review
Rev A	4.12.2024	J Jegathesan	M Kleyweg	4.12.2024	Report finalised

DISTRIBUTION OF COPIES

Revision	Date of issue	Quantity	Issued to
Rev A Draft	29.10.2024	1 (PDF)	Trent Fleskens (Strategic Property Group)
Rev A	4.12.2024	1 (PDF)	Trent Fleskens (Strategic Property Group)

Document Printed	4/12/2024 10:48 AM
File Name	C:\Users\Nemanja\Box\KCTT Projects\KC00000 Current Projects\KC02012.000 115 Ralston St Hamilton Hill TIS\Outgoing\TIS\241204 Rev A\KC02012.000 115 Stock Road, Hamilton Hill, TIS Rev A.docx
Author of the Rev A Draft	Brandon Wong
Author of the Current Revision	Brandon Wong
Project Team	Nemanja Marijanovic
Project Director / Project Manager	Marina Kleyweg
Name of Project	KC02012.000 Lot 571 Stock Road, Hamilton Hill
Name of the Document	KC02012.000 Lot 571 Stock Road, Hamilton Hill - Transport Impact Statement
Document Version	KC02012.000_R01_ Rev A

Table of Contents

1. Executive Summary	4
2. Transport Impact Statement.....	5
2.1 Proposal.....	5
2.2 Location	5
2.3 Technical Literature Used	5
2.4 Land Uses	6
2.5 Hamilton Senior High School Redevelopment - Local Structure Plan	6
2.6 Local Road Network Information.....	7
2.7 Traffic Volumes.....	7
2.8 Vehicular Crash Information.....	8
2.9 Vehicular Parking	10
2.10 Compliance with AS2890 Parking Facilities	12
2.10.1 Compliance Overview	12
2.10.2 Comparison of proposed layout to AS2890.01 requirements	13
2.10.3 Vehicle Swept Paths.....	14
2.11 Bicycle Parking.....	14
2.12 ACROD Parking.....	15
2.13 Delivery and Service Vehicles.....	15
2.14 Calculation of Development Generated / Attracted Trips	16
2.15 Traffic Flow Distribution	17
2.16 Road Cross-Section Requirements.....	18
2.17 Vehicle Crossover Requirements.....	19
2.18 Public Transport Accessibility	20
2.19 Pedestrian Infrastructure.....	22
2.20 Cyclist Infrastructure.....	23
2.21 Site-Specific Issues and Proposed Remedial Measures	24

Appendices

Appendix 1 - The layout of the proposed development

Appendix 2 - Transport Planning and Traffic Plans

Appendix 3 - Vehicle Turning Circle Plans

1. Executive Summary

Site Context

- The project location is Lot 571 Stock Road, Hamilton Hill.
- The proposed development is a childcare centre which will operate at a maximum capacity of 92 children with 16 staff members.

Technical Findings

- The proposed childcare centre is expected to generate up to 400 vehicular trips per day, 75 vehicular trips in the morning peak and 74 vehicular trips in the afternoon peak.
- According to WAPC guidelines, all developments generating 10-100 VPH can be deemed to have a moderate impact on the network.

Relationship with Policies

- The plans for the proposed development show 24 parking bays, inclusive of one accessible bay.
- In accordance with the TPS No.3 there is a calculated shortfall of 1 bay.
- KCTT have provided extensive analysis in section 2.9 which justifies the shortfall and provides information on expected hourly parking demand – a maximum of 16 parking bays are required in the busiest hour. HSHS Redevelopment LSP anticipates plentiful on-street parking in vicinity of the subject site.
- According to City of Cockburn Town Planning Scheme No.3, the proposed development is not obligated to provide bicycle parking bays.
- There will be no need for formal service and delivery parking as all deliveries are expected to be conducted with a larger passenger car using any of the unoccupied proposed bays; preferably outside of development's peak hours.
- The proposed parking area has been checked with a standard B99 passenger vehicle and a standard waste vehicle. No significant navigability issues have been found.

Conclusion

- The Child Care development will generate up to 400 vpd and 75 vph.
- As per MRWA Classification, Ralston Street is an Access Road with the maximum desirable volume of 3,000 vehicles per day. Currently, there is approximately 2,505 vehicles per day on Ralston Street. Therefore, with the added traffic from the subject site, the street would remain well under the maximum desirable traffic volume for an Access Road.
- In summary KCTT believe that the proposed development will not have a negative impact on the surrounding road network.

2. Transport Impact Statement

2.1 Proposal

Strategic Property Group engaged KCTT to prepare a Transport Impact Statement (TIS) for the proposed Childcare development on Lot 571 Stock Road, Hamilton Hill.

The proposed childcare centre will have a capacity for 92 children and 16 staff members.

This report will primarily address the level of impact of the proposed development and the requirements for integration of the proposed development with the surroundings, namely the existing and planned immediate road network.

2.2 Location

Lot Number	571
Street Number	NA
Road Name	Stock Road
Suburb	Hamilton Hill
Description of Site	The subject site has an area of 2602m ² . Within Main Roads WA Road Hierarchy, Ralston Street is an Access Road (minor road) and Stock Road is a Primary Distributor (major road). From the City of Cockburn Interactive Mapping, the zone is classified as a "DA42, DCA13 and Development Zone". The subject site is currently undeveloped (vacant land). Access to the site is via Ralston Street / Road 11 (Kwenda Approach).

2.3 Technical Literature Used

Local Government Authority	City of Cockburn
Type of Development	Childcare
Are the R-Codes referenced?	NO
<i>If YES, nominate which:</i>	
Is the NSW RTA Guide to Traffic Generating Developments Version 2.2 October 2002 (referenced to determine trip generation / attraction rates for various land uses) referenced?	YES
Which WAPC Transport Impact Assessment Guideline should be referenced?	Volume 4 - Individual Developments
Are there applicable LGA schemes for this type of development?	YES
<i>If YES, Nominate:</i>	
Name and Number of Scheme	Hamilton Senior High School Redevelopment Local Structure Plan (November, 2019).
Are Austroads documents referenced?	YES
Is the Perth Transport Plan for 3.5 million and Beyond referenced?	NO

2.4 Land Uses

Are there any existing Land Uses NO

Proposed Land Uses

How many types of land uses are proposed? One (1)
 Nominate land use type and yield Childcare - 628m² (92 children; 16 staff members)
 Are the proposed land uses complementary with the surrounding land-uses? YES

2.5 Hamilton Senior High School Redevelopment - Local Structure Plan

Description

“The Hamilton Senior High School Local Structure Plan (HLSP) has been prepared to facilitate the proposed redevelopment of the Hamilton Senior High School (HSHS) site...”

The redevelopment will include a range of different density residential subdivisions. Stage 1 is already partially constructed. Stage 2 and 3 are in the planning process.

Nominate the important changes for the proposed development, as identified in the LSP

The Hamilton Senior High School Redevelopment - Local Structure Plan document (November 2019) states that MRWA has advised when the entire area is redeveloped the intersection of Stock Road and Ralston Street might be closed.

However, no exact timeframe or certainty of this intervention is mentioned.

The proposed Childcare centre will be one of the first developments of the Stage 2.

Therefore, for the purposes of traffic distribution and other aspects of analysis, the potential closure was not included.

2.6 Local Road Network Information

How many roads front the subject site? Two (2)

Name of Roads Fronting Subject Site / Road Classification and Description:

Road Name	Stock Road
Number of Lanes	two way, two lanes per direction, divided
Road Reservation Width	83m (min) – 100m (max). * Measured from the Stock Road / Ralston Street intersection
Road Pavement Width	7.0m (min) – 7.5m (max)
Classification	Primary Distributor
Speed Limit	70kph
Bus Route	YES
<i>If YES Nominate Bus Routes</i>	115, 513
On-street parking	NO

Road Name	Ralston Street
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	20m (min) – 26m (max).
Road Pavement Width	5.5m (min) – 6.0m (max).
Classification	Access Road
Speed Limit	50kph or State Limit
Bus Route	YES
<i>If YES Nominate Bus Routes</i>	115, 513
On-street parking	YES

2.7 Traffic Volumes

Road Name	Location of Traffic Count	Vehicles Per Day (VPD)	Vehicles per Peak Hour (VPH)				Heavy Vehicle %	Date of Traffic Count	If older than 3 years multiply with a growth rate
			AM Peak Time	AM Peak - Peak VPH	PM Peak Time	PM Peak - Peak VPH			
Ralston Street	West of Stock Road	2,505	07:30 – 217		15:00 – 238		8%	Feb 2024	-
Stock Road	North of Ralston Street	30,725	07:30 – 2,803		15:00 – 2,816		8%	Feb 2024	-
	South of Ralston Street	28,884	07:30 – 2,646		15:00 – 2,660		8%	Feb 2024	-

Note - These traffic counts have been obtained from the MRWA Traffic Map.*

2.8 Vehicular Crash Information

Is Crash Data Available on Main Roads WA website?	YES
Location 1	Ralston Street
Location 2	Intersection of Ralston Street and Stock Road
Period of crash data collection	01/01/2019 - 31/12/2023

The following tables shows crash rates and crash densities in Perth Metropolitan area on local roads and state roads for the period from 2018 to 2022, as obtained from Main Roads WA on the 31st May 2022 by email request:

Crash Density and Crash Rate on Metropolitan Local Roads Network only				
	All Crashes		Serious Injury Crashes (Fatal+Hospital)	
	Average Annual Crash Density (All Crashes/KM)	Average Annual Crash Rate (All Crashes/MVKT)	Average Annual Crash Density (Ser. Inj. Crashes/KM)	Average Annual Crash Rate (Ser. Inj. Crashes/MVKT)
Metro Local Roads - Midblock	2.51	0.95	0.12	0.05
Metro Local Roads - All	5.23	1.98	0.24	0.09

Note: Based on 5-years data for the period 2017 to 2021.

Definitions of acronyms and terms used in this analysis can be found below:

- PDO Crash - a crash that results in property damage only (major or minor) and does not require hospitalisation or medical treatment, as listed in Main Roads WA's Crash Analysis Reporting System (CARS).
- KSI Crashes - Killed and serious injury crash
- MVKT - Million Vehicle Kilometres Travelled.

Road Name	SLK	Road Hierarchy	Speed Limit	Crash Statistics			
				No of KSI Crashes	No of Medical Attention Crashes	No of PDO Major Crashes	No of PDO Minor Crashes
Ralston Street		Access Road	50kph or State Limit	0	0	0	1
No of MVKT Travelled at Location			App. 2,000 VPD * 365 * 5 years * 0.37 km = 1.35 MVKT				
KSI Crash Rate			0 KSI crashes / 1.35 MVKT = 0 KSI crashes/MVKT				
All Crash Rate			1 crashes / 1.35 MVKT = 0.74 crashes/MVKT				
Comparison with Crash Density and Crash Rate Statistics			All crashes rate of 0.74 is lower than the network average of 0.95 Crashes per MVKT for Local Roads Network				
Intersection Name	Road Hierarchy	Speed Limit	Crash Statistics				
			No of KSI Crashes	No of Medical Attention Crashes	No of PDO Major Crashes	No of PDO Minor Crashes	
Stock Road / Ralston Street	Primary Distributor / Access Road	70kph / 50kph	0	2	2	0	
MR Type	Involving Overtaking	Involving Parking	Involving Animal	Involving Pedestrian	Entering / Leaving Driveway	Other / Unknown	
Count	0	0	0	0	0	4	
No of MVKT Travelled at Location			App. 30,000 VPD * 365 * 5 years * 0.3 km = 16.43 MVKT				
KSI Crash Rate			0 KSI crashes / 16.43 MVKT = 0 KSI crashes/MVKT				

Transport Impact Statement

KC02012.000 Lot 571 Stock Road, Hamilton Hill

All Crash Rate	4 crashes / 16.43 MVKT = 0.24 crashes/MVKT
Comparison with Crash Density and Crash Rate Statistics	All crashes rate of 0.24 crashes/MVKT is lower than the network average of 0.85 Crashes per MVKT for Metropolitan State Roads Network

Of the above recorded incidents, there does not appear to be any pattern or re-occurring similar incidents that would highlight sections of the road being excessively unsafe. The number and type of incidents recorded are consistent with similar access roads in the area.

