TRANSPORT IMPACT STATEMENT

Lot 38 (No. 103-105) Summers Street

and Lot 1 (No. 34) Cheriton Street,

Perth

September 2022

Rev H

kctt

HISTORY AND STATUS OF THE DOCUMENT

Revision	Date issued	Reviewed by	Approved by	Date approved	Revision type
Rev A	04.04.2016	C Kleyweg	M Kleyweg	04.04.2016	Issued for Review
Rev B	13.04.2016	C Kleyweg	M Kleyweg	13.04.2016	Amended according with requirements from 04.04.2016 by e-mail; results of on-street survey added.
Rev C	09.06.2016	M Kleyweg	M Kleyweg	09.06.2016	New layout amended. Comments from 15/04/16 incorporated and 03/06/16 email. New survey data added.
Rev D	13.06.2016	M Kleyweg	M Kleyweg	13.06.2016	Comments from received 10/06/16 via email
Rev E	14.06.2016	M Kleyweg	M Kleyweg	15.06.2016	Comments from received 14/06/16 via email
Rev F	13.07.2016	J Joseph	M Kleyweg	13.07.2016	Proposed layout and number of children amended
Rev G	12.09.2022	M Kleyweg	M Kleyweg	12.09.2022	Proposed layout and number of children amended
Rev H	20.09.2022	M Kleyweg	M Kleyweg	20.09.2022	Proposed layout amended

DISTRIBUTION OF COPIES

Revision	Date of issue	Quantity	Issued to
Rev A	04.04.2016	1 (PDF)	Mr Michael Sebbag (Beverley Group) Nathan Stewart (Rowe Group)
Rev B	13.04.2016	1 (PDF)	
Rev C	09.06.2016	1 (PDF)	
Rev D	13.06.2016	1 (PDF)	
Rev E	15.06.2016	1 (PDF)	
Rev F	13.07.2016	1 (PDF)	
Rev G	12.09.2022	1 (PDF)	Nathan Stewart, Sam Bowers (Rowe Group)
Rev H	20.09.2022	1 (PDF)	Nathan Stewart, Sam Bowers (Rowe Group)

Document Printed	21/09/2022 10:49 AM
File Name	C:\Users\jelena\Box\KCTT Projects\KC00000 Archived Projects\KC00482.000 No 103 to 105 Summers Street Perth\Outgoing\Report\220920 Rev H\KC00482.000 No 103 to 105 Summers Street, Perth Rev H.docx
Author of the Report	Jelena Simic
Project Team	/
Project Director / Project Manager	Marina Kleyweg
Name of Project	Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth
Name of the Document	Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth - Transport Impact Statement
Document Version	KC00482.000_R01_ Rev H

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1. Executive Summary

Site Context

- Lot 38 (No. 103-105) Summers Street is currently an approved Childcare facility. A maximum of 63 children and 15 staff are permitted on site at any time, per the City of Vincent's approval on 20th September 2016.
- Lot 1 (No. 34) Cheriton Street is situated to the rear of the existing childcare centre and features a residential dwelling that is to be renovated and converted into a childcare facility.
- Both existing and the proposed childcare facilities will operate as one childcare centre with increased capacity to a maximum of 90 children and 18 staff permitted on-site at any one time.

Technical Findings

- The swept path analysis was performed with a B99 Passenger Vehicle (5.2m). The parking appears to be fully navigable. For further details, please refer to the swept path analysis plans enclosed in Appendix 3.
- As the childcare centre is already operational, waste collection and delivery practices will remain unchanged.

Relationship with Policies

- The plans for the proposed development show a total of 7 car parking bays, inclusive of 4 currently existing parking bays on Lot 38 and 3 bays proposed on Lot 1(included and 1 ACROD).
- Building Code of Australia ACROD Provision – 1 ACROD bay provided to comply with the requirement.

Conclusion

- The total development is expected to generate approximately 396 vehicular movements per day, with a forecasted impact of around 72 vehicular movements per hour in the AM peak hour and 63 vehicular movements per hour in the PM peak hour.

- The additional traffic impact can be estimated as 108 daily vehicular trips, 21 vehicular trips in the AM peak and 18 vehicular trips in the PM peak. The traffic impact will be spread over two streets, and it can be expected that the traffic on Summers Street may be slightly reduced with another access option. The traffic generation was assessed under a very conservative assumption that each child in attendance is driven to the childcare centre and there are no siblings in the centre. Given the location of the centre (proximity of public transport and cycling infrastructure), and the City of Vincent transportation trends, this scenario is highly unlikely, and the realistic traffic impact is likely to be much lower.

- The proponent manages a parking demand plan and has conducted a survey among families currently enrolled on preferred mode of transport. The results of survey indicate that roughly 30% of all visitors walk or cycle to the centre. This confirms very conservative nature of KCTT's assessment.

- According to WAPC guidelines, all developments generating between 10 and 100 VPH in the peak hour can be deemed to have a moderate impact on the network.

- In summary, KCTT believes that the proposed development will not have an unacceptable impact on the surrounding road network.

2. Transport Impact Statement

2.1 Location

Lot Number (Street Number)	Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street
Suburb	Perth
Description of Site	Lot 38 (No. 103-105) Summers Street is currently occupied by a Childcare facility. The maximum capacity of this facility is 63 children and 15 staff as per the City of Vincent's approval. Lot 1 (No. 34) Cheriton Street is situated at the rear of the existing childcare centre and features a residential dwelling that is to be renovated and converted into a childcare facility. Both the existing and the proposed childcare facilities will operate as one childcare centre with a maximum capacity for 90 children and 18 staff.

2.2 Technical Literature Used

Local Government Authority	City of Vincent
Type of Development	Childcare Centre
Are the R-Codes referenced?	NO
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 Volume 5 - Technical Guidance
Are there applicable LGA schemes for this type of development?	YES
If YES, Nominate:	
Name and Number of Scheme	Local Planning Scheme No.2
Are Austroads documents referenced?	YES
Is the Perth Transport Plan for 3.5 million and Beyond referenced?	NO

2.3 Land Uses

Are there any existing Land Uses *If YES, Nominate:*	YES Lot 38 – Childcare centre (63 children and 15 staff) Lot 1 – 1 residential dwelling
Proposed Land Uses	
How many types of land uses are proposed? Nominate land use type and yield	One Childcare centre – 90 children and 18 staff members
Are the proposed land uses complementary with the surrounding land-uses?	YES City of Vincent's Local Planning Scheme No 2. designates Lot 38 (No. 103-105) Summers Street as ''Residential – R80'', while Lot 1 (No. 34) Cheriton Street as '' Commercial''. Proposed land use – childcare is identified as 'A' use in Residential Zone which *' 'means that the use is not permitted unless the local government has exercised its discretion by granting development approval after giving special notice in accordance with Clause 64 of the deemed provisions.''* Childcare land use is identified as ''D'' use in Commercial Zone which *' ''means that the use is not permitted unless the local government has exercised its discretion by granting development approval;''* As Lot 38 is already operational with the City of Vincent's approval, KCTT believes there would be no constraints for Lot 1 to be converted to childcare land use.

2.4 Local Road Network Information

How many roads front the subject site?

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

Road Name	**Summers Street**
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	App.17m
Road Pavement Width	App.11m
Classification	Access Road
Speed Limit	40kph
Bus Route	NO
If YES Nominate Bus Routes	-
On-street parking	YES

Road Name	**Cheriton Street**
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	App.16m
Road Pavement Width	App.81m
Classification	Access Road(Industrial)
Speed Limit	40kph
Bus Route	NO
If YES Nominate Bus Routes	-
On-street parking	YES

Name of Other Roads within 400m radius of site, or roads likely to take increased traffic due to the development.

Road Name	**Claisebrook Road**
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	App. 20m
Road Pavement Width	App. 7m
Classification	Access Road(Industrial)
Speed Limit	40kph
Bus Route	YES
If YES Nominate Bus Routes	-
On-street parking	YES

2.5 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 VPH	PM Peak Time	PM Peak VPH	*If HV count is Not Available, are HV likely to be in higher volumes than generally expected?*		
Lord Street	North of Bulwer Street (SLK 0.66)	20,336	07:30–1,851		16:30–1,889		5.5	2021 /22	–
	South of Newcastle Street (SLK 0.48)	21,481	07:45–2,146		16:45–2,107		3.5	2021 /22	–
East Parade	South of Graham Farmer Fwy (SLK 0.00)	36,217	07:45–3,063		16:45–2,952		3.6	2018 /19	–
	North of Summers Street (SLK 0.47)	41,952	07:30–3,266		16:00–3,234		5.4	2021 /22	–

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 VPH	PM Peak Time - PM Peak VPH	*If HV count is Not Available, are HV likely to be in higher volumes than generally expected?*		
Bulwer Street	West of Lord Street (SLK 0.19)	9,257	08:00 –756	16:45–807	4.2	2018 /19	–
Summers Street	Claisebrook West*	1,326	08:00–104	16:00–214	5.4	Jun 2021	–
	Claisebrook West*	1,475	n/a–123	n/a–199	5.8	Nov 2020	–
Claisebrook Road	Caversham – Cheriton*	1,376	n/a–115	n/a–124	8.6	Apr 2017	1,595
	Cheriton Street - Summers Street*	1,485	08:00–121	17:00–158	n/a	Sep 2022	–
Cheriton Street	Claisebrook cul-de-sac*	401	08:00–44	17:00–38	n/a	Sep 2022	–

Note - These traffic counts were provided by the City of Vincent. All other traffic data are sourced from the MRWA site.*

2.6 Vehicular Crash Information

Is Crash Data Available on Main Roads WA website?	YES
If YES, nominate important survey locations:	
Location 1	Summers Street (SLK 0.09 to 0.32)
Location 2	Cheriton Street (SLK 0.00 to 0.19)
Period of crash data collection	01/01/2017 - 31/12/2021

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
Summers Street	0.09 to 0.32	Access Road	40kph	1	0	1	0

MR Type	Involving Overtaking	Involving Parking	Involving Animal	Involving Pedestrian	Entering / Leaving Driveway	Other / Unknown
Count	0	1	0	0	0	1

No of MVKT Travelled at Location	App.1,400 VPD * 365 * 5 years * 0.23 km = 0.59 MVKT
KSI Crash Rate	1 KSI crashes / 0.59 MVKT = 1.70 KSI crashes/MVKT
All Crash Rate	2 crashes / 0.59 MVKT = 3.40 crashes/MVKT

Comparison with Crash Density and Crash Rate Statistics	All Crash rate of 1.70 crashes/MVKT is significantly **higher** than the network average of 0.95 crashes / MVKT. KSI crash rate of 3.40 is significantly **higher** than the network average of 0.05 KSI crashes per MVKT.