Given the class of road and crash types, it is concluded that the road network is operating in a manner consistent with the surrounding road network. The proposed development is not expected to have an adverse impact on road safety at this location.

2.9 Vehicular Parking

Local Government

City of Cockburn

Local Government Document Utilised

City of Cockburn - Town Planning Scheme No. 3 (As Amended 10th October 2024)

Description of Parking Requirements in accordance with Scheme:

- 1:1 employee; plus
- 1:10 children

Calculation of Parking

Land Use	Requirements	Yield	Total Parking
Child care	1:1 employee	16	16
	1:10 children	92	9.2
Total Car Parking Requirement			25 spaces
Total Volume of Parking Provided by Proponent			24 spaces (including 1 ACROD space)

Justification

In accordance with the City of Cockburn TPS No.3 the proposed development will require 25 carparking spaces. 24 spaces are proposed with a statutory shortfall of 1 parking space.

The proposed parking supply is considered suitable given the following:

Government of Western Australia Interim Guidance for Car parking requirements for non-residential land uses in Perth and Peel

- Appendix A of the Interim Guidance for Car parking requirements for non-residential land uses in Perth and Peel, recommends Child Care parking to be provided at a minimum rate of 0.5 spaces per staff member and one (1) space for every 20 children catered for. This equates to 8 spaces for staff and five (5) spaces for children, to a total of 13 spaces. As such, the adopted Child Care parking requirement by the Government of Western Australia is adequate for the proposed scale of development.

On-street parking

- There is an ample amount of on-street parking available on the Proposed Road 11 and Ralston Street. To the west of the parking area and south of the proposed crossover, on-street parking is available on the proposed Road 11.
- Additionally, on-street parking is available at Ralston Street to the west and south of the subject site for staff / visitors. KCTT notes there is no yellow line restricting on-street parking and / or standing at the site frontage.

Table below has been derived through many years of practice and research in this field that our office completed. KCTT has worked with a number of established childcare providers who have provided sign in data for a full week period. The percentages outlined below have emerged as current average arrival / departure pattern.

When applied to the subject development, the parking demand is the strongest in period 07.30-08.30. While this pattern shows that approximately 95% of children are in attendance (as practically recorded), this distribution still does not allow for siblings attending the centre and assumes that all children in attendance are driven to the childcare (not walked or brought on bicycles), therefore the distribution below has a degree of conservatism.

Through our previous experience we have come across data that siblings usually make up 15-25% of attendees. In these cases, more than one child will be brought in a single vehicle therefore reducing the parking requirement.

Table 1 and Table 2 shows that at any given point during the first half of the day minimum of 12 bays will be available on site.

KCTT believe that the parking provision for the childcare centre can be effectively catered for on premises and it is highly unlikely that the shortfall of one parking bay would have any negative impact on adjoining network. It is expected that the proposed 24 parking bays would adequately cater for the parking demand of the proposed development.

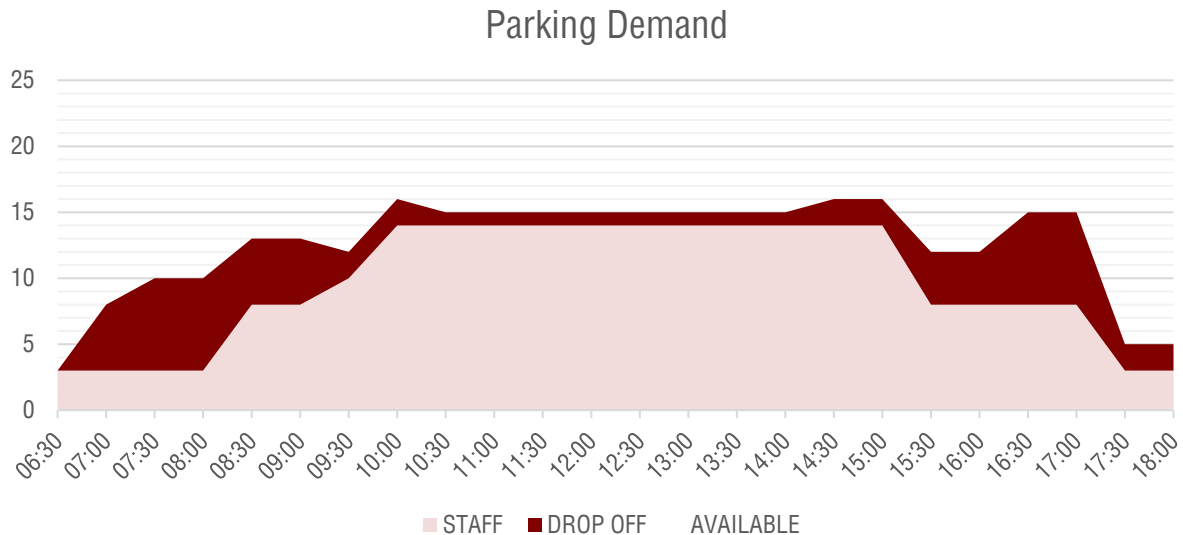
Table 1 – Sign-in Time Patterns

Sign-in Time	Extracted Arrival Percentages (of the maximum number of children)	Expected Number of Children Signing In	Parking demand (assumed dwell time 10 minutes per vehicle)	Parking Bays allocated to customers available on site (at any time)
07:00 - 07:30	13.97%	13	5	4
07:30 - 08:30	40.55%	37	7	2
08:30 - 09:30	30.68%	28	5	4
09:30 - 10:30	7.67%	7	2	7
After 10:30	1.37%	1	1	8
Total:	94.25%	87 children (94.25% capacity)		

Table 2 – Sign-Out Time Patterns

'Sign-out Time	Extracted Arrival Percentages (of the maximum number of children)	Expected Number of Children Signing out	Parking demand (assumed dwell time 10 minutes per vehicle)	Parking Bays allocated to customers available on site (at any time)
Before 13:30	0.55%	1	1	8
13:30 - 14:30	1.92%	2	1	8
14:30 - 15:30	11.23%	10	2	7
15:30 - 16:30	24.93%	23	4	5
16:30 - 17:30	45.21%	42	7	2
17:30 - 18:30	10.41%	9	2	7
Total:	94.25%	87 children (94.25% capacity)		

The below graph shows a typical operating day, based on the number of children, staff and bays. As shown in the graph, the critical peak time is 10:00am with 16 bays being the maximum bays required. Given there is a provision of 24 parking bays it can be concluded that all parking requirements will be catered for.



2.10 Compliance with AS2890 Parking Facilities

Which Austroads documents are referenced?	- Australian/New Zealand Standard, Parking facilities, Part 1: Off-street car parking - AS 2890.01 - Australian/New Zealand Standard, Parking facilities, Part 6: Off-street parking for people with disabilities – AS2890.06
Number of Parking Bays on-site	24 bays
Driveway category and dimensions	- Two (2) x 6m driveways; and - One (1) x 4.2m driveway

2.10.1 Compliance Overview

FULL COMPLIANCE PARTIAL DEPARTURE FULL DEPARTURE NOT APPLICABLE		
Element	Compliance	Comment
Car Bay Class 1A	FULL COMPLIANCE	
Car Bay Class 3	FULL COMPLIANCE	
Car Bay Class 4 (ACROD)	FULL COMPLIANCE	
Aisle width	FULL COMPLIANCE	
Blind Aisle Extension	FULL COMPLIANCE	
Reversing bay	NOT APPLICABLE	Reversing bay is not required if only Staff members park in the designated Staff Parking area. Should parents also be allowed to park here, a reversing bay must be added.
Location of driveway	FULL COMPLIANCE	
Sight distance requirements at access driveways	FULL COMPLIANCE	
Minimum sight lines for pedestrian safety	FULL COMPLIANCE	

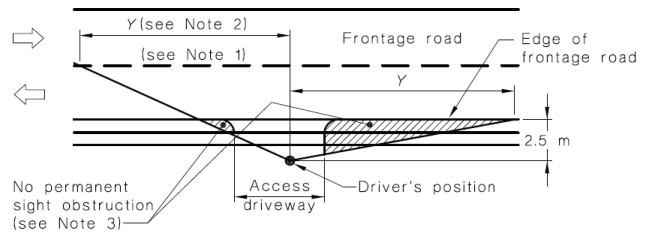
2.10.2 Comparison of proposed layout to AS2890.01 requirements

Parking Bay Type	AS2890.1:2004 Off-street car parking AS2890.6 Off-street parking for people with disabilities					
	Parking Bay Length		Parking Bay Width		Aisle Width	
	Required	Proposed	Required	Proposed	Required	Proposed
All bays at 90° (User Class 1A) STAFF	5.4m	5.4m	2.4m	2.4m	5.8m	6.2m
All bays at 90° (User Class 3) VISITORS	5.4m	5.4m	2.6m	2.6m	5.8m	6.0m
All bays at 0° (intermediate space)	5.9m	6.2m	2.1m	2.1m	3.6m (one-way)	6.0m
All bays at 0° (obstructed end space)	6.2m	6.2m	2.1m	2.1m	3.6m (one-way)	6.0m
ACROD Parking	5.4m	5.4m	2.4m–ACROD 2.4m–shared space	2.5m–ACROD 2.5m–shared space	5.8m	6.0m

Name other requirements in the AS2890.1:2004 document.

“Entering sight distance

Unsignalized access driveways shall be located so that the intersection sight distance along the frontage road available to drivers leaving the car park or domestic driveway is at least that shown in Figure 3.2.”

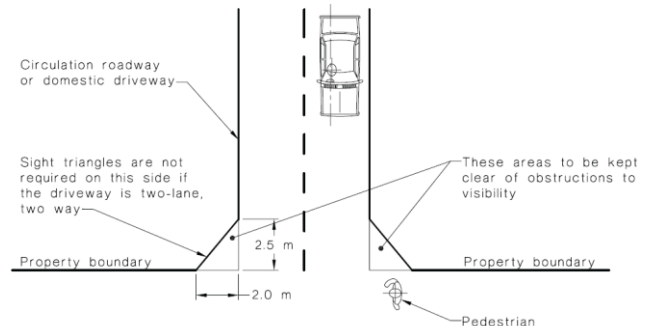


Frontage road speed (Note 4) km/h	Distance (Y) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40

Sight distance requirements at access driveways 45m Minimum SSD achievable as required

“Sight distance to pedestrians

Clear sight lines as shown in Figure 3.3 shall be provided at the property line to ensure adequate visibility between vehicles leaving the car park or domestic driveway and pedestrians on the frontage road footpath.”

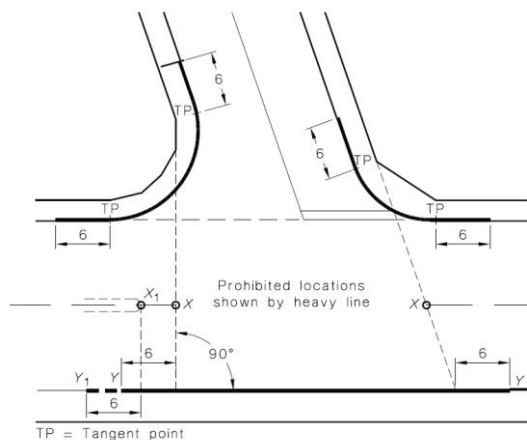


Minimum sight lines for pedestrian safety

Clear pedestrian sightlines provided

“ Access driveway location

Driveway Categories 1 and 2 At unsignalized intersections of sub-arterial, collector or local streets with each other or with an arterial road, access driveways in Categories 1 and 2 (see Table 3.1) shall not be located in the sections of kerb shown by heavy lines in Figure 3.1. This requirement shall not apply to accesses to domestic driveways in the kerb section opposite the entering road at any intersection including signalized intersections. Furthermore, it shall not apply to any access driveway serving a property which would otherwise be denied access due to the physical impossibility of meeting the requirement.”



Access driveway location

- The first crossover (4.2m wide) is located at Road 11, east of the subject site. KCTT notes crossover will not allow for two-way directional vehicle bypassing. This crossover will be entry-only.
- The second and third crossover is located at Ralston Street, south of the subject site (both 6m wide). Both crossovers will allow two-directional vehicles to bypass.

KCTT notes all three (3) crossovers will be located in accordance with AS2890.1:2004 standard.

2.10.3 Vehicle Swept Paths

Have Vehicle Swept Paths been checked for Parking? NO

If YES, provide description of performance:

The proposed parking area has been checked with a standard B99 Passenger Vehicle 5.2m and a standard 8.8m waste vehicles

No significant navigability issues have been found. It should be noted that the waste vehicle path should be rechecked when more information is available on the exact model.

Please refer to the swept path analysis plans provided in Appendix 3.

2.11 Bicycle Parking

Local Government

City of Cockburn

Reference Document Utilised

City of Cockburn - Town Planning Scheme No. 3 (As Amended 10th October 2024)

Description of Parking Requirements in accordance with Scheme:

Child Care – Not applicable

Justification

No bicycle requirement is outlined in the City of Cockburn. As such, bicycle parking is not required.

However, the proposed development will provide 3 bicycle racks for promotion of alternative means of transportation.

2.12 ACROD Parking

Class of Building Class 9b
 Does this building class require specific provision of ACROD Parking? YES
 Reference Document Utilised Building Code of Australia
 Description of Parking Requirements:
 Class 9b — (a) School - 1 space for every 100 carparking spaces or part thereof

Parking Requirement in accordance with regulatory documents

Land Use	Requirements	Yield	Total Parking
Child Care	<i>1 space for every 100 carparking spaces or part thereof</i>	24	1
Total Volume of ACROD Parking Required			1
Total Volume of ACROD Parking Provided by Proponent			1

Justification

The Building Code of Australia (BCA) specifies that **ACROD** bay parking spaces be provided at a rate of one space per 100, or part thereof, for a Class 9b building. One (1) ACROD space is proposed on-site. This is consistent with the requirements of the BCA.

2.13 Delivery and Service Vehicles

Guideline Document used as reference City of Cockburn Town Planning Scheme No. 3

Description of Parking Requirements in accordance with Scheme:

- Child Care Premises: Not applicable

Justification

KCTT notes there will be no need for formal service and delivery parking required.

All deliveries are expected to be conducted with a larger passenger car using any of the unoccupied proposed bays. Waste collection expected to be conducted from the proposed internal streets. To be confirmed by the proponent.

2.14 Calculation of Development Generated / Attracted Trips

What are the likely hours of operation? Child Care Centre – 06:30 – 18:30
 What are the likely peak hours of operation? 07:30 - 08:30 and 16:30 - 17:30
 Do the development generated peaks coincide with existing road network peaks? YES
 If YES, Which: Both peaks

Guideline Document Used	NSW RTA Guide to Traffic Generating Developments
Childcare (long-day care)	0.81 per child in the Site AM peak hour; and 0.80 per child in the Site PM peak hour

Given that the WAPC Transport Assessment Guidelines and NSW RTA Guide to Traffic Generating Developments do not offer daily vehicular trip generation rate for the proposed land use KCTT has assumed the following to apply:

Child Care:

Vehicular daily trips can be assumed to be 4 VPD per child and 2 VPD per employee. Each parent will make 2 vehicular trips when dropping off the child at the day-care centre and 2 vehicular trips when picking the child up. Employees will make 1 vehicular trip arriving at work and another vehicular trip when leaving work.

In the calculations below, a conservative approach has been applied, showing the theoretical maximum number of children, assuming that all children are driven to school and there are no siblings in the centre

Land Use Type	Rate above	Yield	Daily Traffic Generation	Peak Hour Traffic Generation	
				AM	PM
Childcare	Daily - 4 vpd per Child + 2 vpd per staff AM - 0.81vph per child PM - 0.8vph per child	92 children 16 staff	400	75	74

What is the total impact of the new proposed development? According to WAPC guidelines, all developments generating 10-100 VPH can be deemed to have a **moderate** impact on the network. KCTT believes the surrounding road network can accommodate additional traffic from the proposed development.

2.15 Traffic Flow Distribution

How many routes are available for access / egress to the site?

Main routes are listed below

Route 1

Provide details for Route No 1	From north via Stock Road >> Ralston Street >> subject site
Percentage of Vehicular Movements via Route No 1	40% [160 VPD; AM 30 VPH; PM 30 VPH]

Route 2

Provide details for Route No 2	From south via Stock Road >> Ralston Street >> subject site
Percentage of Vehicular Movements via Route No 2	35% [140 VPD; AM 26 VPH; PM 26 VPH]

Route 3

Provide details for Route No 3	From west via > Ralston Street >> subject site
Percentage of Vehicular Movements via Route No 3	15% [60 VPD; AM 11 VPH; PM 11 VPH]

Route 4

Provide details for Route No 4	From southwest via > Kwenda Approach >> subject site
Percentage of Vehicular Movements via Route No 4	10% [40 VPD; AM 8 VPH; PM 7 VPH]

The distribution is reflective of full development and the Ralston Street / Stock Rd intersection open (given there is no timeframe or definite confirmation of its closure within the assessment period).

Note – For more detailed plans of the estimated vehicular traffic volumes and distribution please refer to the plans provided in Appendix 2.

2.16 Road Cross-Section Requirements

Does this development propose the construction of new roads?

YES

Nominate proposed road cross sections below.

Road Name	Hierarchy	Road Width	Reserve Width
Road 11 (Kwenda Approach)	Access Street D	6.0m	13m

*Note – below is only an indicative sketch of the proposed cross-section in line with the Liveable Neighbourhoods.



2.17 Vehicle Crossover Requirements

Are vehicle crossovers required onto existing road networks? NO

How many existing crossovers? None

How many proposed crossovers? Three (3)

If there are greater numbers of new crossovers, than existing, provide justification:

The subject lot is currently vacant. New crossovers are required for providing a connection to the surrounding road network.

How close are proposed crossovers to existing intersections? app. 30m and more

Does this meet existing standards? YES

Justification

According to AS/NZS 2890.1:2004 Parking facilities Part 1: Off-street car parking the user class of the access point is: User Class 1 - Employee and commuter parking

Proposed development plans indicate a total of 25 parking bays and 3 crossovers.

Each crossover serves between 25 and 100 parking bays from a local road, making it a "Category 1 driveway".

Therefore, the following requirements from AS/NZS 2890.1:2004 Parking facilities Part 1: Off-street car parking apply:

*“(a) **Driveway Categories 1 and 2:** At unsignalized intersections of sub-arterial, collector or local streets with each other or with an arterial road, access driveways in Categories 1 and 2 (see Table 3.1) shall not be located in the sections of kerb shown by heavy lines in Figure 3.1.*

This requirement shall not apply to accesses to domestic driveways in the kerb section opposite the entering road at any intersection including signalized intersections.

TABLE 3.1
SELECTION OF ACCESS FACILITY CATEGORY

Class of parking facility (see Table 1.1)	Frontage road type	Access facility category				
		Number of parking spaces (Note 1)				
		<25	25 to 100	101 to 300	301 to 600	>600
1,1A	Arterial	1	2	3	4	5
	Local	1	1	2	3	4
2	Arterial	2	2	3	4	5
	Local	1	2	3	4	4
3,3A	Arterial	2	3	4	4	5
	Local	1	2	3	4	4

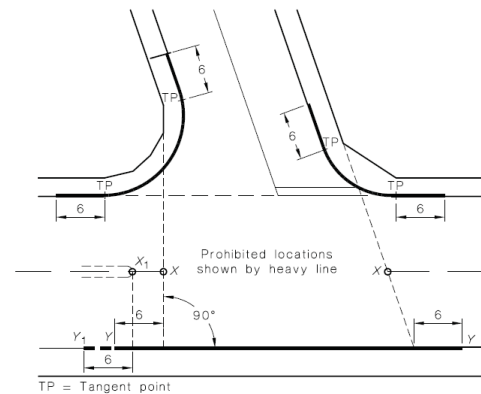
NOTES:

- 1 When a car park has multiple access points, each access should be designed for the number of parking spaces effectively served by that access.
- 2 This Table does not imply that certain types of development are necessarily suitable for location on any particular frontage road type. In particular, access to arterial roads should be limited as far as practicable, and in some circumstances it may be preferable to allow left-turn-only movements into and out of the access driveway.

Furthermore, it shall not apply to any access driveway serving a property which would otherwise be denied access due to the physical impossibility of meeting the requirement.

At signalized intersections, the minimum distance from the intersection, measured from the property boundary along both legs, shall be increased as necessary to locate access driveways beyond the influence of normal queue lengths at the intersections. If this is not practicable, it may be necessary to provide-

- (i) an arrangement which confines traffic to turning left when either entering or leaving the car park;
- (ii) a signalized driveway with signals coordinated with the intersection signals; or
- (iii) other traffic management means of providing for safe and efficient operation of the driveway."



NOTES:

- 1 Accesses to domestic driveways are excluded from the prohibition in respect of the kerb section marked Y-Y (see Clause 3.2.3(a)).
- 2 The points marked X₁ and X are respectively at the median end on a divided road and at the intersection of the main road centre-line and the extensions of the side road property lines shown as dotted lines, on an undivided road. On a divided road, dimension Y-Y extends to Point Y₁.

DIMENSIONS IN METRES

FIGURE 3.1 PROHIBITED LOCATIONS OF ACCESS DRIVEWAYS

The proposed crossovers are not located in any of the areas shown by thicker lines and therefore complies with the AS/NZS 2890.1:2004 requirements.

Are auxiliary lanes warranted?

NO

Justification

2.18 Public Transport Accessibility

How many bus routes are within 400 metres of the subject site?

Three (3)

How many rail routes are within 800 metres of the subject site?