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
Cheriton Street	0.00 to 0.19	Access Road	40kph	0	0	1	1

MR Type	Involving Overtaking	Involving Parking	Involving Animal	Involving Pedestrian	Entering / Leaving Driveway	Other / Unknown
Count	0	1	0	0	1	0

No of MVKT Travelled at Location	App. 400 VPD * 365 * 5 years * 0.19 km = 0.14 MVKT
KSI Crash Rate	0 KSI crashes/MVKT
All Crash Rate	2 crashes / 0.14 MVKT = 14.42 crashes/MVKT
Comparison with Crash Density and Crash Rate Statistics	All Crash rate of 14.42 crashes/MVKT is significantly **higher** than the network average of 0.95 crashes / MVKT.

The following table shows crash rates and crash densities in the Perth Metropolitan area on local roads and state roads for the period from January 2017 to December 2021 and were obtained from Main Roads WA on the 31st May 2022 via 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.

Locations noted for a high incidence of crashes involving death and injury (black spots) are identified through criteria shown in the table below. If the below crash criteria are met, further BCR analysis is conducted to determine the most appropriate intervention.

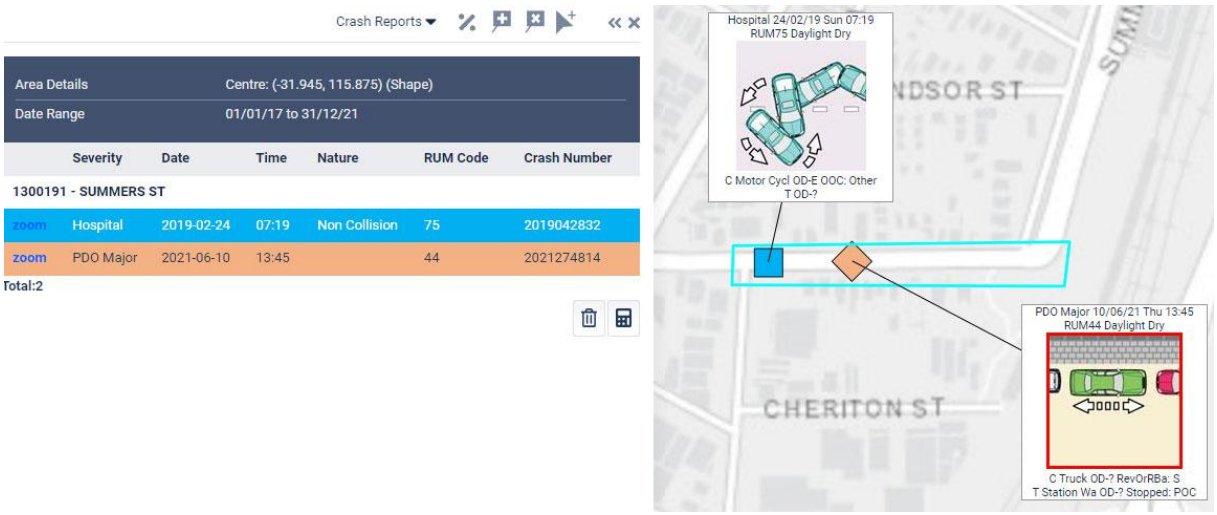
Table 3.1: Crash criteria for the State Black Spot Program

Crash Criteria	Highways and Main Roads		Local Roads	
	Metro	Rural	Metro	Rural
Intersection or Mid-block or Short road section (< 3 km)	10 crashes over 5 years	3 crashes over 5 years	5 crashes over 5 years	3 crashes over 5 years
Road length (≥ 3km)	Average of 3 Crashes per km over 5 years	Average of 1 crash per km over 5 years	Average of 2 Crashes per km over 5 years	Average of 1 crash per km over 5 years
Benefit-cost ratio (BCR)	1			

(Main Roads/ WALGA 2004)

Neither of the analysed road sections meets the criteria above, nor is it listed in the MRWA database as a location eligible for the black spot program. The statistical analysis findings are exacerbated due to low traffic volumes on the subject streets.

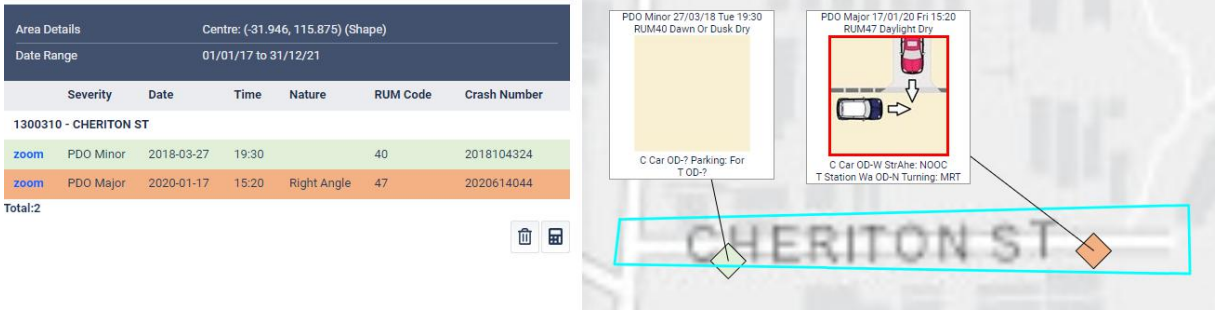
Below is an extract of the MRWA Crash Map for the subject section of Summers Street (SLK 0.09 to 0.32).



Crash No.	SLK	Date	Day	Time	Severity	Unit	Unit Type	Type	Light Cond	From Dir	To Dir	Veh/Ped Move
20190 42832	0.11	24/02/ 2019	Sunday	07:19	Hospital	Colliding	Motor Cycle	Midblock	Daylight	East	West	Out Of Control: Other
Location: Summers Street 20m East of Claisebrook Road Crash Description: Approaching speed hump, engaged front brake when front wheel lost traction and slid out to left, throwing me to the right of bike and rolling over speed hump stopping near edge or road on right, bike skidded to the left just past speed hump.												
20212 74814	0.18	10/06/ 2021	Thursday	13:45	PDO Major	Colliding	Truck	Midblock	Daylight	-	-	Reversing Or Rolling Back: Straight
20212 74814	0.18	10/06/ 2021	Thursday	13:45	PDO Major	Target	Station Wagon	Midblock	Daylight	-	-	Stopped: Parked On Cway
Location: Summers Street 90m East of Claisebrook Road												

Note: The hospital severity crash was caused by the driver's error/vehicle malfunction, while the only other crash was on street parking.

An extract of the MRWA Crash Map for the subject section of Cheriton Street (SLK 0.00 to 0.19) is as follows:



Crash No.	SLK	Date	Day	Time	Severity	Unit	Unit Type	Type	Light Cond	From Dir	To Dir	Veh/Ped Move
20181 04324	0.04	27/03/ 2018	Tuesday	1930	PDO Minor	Colliding	Car	Midblock	Dawn Or Dusk	-	-	Parking: Forward
Location: Cheriton Street 40m East of Claisebrook Road												
20212 74814	0.18	17/01/ 2020	Friday	15:20	PDO Major	Colliding	Car	Midblock	Daylight	-	-	Straight Ahead: Not Out Of Control
20212 74814	0.18	17/01/ 2020	Friday	15:20	PDO Major	Target	Station Wagon	Midblock	Daylight	-	-	Turning: To Make Right Turn
Location: Cheriton Street 10m West of Cheriton Street - End Road												

As mentioned above, low traffic volumes exacerbate the findings of statistical analysis. Most recorded traffic incidents are parking-related, with the incident related to the highest severity being a result of a driver's error or a vehicle malfunction (motorcycle wheel losing traction). Therefore, the road environment cannot be considered inherently unsafe.

2.7 Vehicular Parking

Local Government	City of Vincent
Local Government Document Utilised	• Local Planning Policy 7.5.3 Education and Care Services • City of Vincent Planning and Building Policy Manual Policy No: 7.7.1 Non-Residential Development Parking Requirements • City of Vincent Planning and Building Policy Manual Parking and Access Policy No: 3.7.1 Parking and Access • Perth Parking Policy 2014

Description of Parking Requirements in accordance with the relevant documents:

The subject site is located within the Perth Parking Management Area. The approximate location of the subject development site is marked with a red cross on the following figures for clarity.