None

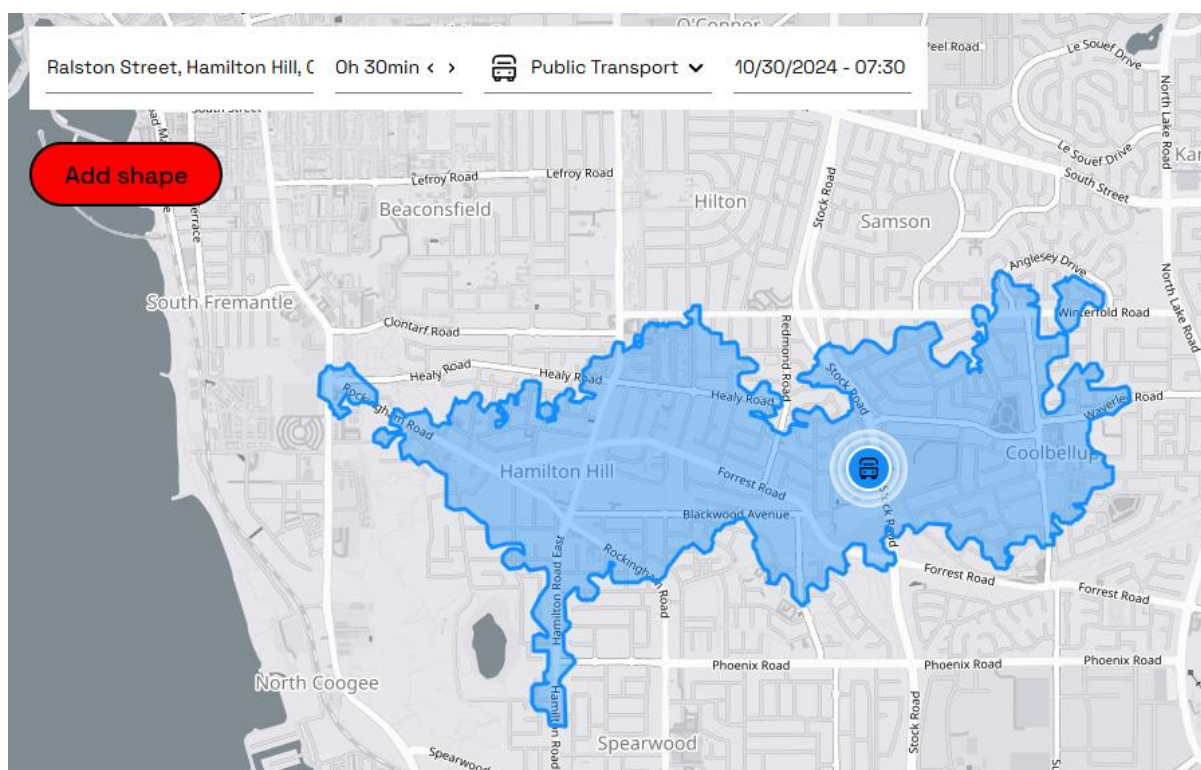
Bus Route	Description	Peak Frequency	Off-Peak Frequency
115	Perth - Hamilton Hill via Booragoon Bus Station	20 minutes	30 minutes
512	Murdoch Station - Fremantle Station via Coolbellup Shop Centre, Phoenix Park Shop Centre & Cockburn Road	10 minutes	1 hour
513	Murdoch Station - Fremantle Station via South Street & Coolbellup Shop Centre	30 minutes	1 hour

Walk Score Rating for Accessibility to Public Transport

46 | Some Transit. A few nearby public transportation options.

Is the development in a Greenfields area?

NO

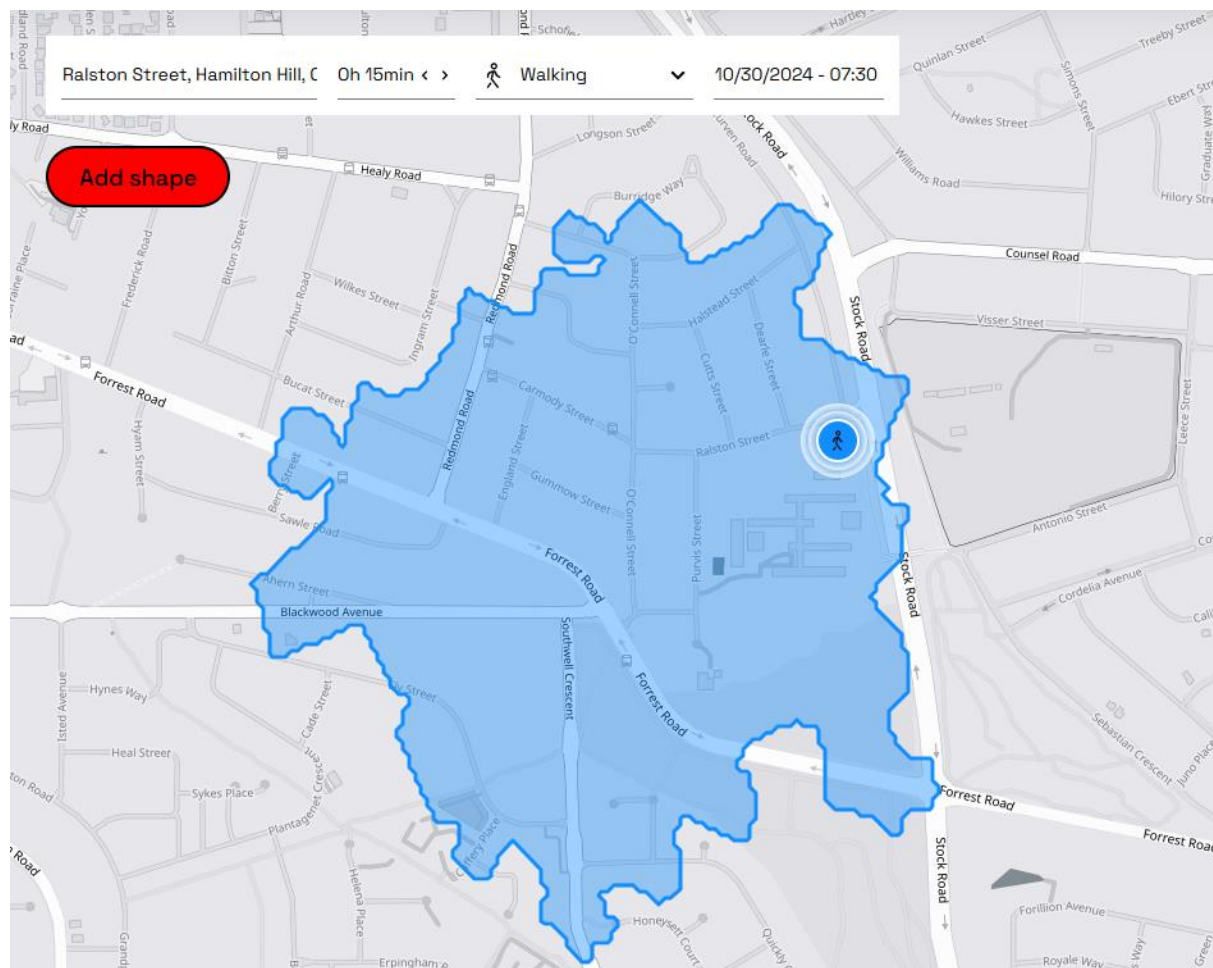


TravelTime – 30-minute catchment for using public transport

2.19 Pedestrian Infrastructure

Describe existing local pedestrian infrastructure within a 400m radius of the site:

Classification	Road Name
<i>"Other Shared Path (Shared by Pedestrians and Cyclists)"</i>	Stock Road, Antonio Street and O'Connell Street
<i>Pedestrian Path</i>	Ralston Street, Cutts Street, Counsel Road, Visser Street, Curven Road and Halstead Street, Purvis Street O'Connell Street
<i>Unclassified pedestrian path</i>	Most of the roads within 400m have a pedestrian path on at least one side of the road reservation
Does the site have existing pedestrian facilities	YES
Does the site propose to improve pedestrian facilities?	YES – internal pedestrian circulation
What is the Walk Score Rating?	
36	Car-Dependent. Most errands require a car.



TravelTime – 15-minute catchment for walking

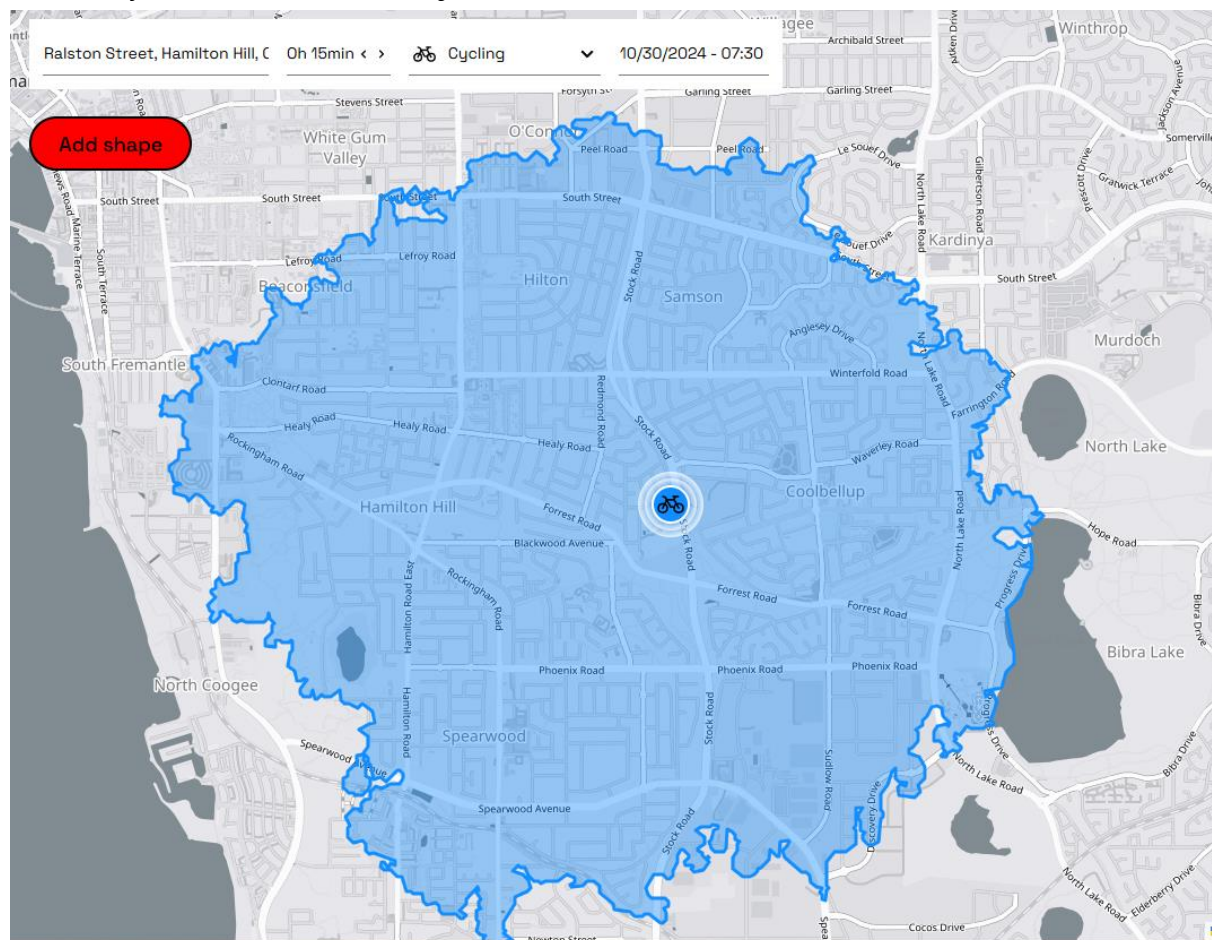
2.20 Cyclist Infrastructure

Are there any PBN Routes within an 800m radius of the subject site?

YES

If YES, describe:

Classification	Road Name
“Other Shared Path (Shared by Pedestrians and Cyclists)”	Stock Road, Antonio Street and O’Connell Street
“Good Road Riding Environment”	Stock Road, Antonio Street, Cordelia Avenue, Counsel Road, Visser Street, Curven Road, Ralston Street and O’Connell Street
“Perth Bicycle Network - Continuous Signed Routes”	NA



TravelTime – 15-minute catchment for cycling

2.21 Site-Specific Issues and Proposed Remedial Measures

How many site-specific issues need to be discussed? Two (2)

Site-Specific Issue No 1

Traffic Impact

Remedial Measure / Response

The proposed childcare centre is expected to generate 400 vehicular trips per day, 74 vehicular trips in the morning peak and 75 vehicular trips in the evening peak.

According to WAPC guidelines, all developments generating 10-100 VPH can be deemed to have a **moderate** impact on the network.

Having in mind the existing traffic volumes and capacity it is deemed that the surrounding road network can accommodate additional traffic from the proposed development.

Site-Specific Issue No 2

Traffic Distribution

Remedial Measure / Response

As the area is currently under development, should this project proceed prior to other segments of LSP, the traffic distribution will be changed as new routes become available.

The analysis is reflective of the full development.

If the road network is designed as depicted in the LSP, there will be sufficient capacity to accommodate any impacts that may result from the traffic redistribution.

Site-Specific Issue No 3

Parking Shortfall

Remedial Measure / Response

There is a statutory shortfall of one (1) parking bay. As discussed in the Section 2.9 extensively, we believe that the proposed layout can meet the parking demand despite the statutory shortfall.

Furthermore, the LSP plans show plentiful on-street parking should need arise for short term overflow parking.

Appendix 1

The Layout of the Proposed Development



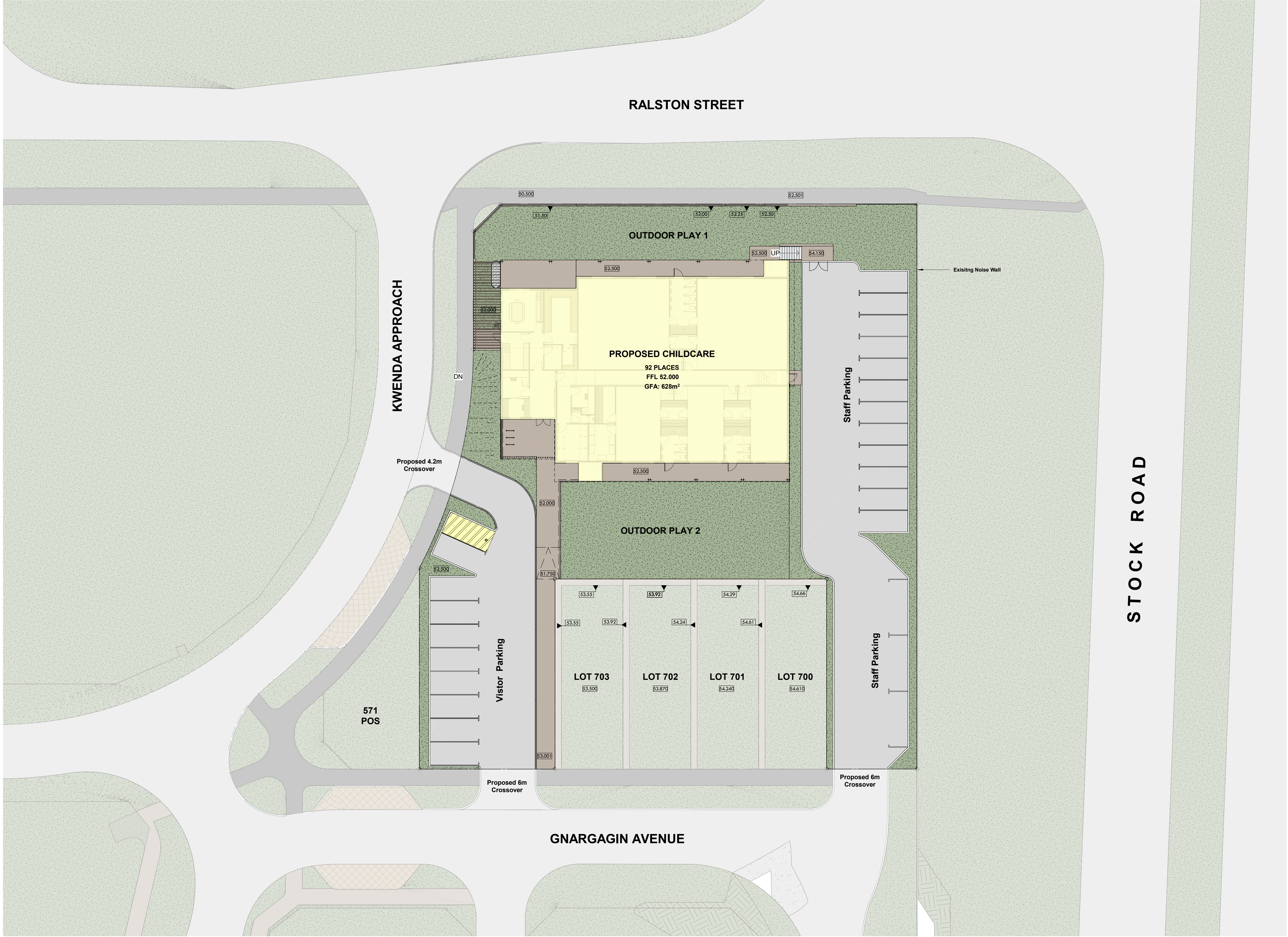
PRELIMINARY

PROPOSED CHILDCARE

LOCATION : LOT 571 STOCK ROAD HAMILTON HILL, WA
FOR : STRATEGIC PROPERTY GROUP







SITE CRITERIA

1. Site Area		
a. Site Area		2602m ²
2. Landscaping		
a. Required 10% of Site Area		260m ²
b. Provided		243m ² (9%)
3. Floor Area (GFA)		
Childcare		628m ²
Outdoor Play		671m ²
4. Carparking		
i. Cars Required		
a. Childcare		
16 Staff	1 Per Staff	15.5 Cars
92 Places	1 Per 10 Places	9.2 Cars
Total Car required		25 Cars
ii. Cars Provided		24 Cars

Landscaping
A. Soil Landscaping
Defined as vegetative landscaping.
Gross Floor Area - GFA
A. All Floor Areas on this plan are shown as GROSS FLOOR AREA.
Unless otherwise noted as Net Floor Area
B. Definition of Gross Floor Area is defined as:
i. GROSS FLOOR AREA OF TENANCY:
Gross Floor Area of an individual Tenancy is defined as the area contained between the centre line of common tenancy walls and the outside edge of external walls.
ii. GROSS FLOOR AREA OF A BUILDING:
Gross Floor Area of a Building is defined as the total area contained between the outside edge of external walls
Net Floor Area - NFA
A. Net Floor Area of a Tenancy on this plan is defined as the area between external or tenancy dividing walls.
B. This area is inclusive of toilets if the toilets are exclusive to the Tenancy.

LEGEND

	BUILDING FOOTPRINT - CHILDCARE
	EXTENT OF CONCRETE HARDSTAND
	EXTENT OF ROADBASE HARDSTAND
	EXTENT OF BITUMEN PAVING
	EXTENT OF CERAMIC TILES
	EXTENT OF BRICK PAVING / CONCRETE PAVING
	EXTENT OF LANDSCAPING

SITE PLAN

SCALE: 1 : 200

PROPOSED CHILDCARE

LOCATION : LOT 571 STOCK ROAD HAMILTON HILL, WA
FOR : STRATEGIC PROPERTY GROUP

PRELIMINARY

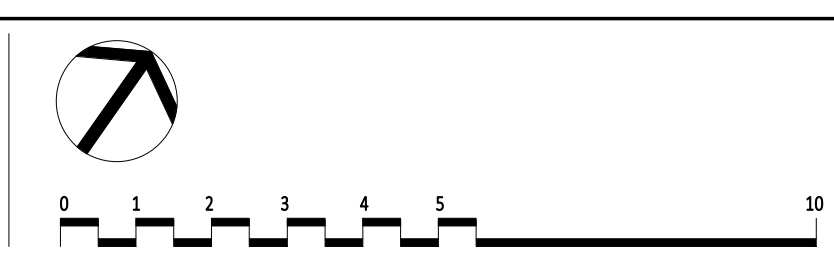


GROUND FLOOR
SCALE: 1:100



PROPOSED CHILDCARE
LOCATION : LOT 571 STOCK ROAD HAMILTON HILL, WA
FOR : STRATEGIC PROPERTY GROUP

PRELIMINARY

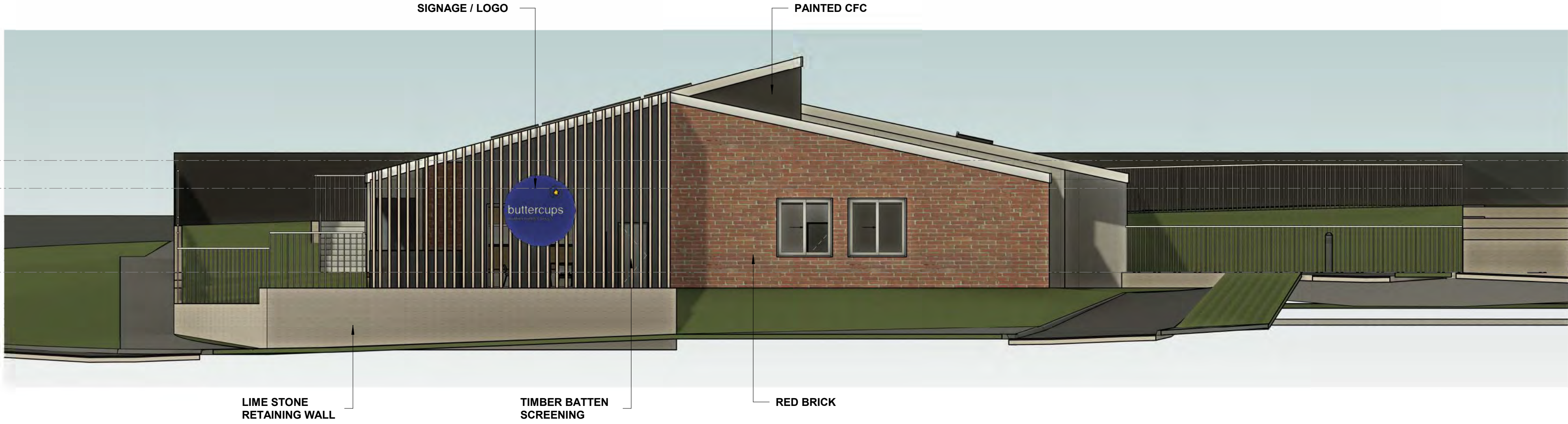


DATE:	OCT 2024	PROJECT NUMBER
REVISION:	SK004	23-9453
SHEET:	A - 2000	© Meyer Shircore & Associates ACN 115 189 216 Suite 2, Ground Floor 437 Roberts Road, Subiaco WA 6008 PO Box 1294 Subiaco WA 6904 t: 08 9381 5511 e: msa@meyershircore.com.au
SCALE:	1:100 @B1	