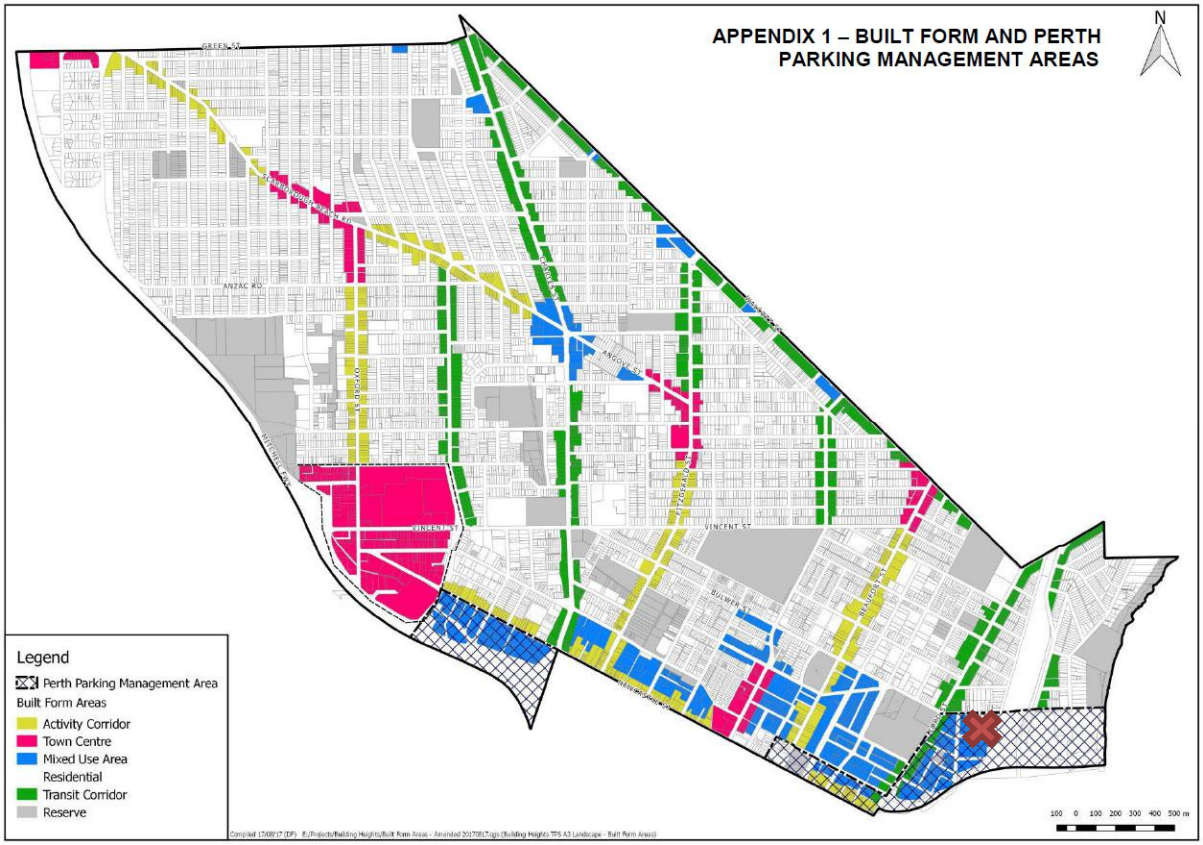


Figure 1 - Appendix 1 - Built Form and Perth Parking Management Areas (City of Vincent Planning and Building Policy Manual, Policy No: 7.7.1 Non-Residential Development Parking Requirements)

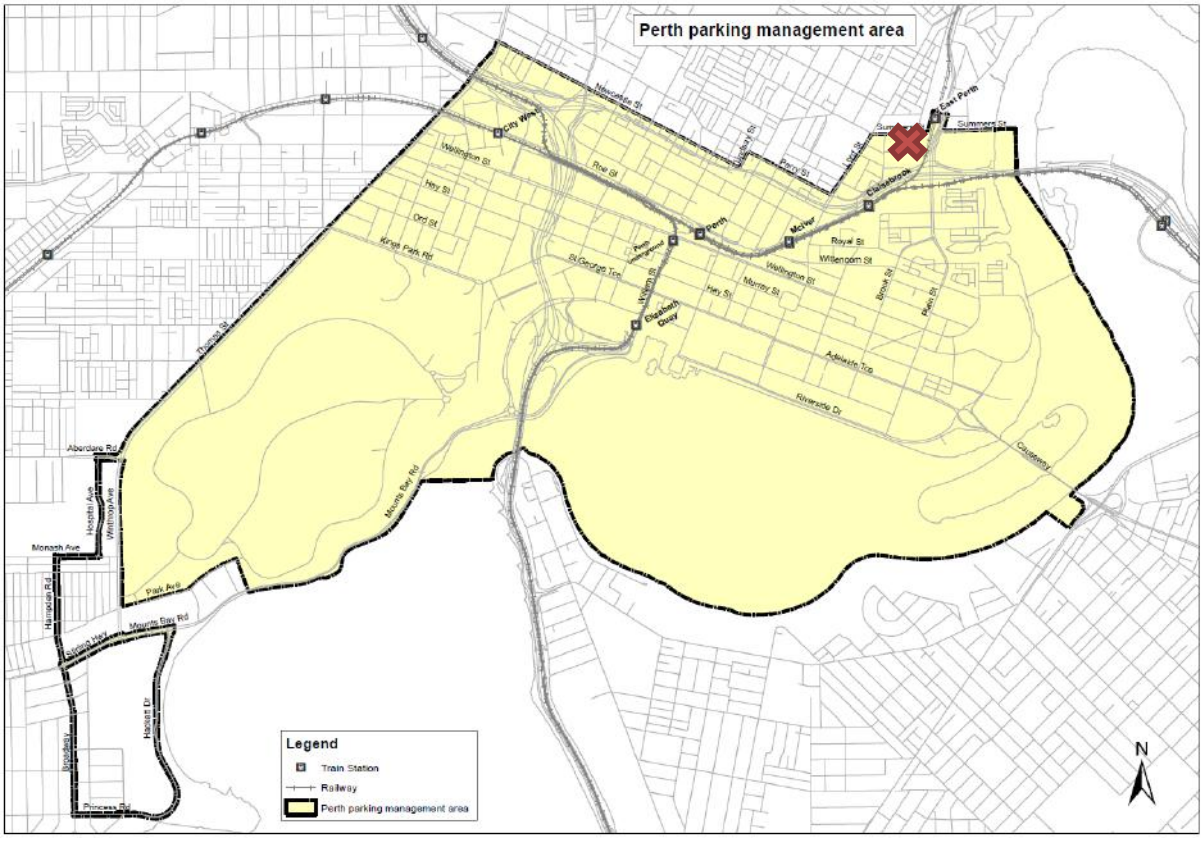


Figure 2 – Perth Parking Management Area Map

Although the subject site is under the City of Vincent's jurisdiction, the City of Vincent's parking policies do not apply within the Perth Parking Management Area. The only document that provides guidance on parking allowance for locations within Perth Parking Management Area is Perth Parking Policy 2014.

As Summers Street and Cheriton Street are identified as 'Category 4' roads, and the proposal includes 'At Grade' access, there is a maximum parking allowance of *' '200 bays per 10,000m^2 of lot area."*

As the summarised land area of both lots that the subject development occupies is 1,623.51 m^2 (inclusive of 1,013.12m^2 of Lot 38 Summers Street + 610.39m^2 of Lot 1 Cheriton Street), the subject site has a maximum parking allowance of 33 bays as shown below.

Calculation of Parking

Land Use	Requirements	Yield	Total Parking
Proposed development	*200 bays per 10,000m^2 of lot area*	1,013.12m^2 of Lot 38 Summers Street	20.26
		610.39m^2 of Lot 1 Cheriton Street	12.21
Total Maximal Car Parking Requirement for the subject development			**33 car bays maximum**
		Total Volume of Parking Provided by Proponent	**7 car bays**
		Inclusive of: • 4 existing car bays on Lot 38 • 3 car bays proposed on Lot 1 (2 standard and 1 ACROD)	

Justification

Developments within the City of Perth Parking Management Area have only a maximum cap on parking provision with no minimum requirements, regardless of land use (as long as it is non-residential).

The existing development successfully operates with 4 parking bays on site, and the proposed increase in parking is proportionally in line with the increase in the capacity of the facility. The site enjoys the proximity of a train station, bus lines and designated cycling routes. Furthermore, there is ample on-street parking on Summers Street and public parking at the train station. To our understanding, no parking issues were raised relating to the pick-up and drop off at the existing childcare centre; therefore, we believe that the provision of parking is in line with the capacity expansion and should be satisfactory.

Nevertheless, we performed an analysis of parking demand for pick up and drop off in the worst possible and highly unlikely scenario.

The following table was derived through many years of practice and research in this field that our office completed. KCTT has worked with several established childcare providers who have provided sign-in data for a full week. The percentages outlined below have emerged as the current average arrival/departure pattern. As per our transport impact assessment, the estimated average dwell time is 10 minutes, which is significantly higher than the dwell time suggested by NSW RTA Guide to Traffic Generating Developments.

While this pattern shows that up to 95% of children attend for the day (as practically recorded), the distribution still does not allow for siblings to attend the centre. Furthermore, the distribution assumes that all children in attendance are driven to the childcare in a separate personal vehicle (not walked or brought on bicycles); therefore, the distribution below has a degree of conservativism.

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

Therefore, the table below was developed on the following assumptions:

- The arrival percentage is derived from data provided to KCTT and described above.
- It was assumed there were no siblings in the centre.
- It was assumed that all children in attendance would be driven to the centre.

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)
07:00 - 07:30	13.97%	13	3
07:30 - 08:30	**40.55%**	**36**	**6**
08:30 - 09:30	30.68%	28	5
09:30 - 10:30	7.67%	7	2
After 10:30	1.37%	1	1
Total:	94.25%	85 children (90 children – 100% capacity)	

The table above shows that the parking demand is the strongest in the period 07.30 - 08:30. When applied to the subject development with the assumed dwell time of 10 minutes per vehicle, the subject childcare centre would require a maximum of 6 car bays to cater for the expected parking demand of pick up / drop off function. This is in line with the proposed provision of standard car bays on site for the subject childcare facility with increased capacity. However, this conservative assessment does not allow for siblings attending the centre nor for children being dropped off on foot or bicycle which is a practice more common within the City of Vincent than anywhere else in the Perth Metro Area.