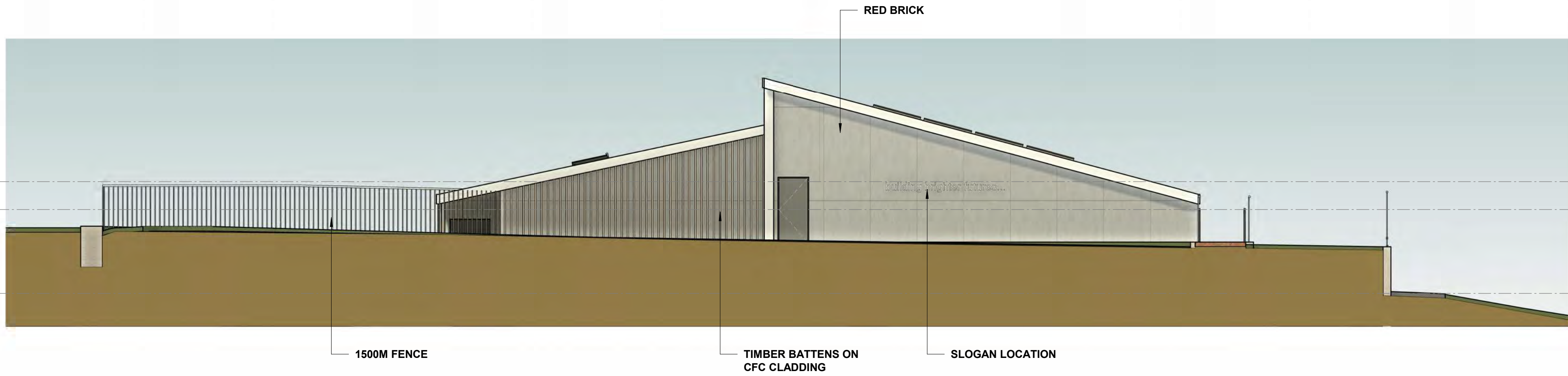
NORTH ELEVATION

SCALE: 1 : 100



EAST ELEVATION

SCALE: 1 : 100



WEST ELEVATION

SCALE: 1 : 100



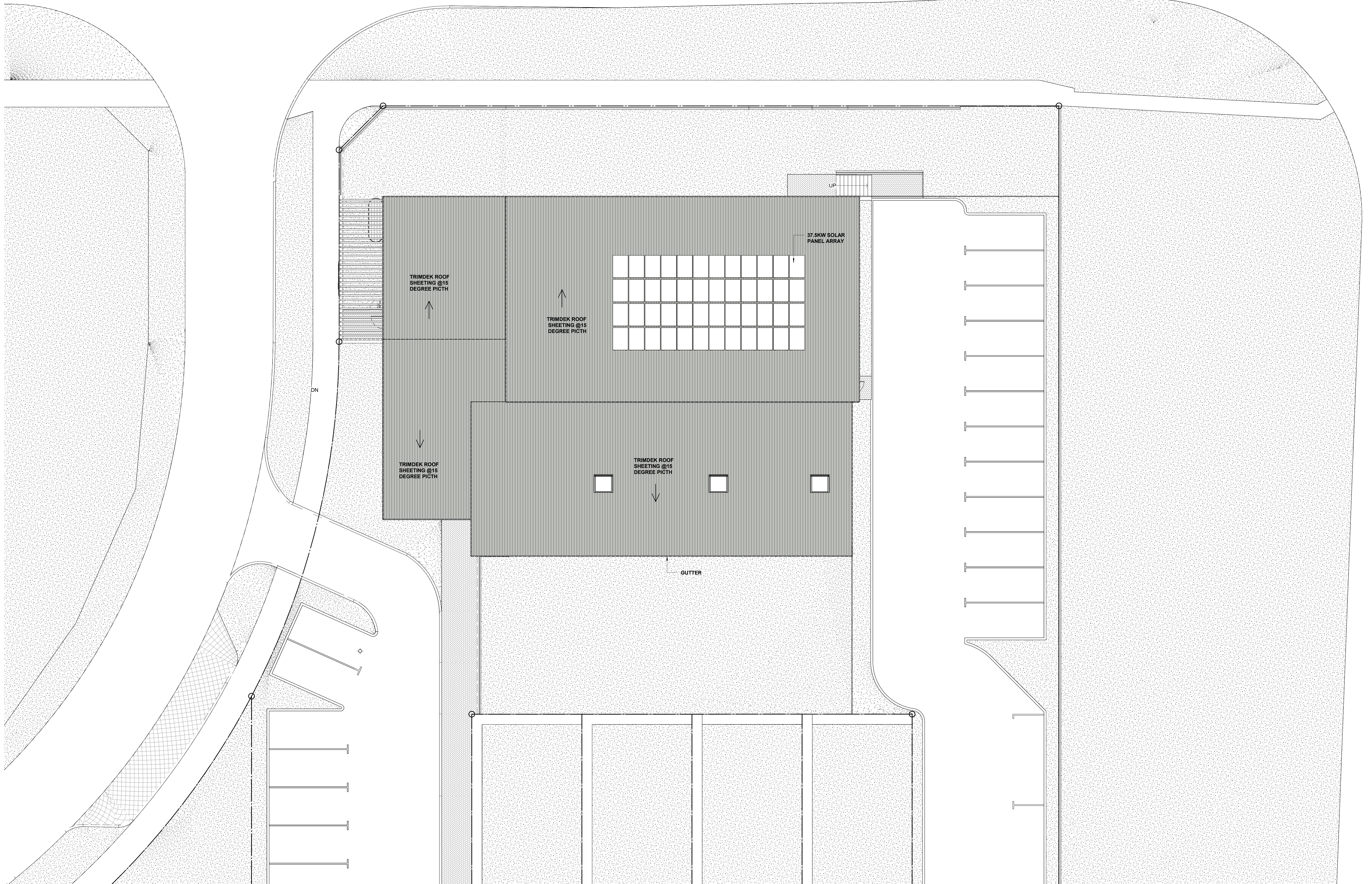
SOUTH ELEVATION

SCALE: 1 : 100

PRELIMINARY

PROPOSED CHILDCARE

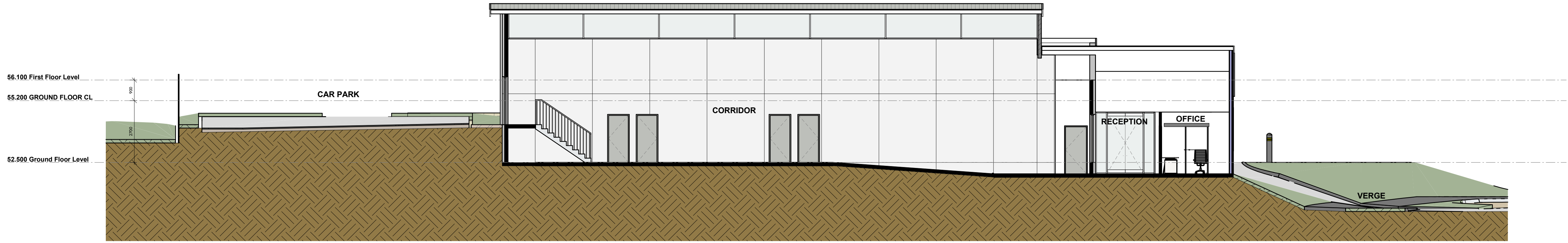
LOCATION : LOT 571 STOCK ROAD HAMILTON HILL, WA
FOR : STRATEGIC PROPERTY GROUP



ROOF PLAN
SCALE: 1 : 100

PRELIMINARY





1 Section 1
2000 SCALE: 1 : 100

PRELIMINARY

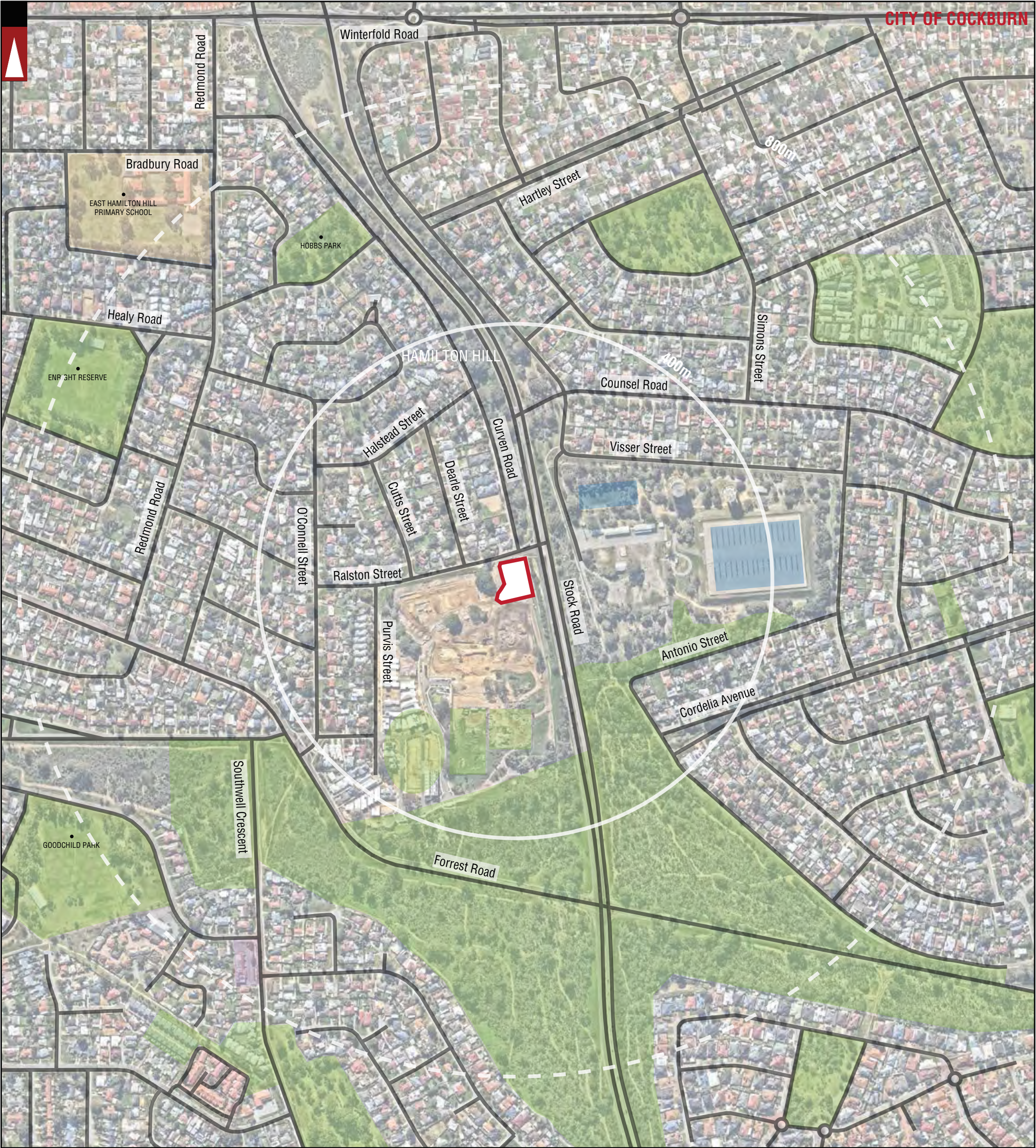


PROPOSED CHILDCARE

LOCATION : LOT 571 STOCK ROAD HAMILTON HILL, WA
FOR : STRATEGIC PROPERTY GROUP

Appendix 2

Transport Planning and Traffic Plans



CITY OF COCKBURN

PARKS AND RECREATION

WATERWAYS

PUBLIC PURPOSE

SHOPPING AREA

Hay Street

ROAD

STREET NAME

LOCATION

BOUNDARY

DISTANCE FROM LOCATION

LOCAL GOVERNMENT NAME

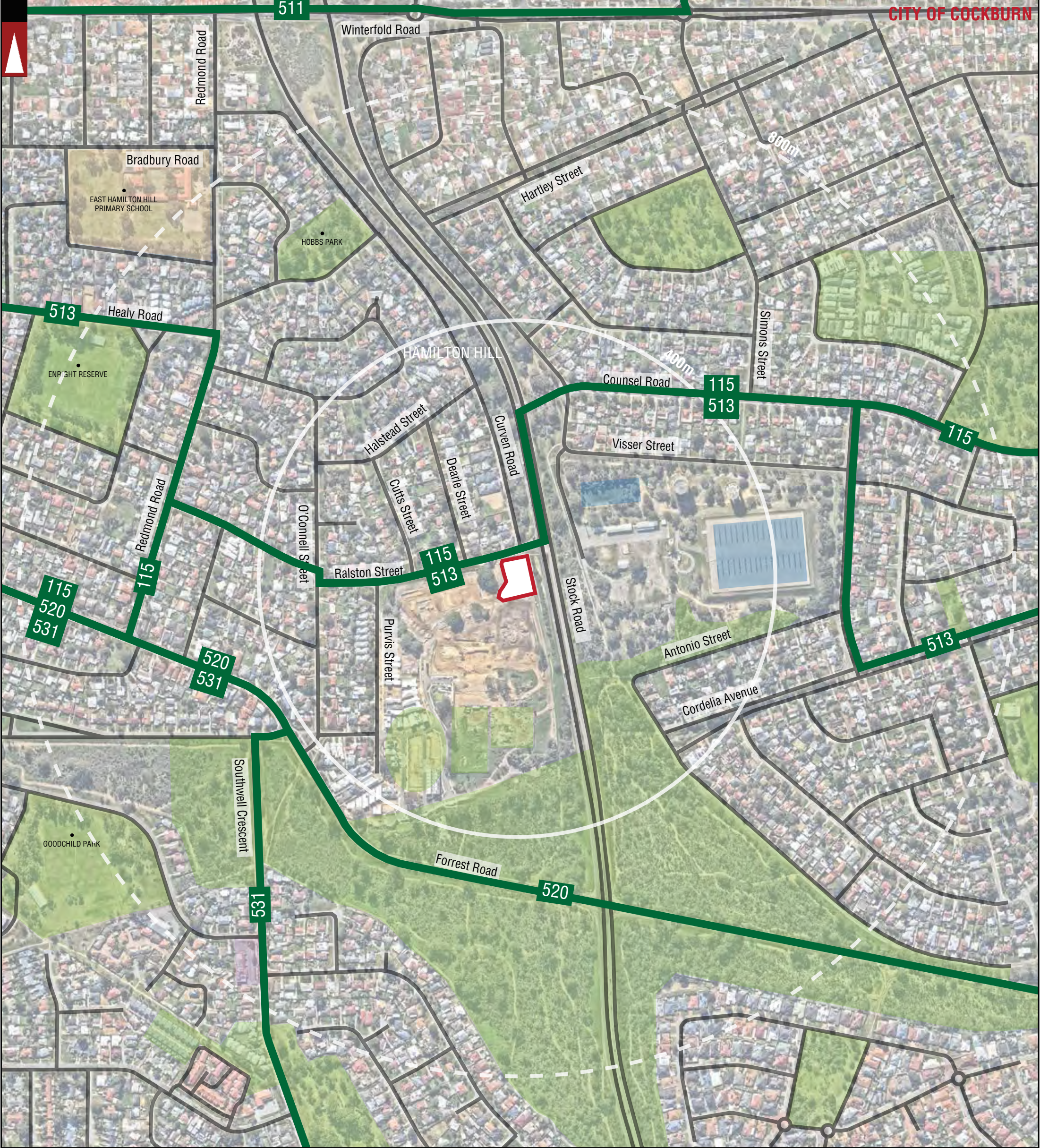
HAMILTON HILL

SUBURB NAME

LEGEND

			PROJECT: 115 RALSTON STREET, HAMILTON HILL	DRAWN BY: N.M.	Civil & Traffic Engineering Consultants KCTT (Trading as KC Traffic and Transport Pty Ltd) PO Box 1456 Scarborough WA 6922 PH: 08 9441 2700 WEB: www.kctt.com.au kctt PART OF 
			TITLE: LOCALITY PLAN - 800M RADIUS		
A	29-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_ S01		
No	DATE	AMENDMENT			





PARKS AND RECREATION

WATERWAYS

PUBLIC PURPOSE

SHOPPING AREA

Hay Street

ROAD

STREET NAME

LOCATION

BOUNDARY

DISTANCE FROM

LOCATION

LOCAL GOVERNMENT

NAME

HAMILTON HILL

SUBURB NAME

BUS ROUTES

103

BUS ROUTE

NUMBER

NOTE : FOR MORE INFORMATION REGARDING THE DESCRIPTION OF

BUS ROUTES AND THEIR INDICATIVE PEAK AND OFF-PEAK

FREQUENCIES REFER TO THE REPORT.

LEGEND

			PROJECT:	115 RALSTON STREET, HAMILTON HILL	DRAWN BY:	Civil & Traffic Engineering Consultants KCTT (Trading as KC Traffic and Transport Pty Ltd) PO Box 1456 Scarborough WA 6922
			TITLE:	PUBLIC TRANSPORT PLAN - 800M RADIUS		
A	29-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER:	KC02012.000_ S03	N.M.	
No	DATE	AMENDMENT				

PH: 08 9441 2700

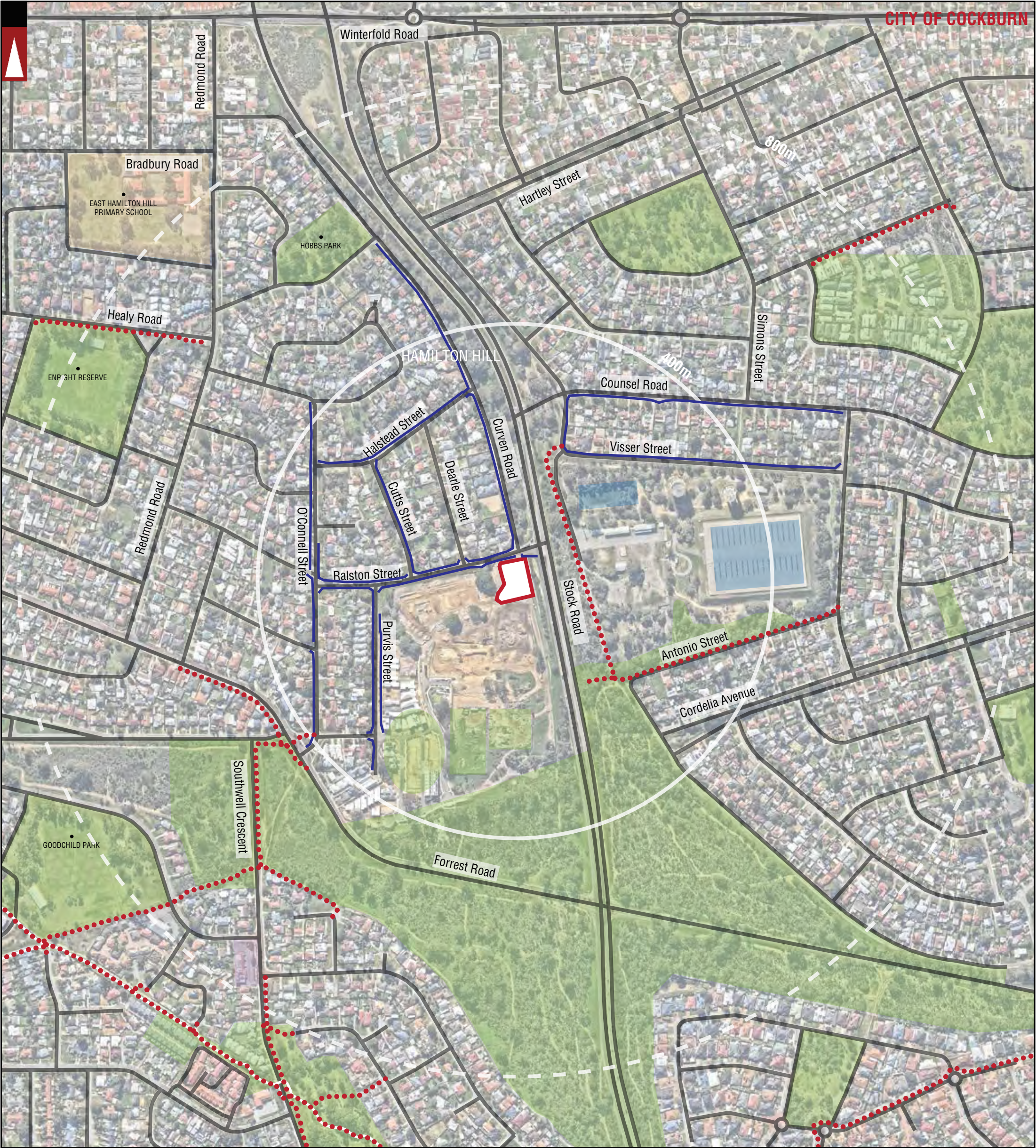
WEB: www.kctt.com.au

kctt

PART OF

Premise





PARKS AND RECREATION

WATERWAYS

PUBLIC PURPOSE

SHOPPING AREA

Hay Street

ROAD

STREET NAME

LOCATION BOUNDARY

DISTANCE FROM LOCATION

LOCAL GOVERNMENT NAME

HAMILTON HILL

SUBURB NAME

OTHER SHARED PATH (SHARED BY PEDESTRIANS & CYCLISTS)

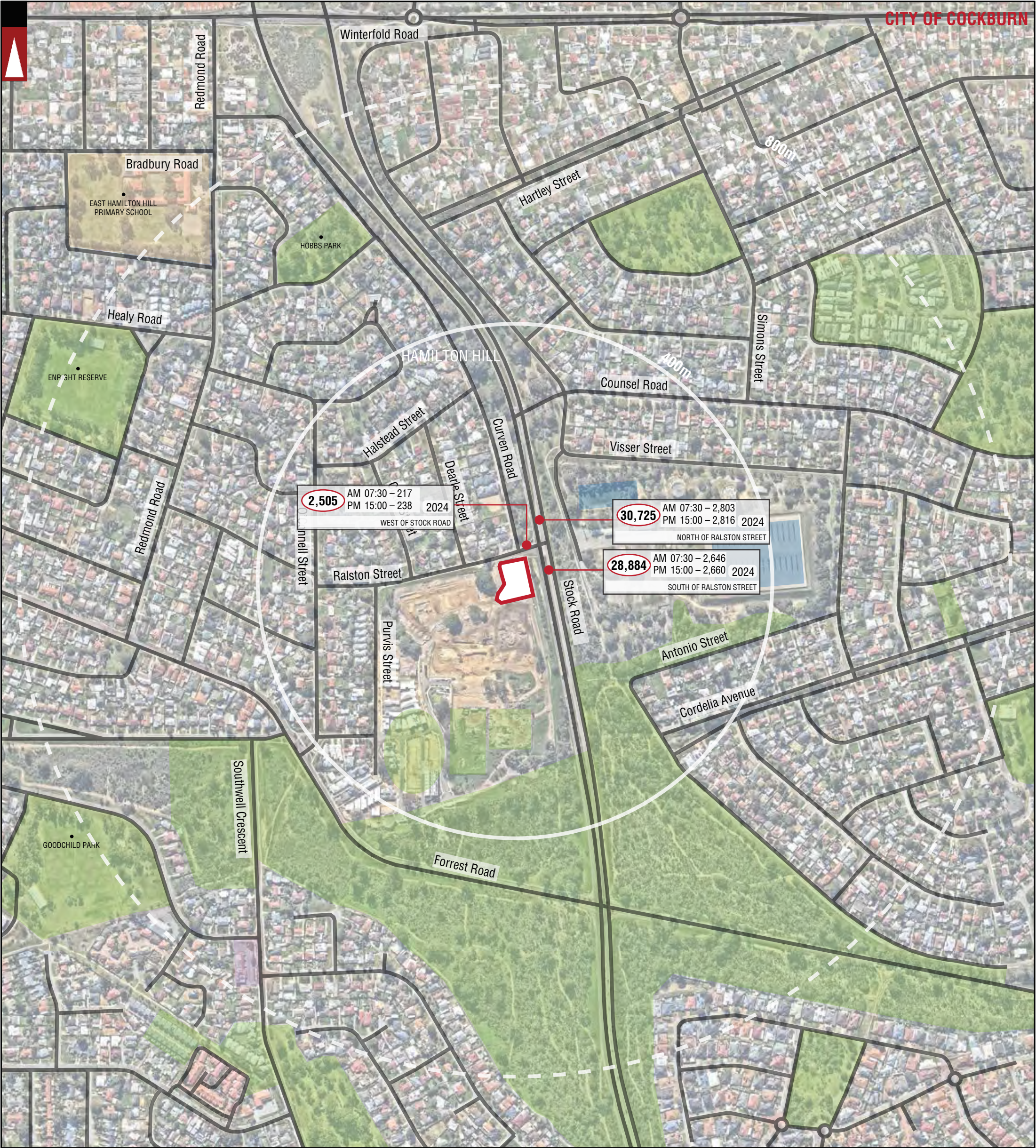
PEDESTRIAN PATH

WALKING TRAIL

LEGEND

			PROJECT: 115 RALSTON STREET, HAMILTON HILL	DRAWN BY:	Civil & Traffic Engineering Consultants KCTT (Trading as KC Traffic and Transport Pty Ltd) PO Box 1456 Scarborough WA 6922 PH: 08 9441 2700 WEB: www.kctt.com.au  PART OF  Premise
			TITLE: PEDESTRIAN PATHS PLAN - 800M RADIUS	N.M.	
A	29-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_ S04		
No	DATE	AMENDMENT			