While the table above is derived from data KCTT collected over the years from various providers, the proponent provided us with attendance data in the existing centre over the last month. In line with trends we noticed across the industry, average attendance appears to be generally significantly lowered post pandemic.

The proponent conducted a survey among families currently enrolled on preferred mode of transport. The results of survey indicate that roughly 30% of all visitors walk or cycle to the centre. This shows the very conservative nature of the KCTT's assessment. The proponent actively encourages the staff to use public or active transport through financial incentives as a part of the adopted parking demand management plan.

Have Vehicle Swept Paths been checked for Parking? YES

If YES, provide description of performance:

The swept path analysis was performed with a B99 Passenger Vehicle (5.2m). The proposed parking is fully navigable. For further details, please refer to the swept path analysis plans enclosed in Appendix 3.

2.8 Compliance with AS2890.1:2004

Number of Parking Bays on-site 7

Are Austroads documents referenced? YES

If YES, Nominate:

- Australian/New Zealand Standard, Parking facilities, Part 1: Off-street car parking - Originated as AS 2890.1—1986.
- Australian/New Zealand Standard, Parking facilities, Part 6: Off-street parking for people with disabilities - Originated as AS2890.6

Proposed development User Class	User Class 1A (Residential, domestic and employee parking) User Class 2 (visitors' parking) User Class 4

Parking Bay Type	AS2890.1:2004 Off-street car parking					
	Parking Bay Length		Parking Bay Width		Aisle Width	
	Required	Proposed	Required	Proposed	Required	Proposed
All bays at 90º (Staff bays)	5.4m	5.4m	2.4m	2.5/2.8m	5.8m	>
All bays at 90º (drop-off bays)	5.4m	5.4m	2.5m	2.5/2.8m	5.8m	
ACROD Parking	5.4m	5.4m	2.4m–ACROD 2.4m–shared space	2.4m–ACROD 2.4m–shared space	5.8m	>

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

"At blind aisles, the aisle shall be extended a minimum of 1 m beyond the last parking space, as shown in Figure 2.3, and the last parking space widened by at least 300 mm if it is bounded by a wall or fence.
In car parks open to the public, the maximum length of a blind aisle shall be equal to the width of six 90 degree spaces plus 1 m, unless provision is made for cars to turn around at the end and drive out forwards."

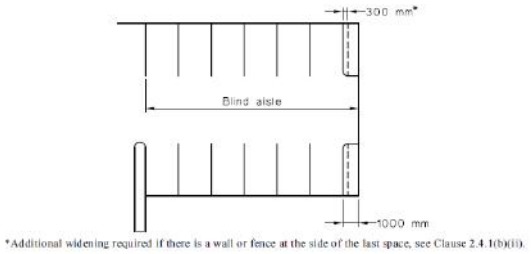


FIGURE 2.3 BLIND AISLE EXTENSION

Single-sided aisles	No single-sided aisles are provided, and kerbs and landscape need to be kept low
Blind aisle	Extended by less than a minimum of 1 m at the existing parking area; however, it doesn't cause navigability issues given the aisle width. There are no blind aisles in the proposed parking area.
Reversing bay	Reversing bay is not required.

Does the parking area meet the requirements set in AS2890.1:2004?	KCTT reviewed the proposed development layout and concluded that the car parking bays, and isle width dimensions generally comply with the nominated Australian Standards.
Does the parking area meet the requirements set in AS2890.6?	YES

2.9 Bicycle Parking

Local Government	City of Vincent
Reference Document Utilised	-

Description of Parking Requirements in accordance with Scheme:

As previously mentioned, given that the subject development site is situated within the Perth Parking Management Area the City of Vincent Planning and Building Policy Manual Policy No: 7.7.1 Non-Residential Development Parking Requirements nor City of Vincent Planning and Building Policy Manual Parking and Access Policy No:3.7.1 Parking and Access do not apply to it. The Perth Parking Policy 2014 does not prescribe the rates for bicycle parking requirements.

Justification

The proposed development plans demonstrate 3 bicycle racks. KCTT believe that the demand for bicycle parking will be primarily from employees. The installation of bicycle racks supports the promotion of alternative transport modes and reduces the requirement for car parking on site.

If the development was to be assessed on the City of Vincent's Policy 7.7.1, there would be a requirement for 4 long term parking bays and 2 short term parking bays.

2.10 ACROD Parking

Class of Building	Class 9b
Does this building class require a specific provision of ACROD Parking?	YES
Reference Document Utilised	Perth Parking Policy 2014 Building Code of Australia

Description of Parking Requirements:

''Parking for people with disabilities - The percentage of ACROD bays required in a car park is specified by the Building Code of Australia (BCA). The BCA aligns with the Disability (Access to Premises—Buildings) Standards 2010 developed under the Disability Discrimination Act 1992.''

Class 9b — (b) Other assembly building — (ii) for each additional 100 carparking spaces or part thereof in excess of 1000 carparking spaces – 1 space

Parking Requirements in accordance with regulatory documents

Land Use	Requirements	Yield	Total Parking
Childcare Centre	*1 space for every 50 carparking spaces or part thereof*	4+3	1
		Total Volume of ACROD Parking Required	**1**
		Total Volume of ACROD Parking Provided by Proponent	1

Justification

The subject childcare centre currently has 4 car bays on site and no obligation to provide ACROD parking as there are fewer than 5 parking bays on site.

However, as per the Building Code of Australia's requirements, the childcare centre with increased capacity and a total of 7 car bays provided on-site, triggers the requirement for the provision of ACROD bay.

Proposed development plans demonstrate the provision of 1 ACROD.

2.11 Delivery and Service Vehicles

Guideline Document used as reference — NSW RTA Guide to Traffic Generating Developments

Requirements

Other uses - 1 space per 2,000m2

Parking Requirements in accordance with regulatory documents

Land Use	Minimum Requirements	Yield	Total Parking
Childcare Centre	*1 space per 2,000m2*	<2,000m^2	1
	Total Volume of Service and Delivery Parking Required		1
	Total Volume of Service and Delivery Parking Provided by Proponent		N/A

Justification

KCTT believes that a childcare centre does not require a dedicated bay for service and delivery since all deliveries can be conducted outside peak hours of operation when all drop-off parking bays are likely to be empty.

Furthermore, as the childcare centre is already operational on-site, KCTT believes the existing delivery and waste collection practices will be continued without amendments.

2.12 Calculation of Development Generated / Attracted Trips

What are the likely hours of operation?

Child Care Centre – 07:00-18:30 Monday-Friday

Closed Saturday, Sunday and Public Holidays.

What are the likely peak hours of operation?

07:00 - 08:00 and 17:00 - 18:00

Guideline Document Used

NSW RTA Guide to Traffic Generating Developments

Rates from above document:

Child Day Care:

- *AM Peak - 0.8 VPH per child*
- *PM Peak - 0.7 VPH per child*

It should be noted that these rates are given for a 2-hour peak period. For the purposes of this report, KCTT assumes that the two-hour traffic volume will be attracted to the development in one hour, representing the peak for the subject site.

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

Childcare centre

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 daycare 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 our experience, childcare centres tend to operate with a 94.25% utilisation rate of the licenced capacity over the year due to the number of days those children attend (this ranges from 2 to 5 days a week) and seasonal adjustments (end of the year and when people return to work from maternity leave). Market information indicates

that between 10-20% of parents have more than one child at the centre, so those families only account for one vehicular trip. A further percentage of parents will have older siblings attending one of the nearby schools.

However, 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.

Does the site have existing trip generation/attraction? YES

Guideline Document Used — WAPC Transport Assessment Guidelines for Developments - Volume 5

Rates from above document: **Residential** - 0.8 vehicle trips per dwelling for the AM and PM peak hours. A 25% IN / 75% OUT split has been adopted for the AM peak and a 67% IN / 33% OUT split for the PM peak hour.

Guideline Document Used — NSW RTA Guide to Traffic Generating Developments

Rates from above document: **Residential** - The NSW RTA Guide to Traffic Generating Developments suggests developments of this type in Sydney tend to generate between 4 and 5 vehicular trips per dwelling for medium to high density developments. In Perth, the Department of Planning and Infrastructure conducted a series of studies in the late 1990's / early 2000's which showed that higher density dwellings tended to average closer to 5.5 vehicle trips per day. These studies assumed that anywhere between 50% and 70% of commuters were travelling to the work by car as a driver.

KCTT adopted the rates as listed below, believing there are more appropriate to estimate the expected traffic volumes this particular residential dwelling generates.

- 6 vehicle trips per day
- 0.8 vehicle trips per peak hour

Land Use Type	Rate above	Yield	Daily Traffic Generation	Peak Hour Traffic Generation	
				AM	PM
Existing development					
Childcare centre	*Daily - 4 VPD per child and 2 VPD per staff member* *AM Peak - 0.8 VPH per child* *PM Peak - 0.7 VPH per child*	63 children 15 staff	252 30	50	44
Residential dwelling	*Daily - 6 vehicle trips per day* *AM/PM Peak - 0.8 vehicle trips per peak hour*	1 dwelling	6	1	1
Proposed development					
Child Care	*Daily - 4 VPD per child and 2 VPD per staff member* *AM Peak - 0.8 VPH per child* *PM Peak - 0.7 VPH per child*	90 children 18 staff	360 36	72	63
Total Traffic impact of the proposed development (A):			**396**	**72**	**63**
Traffic impact of an existing development on subject lots (B):			**288**	**51**	**45**
Total Additional Traffic impact of the proposed development (A-B):			**108**	**21**	**18**

What is the total impact of the new proposed development?	The total development is expected to generate approximately 396 vehicular movements per day, with a forecasted impact of around 72 vehicular movements per hour in the AM peak hour and 63 vehicular movements per hour in the PM peak hour. When the estimation of the traffic generation currently existing land uses is taken into account, the additional 108 daily vehicular trips, 21 vehicular trips in the AM peak and 18 vehicle trips in the PM peak is expected. According to WAPC guidelines, all developments generating between 10 and 100 VPH in the peak hour can be deemed to have a **moderate** impact on the network. KCTT believes the surrounding road network can accommodate additional traffic attracted by the proposed development. Further to this, the traffic assessment represents the worst possible scenario which is unlikely to eventuate. The catchment for this centre is highly walkable and the centre is in vicinity of two railway stations and a bus line. With all of the other alternative transportation options, it is unlikely this centre will ever practically attract traffic to its theoretical maximum.

2.13 Traffic Flow Distribution

How many routes are available for access/egress to the site?	4 main routes as follows
Route 1	
Provide details for Route No 1	From/to east via Summers Street >> Lot 38
Percentage of Vehicular Movements via Route No 1	**20%**
Route 2	
Provide details for Route No 2	From/to west via Summers Street >> Lot 38
Percentage of Vehicular Movements via Route No 2	**50%**
Route 3	
Provide details for Route No 2	From/to west via Summers Street >> Claisebrook Road >> Caversham Street >> Lot1
Percentage of Vehicular Movements via Route No 2	**20%**
Route 4	
Provide details for Route No 2	From/to south via Claisebrook Road >> Caversham Street >> Lot 1
Percentage of Vehicular Movements via Route No 2	**10%**

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

2.14 Vehicle Crossover Requirements

Are vehicle crossovers required on existing road networks?
How many existing crossovers?

How many proposed crossovers?

YES
- 1 for Lot 38 on Summers Street
- None for Lot 1 on Cheriton Street
- 1 existing for Lot 38 on Summers Street remains
- 1 proposed for Lot 1 on Cheriton Street

If there are greater numbers of new crossovers, than existing, provide justification:
Although No 34 Cheriton Street does not feature a formal vehicular crossover, its only vehicular access would be via Cheriton Street. The plans show two parking bays, directly accessible via Cheriton Street, and no other formal crossover as vehicular access futher in the lot is not possible.

How close is proposed crossover to existing intersections?

Approximately 170m from the intersection with Claisebrook Road and more than 6m from cul de sac end of the Cheriton Street.

Does this meet existing standards?

YES

Justification

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

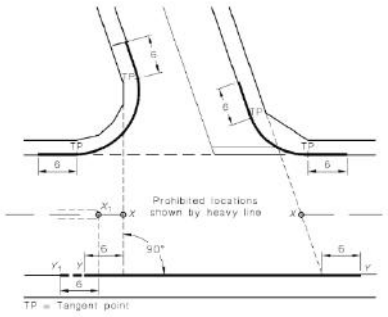
NOTES:
1 When a car park has multiple access points, each access should be designed for the number of parking spaces effectively served by that access.
2 This Table does not imply that certain types of development are necessarily suitable for location on any particular frontage road type. In particular, 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.

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 1A - Residential, domestic and employee Proposed development plans indicate a total of 2 parking bays and 1 crossover.
This crossover serves less than 25 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.***

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.



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 X_1 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 Y_1.

DIMENSIONS IN METRES

FIGURE 3.1 PROHIBITED LOCATIONS OF ACCESS DRIVEWAYS

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."

As shown on the layout for the proposed development in Appendix 1, the proposed crossover is not located in any of the areas shown by heavy lines and therefore complies with the AS/NZS 2890.1:2004 requirements

2.15 Public Transport Accessibility

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

Bus Route	Description	Peak Frequency	Off-Peak Frequency
41	Bayswater - Esplanade Busport	60 minutes	60 minutes
42	Esplanade Busport - Maylands	60 minutes	
48	Esplanade Busport - Morley Bus Station	20 minutes	
55	Esplanade Busport - Bassendean	60 minutes	

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

Rail Route	Stations
Midland Line	Perth – McIver – Claisebrook - East Perth - Mt Lawley – Maylands – Meltham – Bayswater - Ashfield – Bassendean - Success Hill – Guildford - East Guildford – Woodbridge - Midland
Armadale/ Thornlie Line	Perth – McIver – Claisebrook - Perth – Stadium – Burswood - Victoria Park – Carlisle - Oats Street – Welshpool - Queens Park – Cannington – Thornlie – Beckenham – Kenwick - Maddington – Gosnells – Seaforth – Kelmscott – Challis – Sherwood - Armadale

Walk Score Rating for Accessibility to Public Transport

• Lot 38 (No. 103-105) Summers Street	70	Excellent Transit. Transit is convenient for most trips.
• Lot 1 (No. 34) Cheriton Street, Perth	70	Excellent Transit. Transit is convenient for most trips.

KCTT comment

The Perth Underground, East Perth Station; Midland Line is approximately 200m east from development. Within a 5-minutes walk, four bus routes are available, providing solid connections across the metropolitan region. The Claisebrook Station is located within a 5-minutes walk from the proposed development. Therefore, its safe to conclude that the proposed development is easily accessible via public transport, and pedestrian and cyclist infrastructure/networks.

Is the development in a Greenfields area? NO

2.16 Pedestrian Infrastructure

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

Classification	Road Name
" Principal Shared Path"	East Parade, Graham Farmer Freeway

Pedestrian Path	Almost all streets surrounding the subject development site have a pedestrian path on one or both sides of the road reservation.

Does the site have existing pedestrian facilities YES

Does the site propose to improve pedestrian facilities? YES

If YES, describe the measures proposed.

The proposed ramp is planned to connect Lot 1 with the existing pedestrian path in front of the development.

What is the Walk Score Rating?

• Lot 38 (No. 103-105) Summers Street	75	Very Walkable. Most errands can be accomplished on foot.
• Lot 1 (No. 34) Cheriton Street, Perth	75	Very Walkable. Most errands can be accomplished on foot.

2.17 Cyclist Infrastructure

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

If YES, describe:

Classification	Road Name
" Principal Shared Path"	East Parade, Graham Farmer Freeway
" Good Road Riding Environment"	Summers Street
" Bicycle Lanes or Sealed Shoulder Either Side"	East Parade, Bulwer Street

Are there any PBN Routes within a 400m radius of the subject site? YES

If YES, describe:

Classification	Road Name
" Principal Shared Path"	East Parade, Graham Farmer Freeway
" Good Road Riding Environment"	Summers Street, Lincoln Street, Harold Street, Joel Terrace, Kensington Street, Royal Street
" Perth Bicycle Network - Continuous Signed Routes"	Smith Street
" Bicycle Lanes or Sealed Shoulder Either Side"	East Parade, Bulwer Street

Does the site have existing cyclist facilities? NO

Does the site propose to improve cyclist facilities? YES

If YES, describe the measures proposed.

Bike racks proposed on Lot 1.

2.18 Site-Specific Issues and Proposed Remedial Measures

How many site-specific issues need to be discussed?	One (1)
Site-Specific Issue No 1	**Car parking provision**
Remedial Measure / Response	As elaborated more closely in section 2.7 Vehicular parking within this report, KCTT believes the proposed car parking provision for the subject development is adequate, although the minimal car parking requirement is not defined in the nominated document.

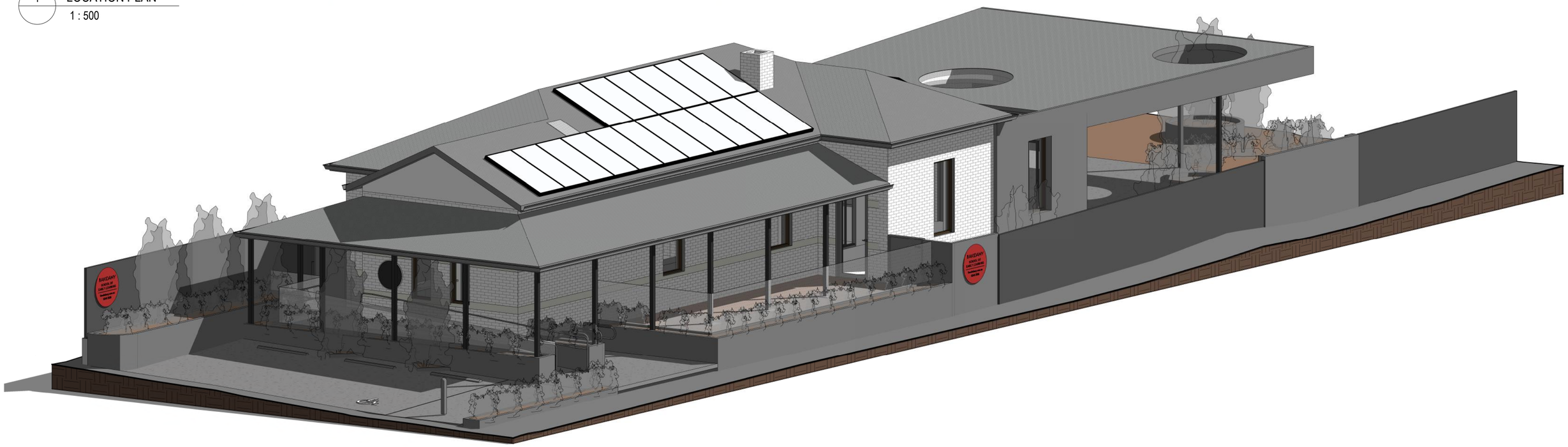
Appendix 1

The layout of the proposed development

AKIDAMY SCHOOL OF EARLY LEARNING - CHERITON STREET

105 SUMMERS STREET & 34 CHERITON STREET, PERTH WA

1 LOCATION PLAN
1 : 500



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REV	DATE	STATUS	ISSUED
1	16.09.22	COORDINATION	SP
2	19.09.22	COORDINATION	SP
3	23.09.22	DEVELOPMENT APPLICATION	SP