PARKS AND RECREATION

WATERWAYS

PUBLIC PURPOSE

SHOPPING AREA

Hay Street

CITY OF COCKBURN

HAMILTON HILL

ROAD

STREET NAME

LOCATION

BOUNDARY

DISTANCE FROM LOCATION

LOCAL GOVERNMENT NAME

SUBURB NAME

5,512

AM 1145 – 381

PM 1630 – 480

2014

EAST OF HARLOW ROAD

NUMBER OF VEHICLES PER DAY

NUMBER OF VEHICLES PER AM PEAK HOUR

NUMBER OF VEHICLES PER PM PEAK HOUR

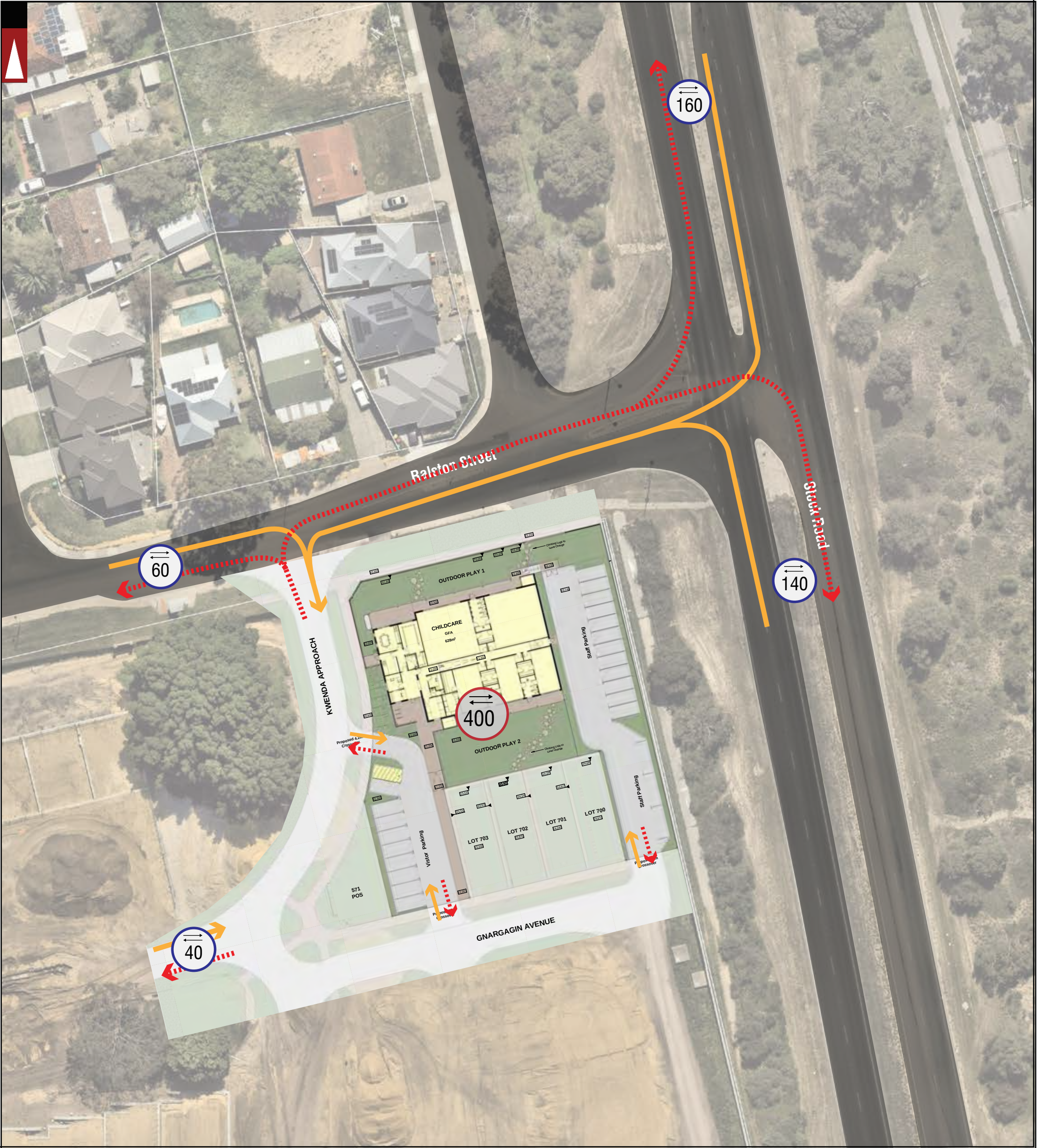
YEAR

LOCATION

LEGEND

			PROJECT: 115 RALSTON STREET, HAMILTON HILL	DRAWN BY:	Civil & Traffic Engineering Consultants KCTT (Trading as KC Traffic and Transport Pty Ltd) PO Box 1456 Scarborough WA 6922 PH: 08 9441 2700 WEB: www.kctt.com.au	 PART OF 
			TITLE: EXISTING TRAFFIC COUNTS - 800M RADIUS			
A	29-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_ S05	N.M.		
No	DATE	AMENDMENT				





LOCATION BOUNDARY

ROAD (VARIED WITH ROAD WIDTH)

RAILWAY

Lewis Road

ROAD NAME

1,389

Total Expected Traffic Generation from the proposed development

503

Total Expected Traffic Generation from Subject Site on the specific section of road - IN and OUT direction

Traffic Flow IN Direction

Traffic Flow OUT Direction

NOTE: THE PLAN IS COURTESY OF MEYER SHIRCORE ARCHITECTS

LEGEND

			PROJECT: 115 RALSTON STREET, HAMILTON HILL	DRAWN BY:	Civil & Traffic Engineering Consultants KCTT (Trading as KC Traffic and Transport Pty Ltd) PO Box 1456 Scarborough WA 6922 PH: 08 9441 2700 WEB: www.kctt.com.au  PART OF  Premise
			TITLE: TRAFFIC FLOW DIAGRAM	N.M.	
A	22-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_ S06		
No	DATE	AMENDMENT			





LOCATION BOUNDARY

ROAD (VARIED WITH ROAD WIDTH)

RAILWAY

Lewis Road

ROAD NAME

000

000

000

Traffic Flow IN Direction

000

000

000

Traffic Flow OUT Direction

1,389

Total Expected Traffic Generation from the proposed development - AM peak

NOTE: THE PLAN IS COURTESY OF MEYER SHIRCORE ARCHITECTS

LEGEND

			PROJECT: 115 RALSTON STREET, HAMILTON HILL	DRAWN BY:	Civil & Traffic Engineering Consultants KCTT (Trading as KC Traffic and Transport Pty Ltd) PO Box 1456 Scarborough WA 6922
			TITLE: TRAFFIC FLOW DIAGRAM - AM PEAK	N.M.	
A	22-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_ S07		
No	DATE	AMENDMENT			

PH: 08 9441 2700
WEB: www.kctt.com.au





LOCATION
BOUNDARY

ROAD
(VARIED WITH ROAD WIDTH)

RAILWAY

Lewis Road

ROAD NAME

000

000

000

Traffic Flow IN Direction

000

000

000

Traffic Flow OUT Direction

1,389

Total Expected Traffic Generation from the
proposed development - PM peak

NOTE: THE PLAN IS COURTESY OF MEYER SHIRCORE ARCHITECTS

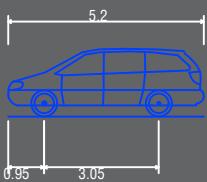
LEGEND

			PROJECT: 115 RALSTON STREET, HAMILTON HILL	DRAWN BY:	Civil & Traffic Engineering Consultants KCTT (Trading as KC Traffic and Transport Pty Ltd) PO Box 1456 Scarborough WA 6922 PH: 08 9441 2700 WEB: www.kctt.com.au 
			TITLE: TRAFFIC FLOW DIAGRAM - PM PEAK	N.M.	
A	22-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_ S08		
No	DATE	AMENDMENT			



Appendix 3

Vehicle Turning Circle Plan



Passenger vehicle (5.2 m)
Overall Length 5.200m
Overall Width 1.940m
Overall Body Height 1.804m
Min Body Ground Clearance 0.295m
Track Width 1.840m
Lock to Lock Time 4.00s
Kerb to Kerb Turning Radius 6.300m

- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chassis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chassis Envelope (Reverse Vehicle Motion)

LEGEND

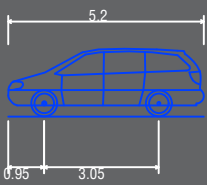
DRAWN BY:	Civil & Traffic Engineering Consultants PO Box 1456 Scarborough WA 6922
	PH: 08 9441 2700 WEB: www.kctt.com.au
N.M.	 PART OF 

			PROJECT: 115 Ralston Street, Hamilton Hill
			TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)
A	29-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_S20
NO	DATE	AMENDMENT	



			PROJECT: 115 Ralston Street, Hamilton Hill	DRAWN BY:	Civil & Traffic Engineering Consultants PO Box 1456 Scarborough WA 6922
			TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)	N.M.	PH: 08 9441 2700 WEB: www.kctt.com.au
A	29-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_S21		
NO	DATE	AMENDMENT			





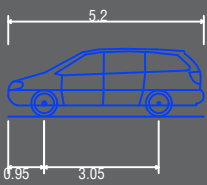
Passenger vehicle (5.2 m)
Overall Length 5.200m
Overall Width 1.940m
Overall Body Height 1.804m
Min Body Ground Clearance 0.295m
Track Width 1.840m
Lock to Lock Time 4.00s
Kerb to Kerb Turning Radius 6.300m

- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chassis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chassis Envelope (Reverse Vehicle Motion)

LEGEND

DRAWN BY:	Civil & Traffic Engineering Consultants PO Box 1456 Scarborough WA 6922
	PH: 08 9441 2700 WEB: www.kctt.com.au
N.M.	 PART OF 

			PROJECT: 115 Ralston Street, Hamilton Hill
			TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)
A	29-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_S22
NO	DATE	AMENDMENT	



Passenger vehicle (5.2 m)
Overall Length 5.200m
Overall Width 1.940m
Overall Body Height 1.804m
Min Body Ground Clearance 0.295m
Track Width 1.840m
Lock to Lock Time 4.00s
Kerb to Kerb Turning Radius 6.300m

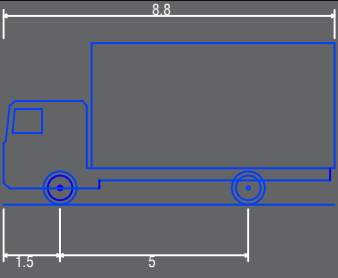
- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chassis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chassis Envelope (Reverse Vehicle Motion)

LEGEND

DRAWN BY:	Civil & Traffic Engineering Consultants PO Box 1456 Scarborough WA 6922
N.M.	PH: 08 9441 2700 WEB: www.kctt.com.au

PART OF

			PROJECT: 115 Ralston Street, Hamilton Hill
			TITLE: Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)
A	29-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_S23
NO	DATE	AMENDMENT	



Service Vehicle (8.8 m)	
Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	10.000m

- Lot boundary
- Wheel Path (Forward Vehicle Motion)
- Vehicle Chassis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chassis Envelope (Reverse Vehicle Motion)

LEGEND

			PROJECT: 115 Ralston Street, Hamilton Hill	DRAWN BY:	Civil & Traffic Engineering Consultants PO Box 1456 Scarborough WA 6922 PH: 08 9441 2700 WEB: www.kctt.com.au	
			TITLE: Vehicle Turning Circle Plan - Service Vehicle (8.8m)	N.M.		
A	29-10-2024	ISSUED FOR REVIEW	DRAWING NUMBER: KC02012.000_S24			
NO	DATE	AMENDMENT				