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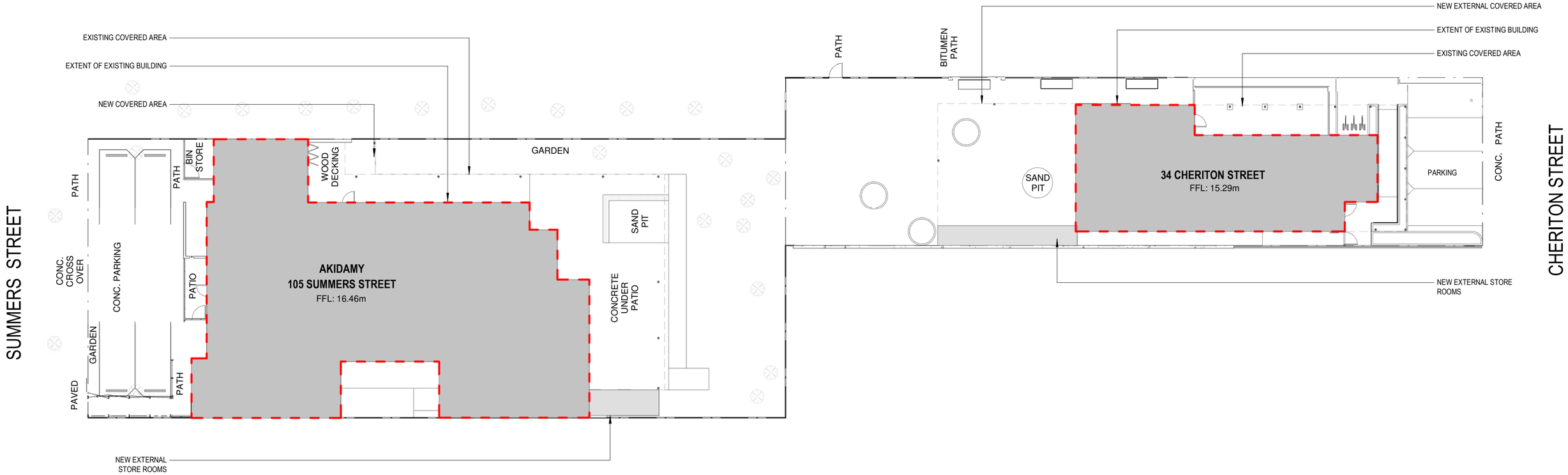
Client: AKIDAMY
Drawing Title: COVER PAGE & LOCATION PLAN
Job No: PAR0099
Drawing No: DA00



1 SITE PLAN
1 : 200

CLASSROOM AREAS

CLASSROOM AREA - SUMMER STREET	216.0 M²
CLASSROOM AREA - CHERITON STREET	90.3 M²
CLASSROOM AREA - TOTAL	306.3 M²

OUTDOOR PLAY AREAS

OUTDOOR PLAY AREA - SUMMER STREET	410.8 M²
OUTDOOR PLAY AREA - CHERITON STREET	287.9 M²
OUTDOOR PLAY - TOTAL	698.7 M²

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1	06.09.22	COORDINATION	SP
2	12.09.22	COORDINATION	SP
3	16.09.22	COORDINATION	SP
4	19.09.22	COORDINATION	SP
5	23.09.22	DEVELOPMENT APPLICATION	SP

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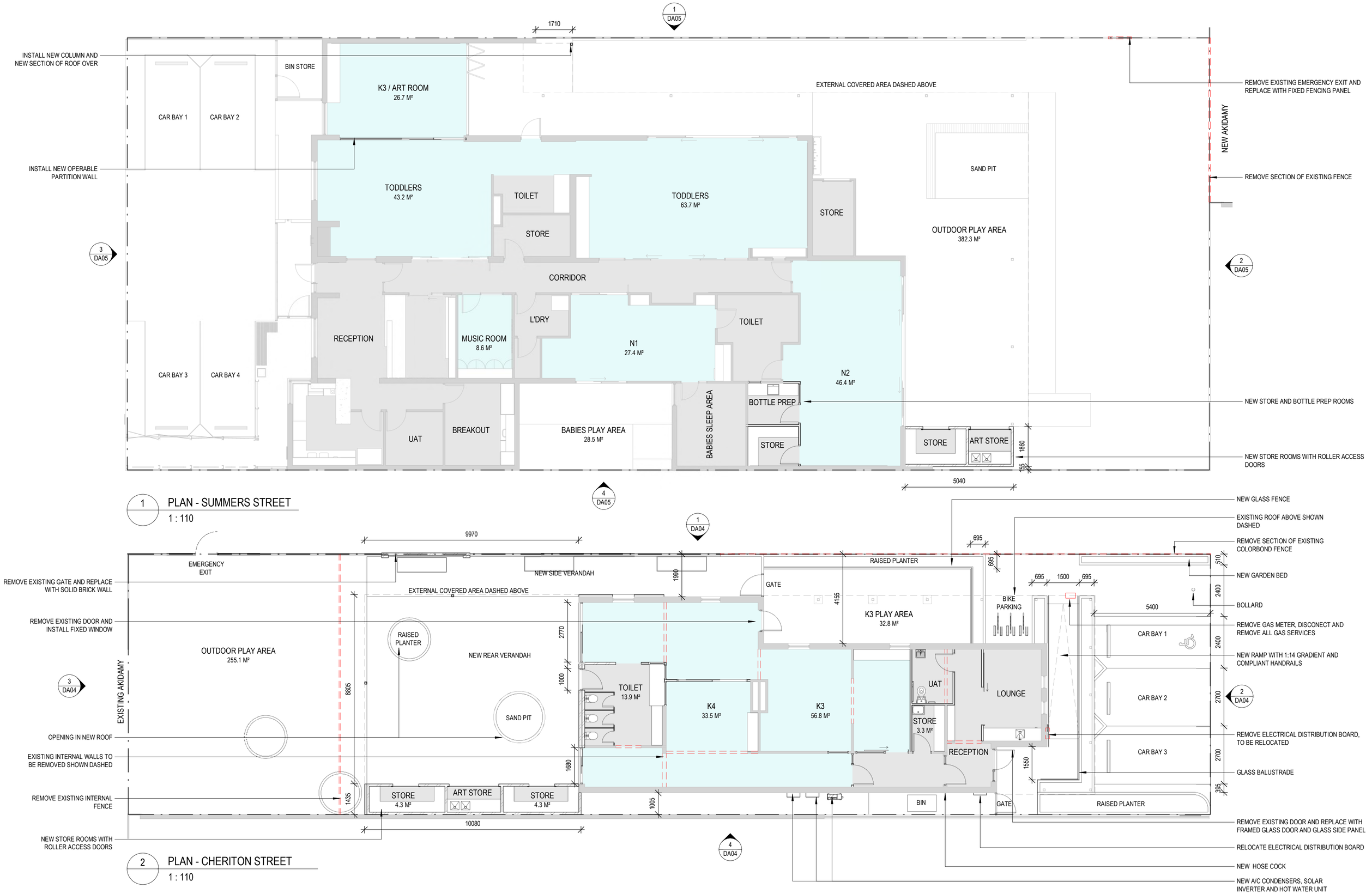
Client: **AKIDAMY**
Drawing Title: **SITE PLAN**
Job No: **PAR0099**
Drawing No: **DA01**



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4	19.09.22	COORDINATION	SP
5	23.09.22	DEVELOPMENT APPLICATION	SP

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Dr: SP | Chk: PH | Appvd: PH

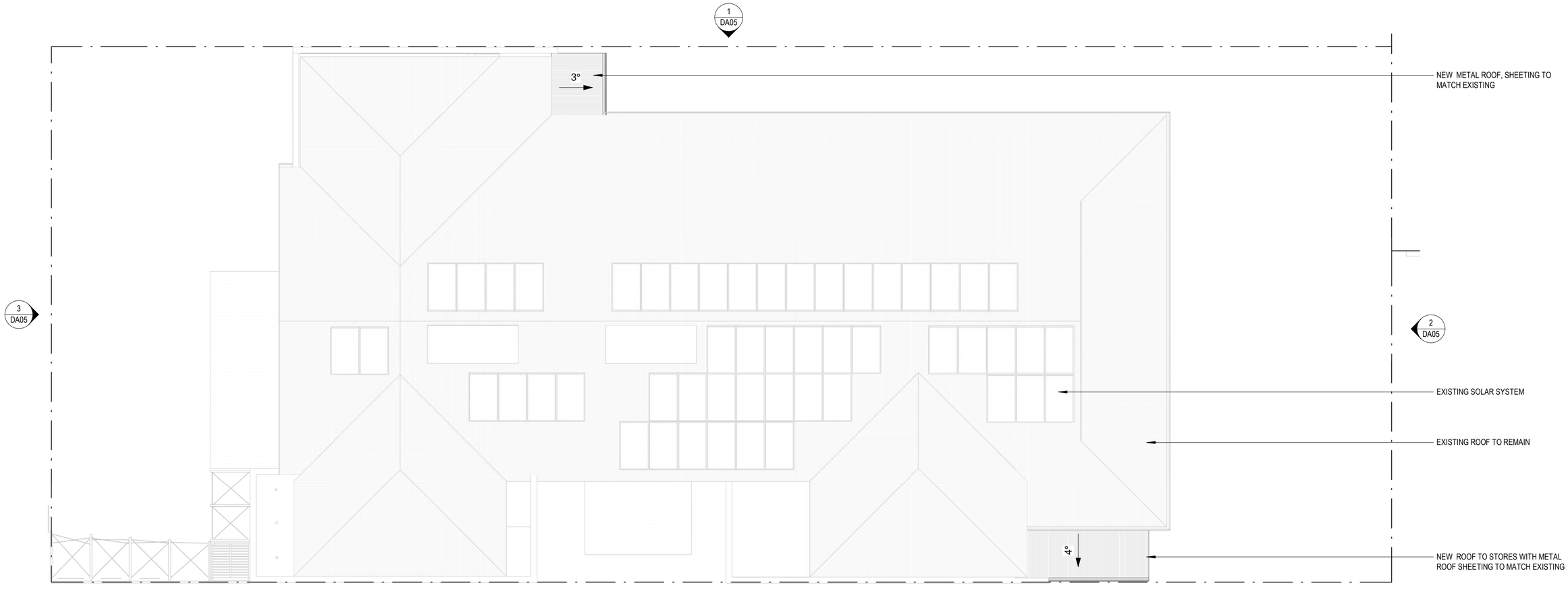
Project: **AKIDAMY - 34 CHERITON STREET**

Client: **AKIDAMY**

Drawing Title: **PLAN**

Job No: **PAR0099**

Drawing No: **DA02**



1 ROOF PLAN - SUMMERS STREET
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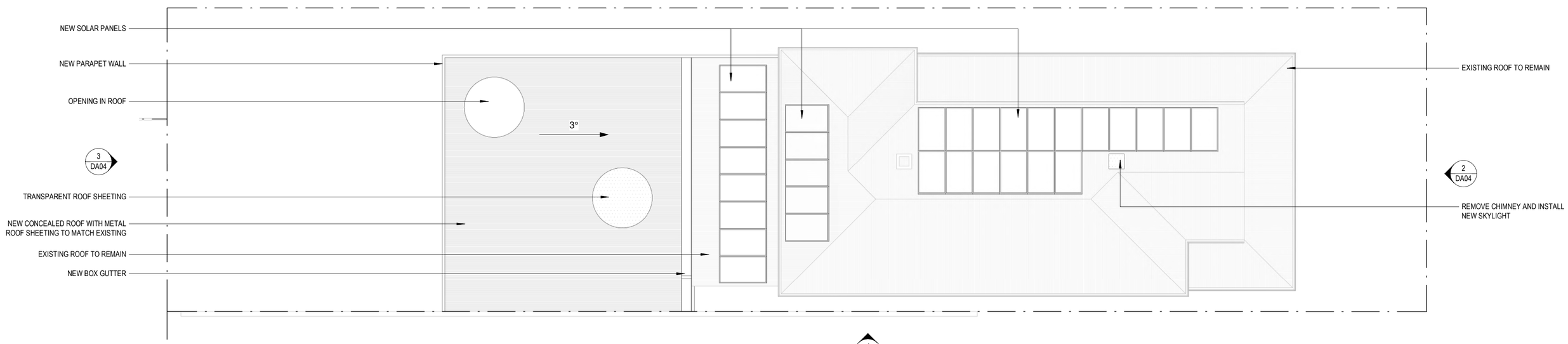
4
DA05

1
DA04



4
DA04

2 ROOF PLAN - CHERITON STREET
1 : 110

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REV	DATE	STATUS	ISSUED
1	23.09.22	DEVELOPMENT APPLICATION	SP

Scale: **1 : 110 @ A2**

Dr: SP | Chk: PH | Appvd: PH

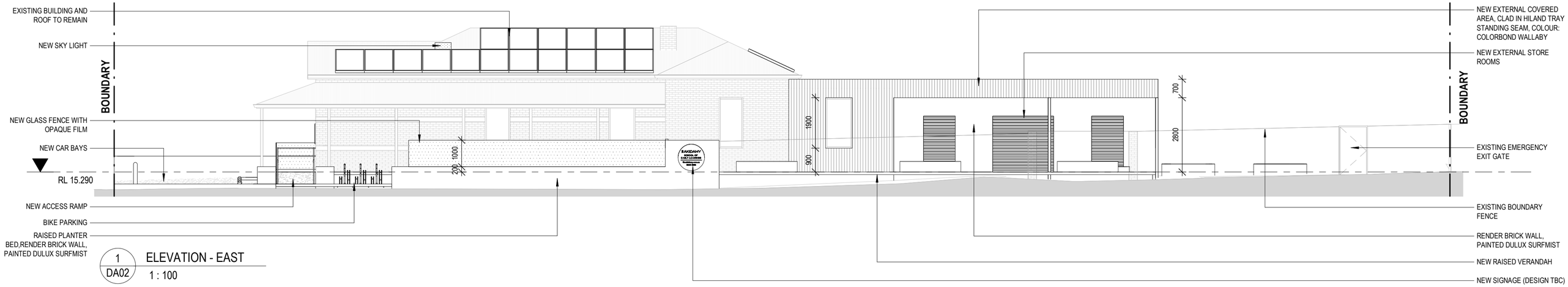
Project: **AKIDAMY - 34 CHERITON STREET**

Client: **AKIDAMY**

Drawing Title: **ROOF PLAN**

Job No: **PAR0099**

Drawing No: **DA03**



1 DA02 ELEVATION - EAST

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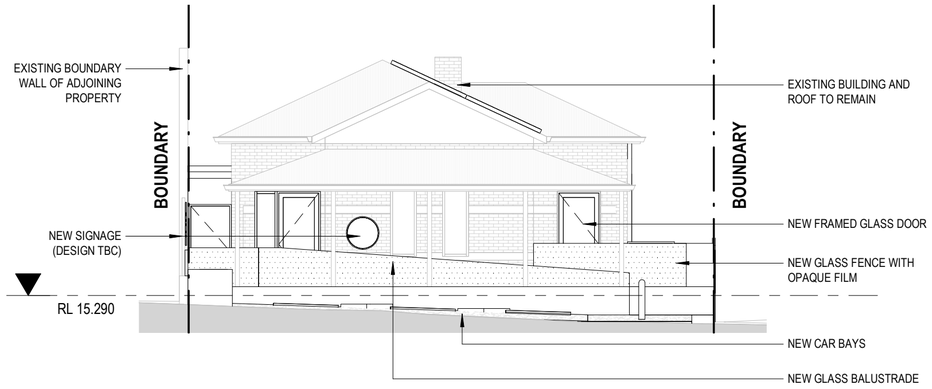

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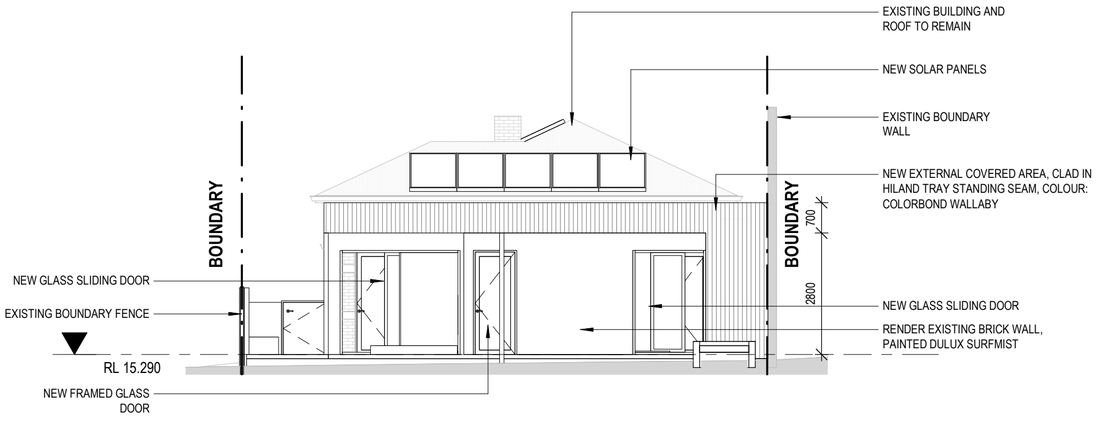

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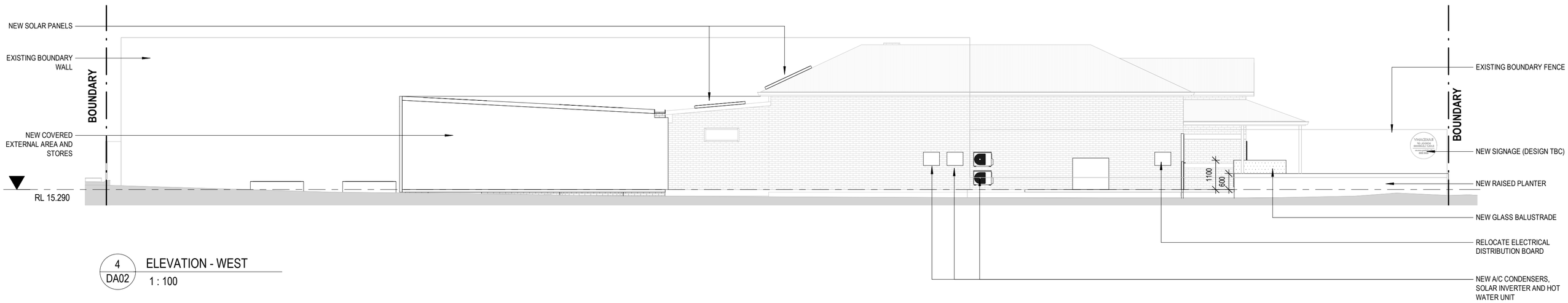

4 DA02 ELEVATION - WEST

1 : 100

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Dr: SP | Chk: PH | Appvd: PH

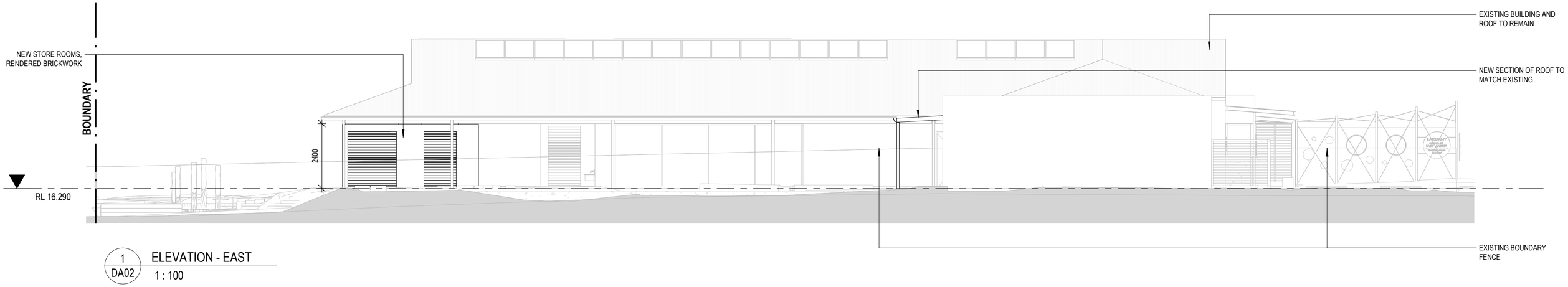
Project: **AKIDAMY - 34 CHERITON STREET**

Client: **AKIDAMY**

Drawing Title: **ELEVATIONS - CHERITON STREET**

Job No: **PAR0099**

Drawing No: **DA04**



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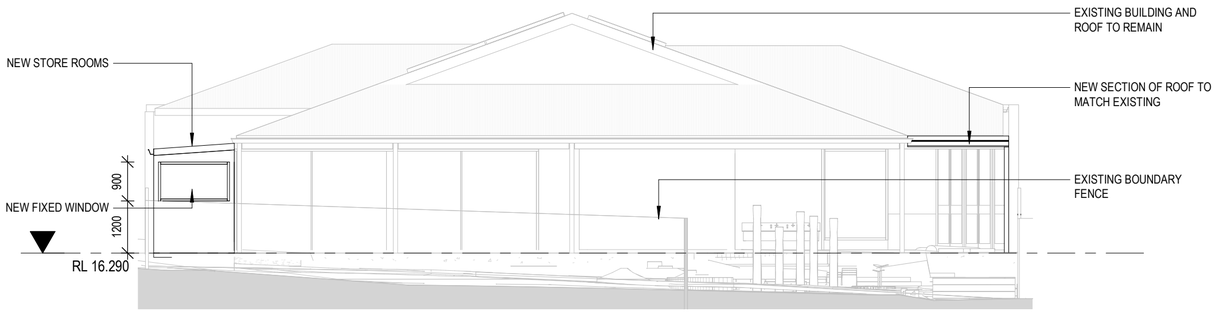

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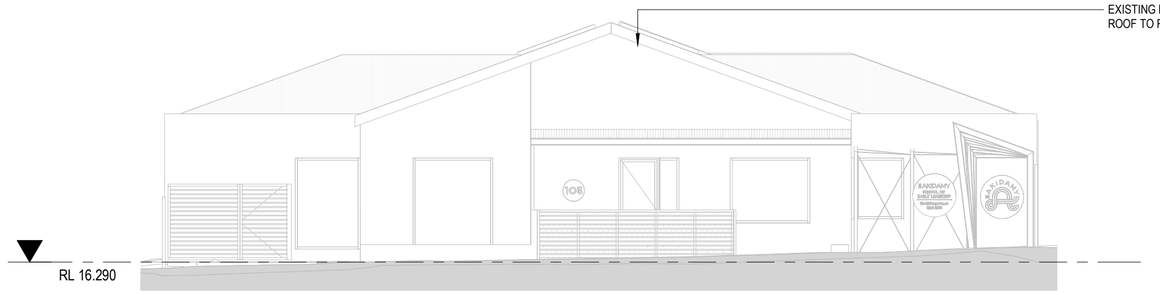

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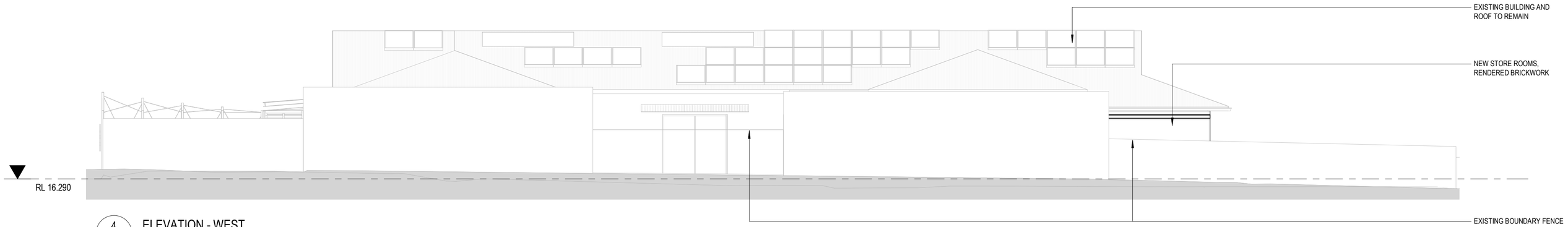

4 DA02 ELEVATION - WEST
1 : 100

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Scale: **1 : 100 @ A2**
Dr: SP | Chk: PH | Appvd: PH
Project: **AKIDAMY - 34 CHERITON STREET**
Drawing Title: **ELEVATIONS - SUMMERS STREET**
Client: **AKIDAMY**
Job No: **PAR0099**
Drawing No: **DA05**

FRONT PERSPECTIVE - ARTIST IMPRESSION

REAR PERSPECTIVE - ARTIST IMPRESSION

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1	23.09.22	DEVELOPMENT APPLICATION	SP

Scale: **@ A2**

Dr: SP | Chk: PH | Appvd: PH

Project: **AKIDAMY - 34 CHERITON STREET**

Drawing Title: **PERSPECTIVES**

Client: **AKIDAMY**

Job No: **PAR0099**

Drawing No: **DA06**

Appendix 2

Transport Planning and Traffic Plan

PARKS AND RECREATION
WATERWAYS
PUBLIC PURPOSE
SHOPPING AREA
ROAD
Hay Street STREET NAME
RAILWAY
UNDERGROUND RAILWAY
ROAD BRIDGE
LOCATION BOUNDARY
DISTANCE FROM LOCATION
NORTHBRIDGE LOCAL GOVERNMENT NAME
LOCAL AUTHORITY BOUNDARY
TRAIN TRANSFER
TRAIN STATION

LEGEND

No	DATE	AMENDMENT
C	08-09-2022	INFORMATION UPDATED
B	08-07-2016	KCTT LOCATION CHANGED
A	31-03-2016	ISSUED FOR REVIEW

PROJECT: LOT 38 (NO. 103-105) SUMMERS STREET AND LOT 1 (NO. 34) CHERITON STREET, PERTH

TITLE: LOCALITY PLAN - 800M RADIUS

DRAWING NUMBER: KC00482.000_ S01

DRAWN BY: J.S.

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PARKS AND RECREATION
WATERWAYS
PUBLIC PURPOSE
SHOPPING AREA
ROAD
Hay Street STREET NAME
RAILWAY
UNDERGROUND RAILWAY
ROAD BRIDGE
LOCATION BOUNDARY
DISTANCE FROM LOCATION
NORTHBRIDGE LOCAL GOVERNMENT NAME
LOCAL AUTHORITY BOUNDARY
TRAIN TRANSFER
TRAIN STATION
BIKE PARKING
TRAFFIC LIGHT
PSP PRINCIPAL SHARED PATH (PSP)
HIGH QUALITY SHARED PATH
OTHER SHARED PATH (SHARED BY PEDESTRIANS & CYCLISTS)
GOOD ROAD RIDING ENVIRONMENT
BICYCLE LANES OR SEALED SHOULDER EITHER SIDE
NW12 PERTH BICYCLE NETWORK (PBN) - CONTINUOUS SIGNED ROUTES
WALKING TRAIL

LEGEND

No	DATE	AMENDMENT
C	08-09-2022	INFORMATION UPDATED
B	08-07-2016	KCTT LOCATION CHANGED
A	31-03-2016	ISSUED FOR REVIEW

PROJECT: LOT 38 (NO. 103-105) SUMMERS STREET AND LOT 1 (NO. 34) CHERITON STREET, PERTH

TITLE: BICYCLE NETWORK PLAN - 800M RADIUS

DRAWING NUMBER: KC00482.000_ S02

DRAWN BY: J.S.

Civil & Traffic Engineering Consultants
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PARKS AND RECREATION
WATERWAYS
PUBLIC PURPOSE
SHOPPING AREA
ROAD
Hay Street STREET NAME
RAILWAY
UNDERGROUND RAILWAY
ROAD BRIDGE
LOCATION BOUNDARY
DISTANCE FROM LOCATION
NORTHBRIDGE LOCAL GOVERNMENT NAME
LOCAL AUTHORITY BOUNDARY
TRAIN TRANSFER
TRAIN STATION
BUS ROUTES
103 BUS ROUTE NUMBER
HIGHFREQUENCY BUS ROUTE
990 HIGHFREQUENCY BUS ROUTE NUMBER
YELLOW CAT ROUTE

41 BAYSWATER - ESPLANADE BUSPORT
42 ESPLANADE BUSPORT - MAYLANDS
48 ESPLANADE BUSPORT - MORLEY BUS STATION
55 ESPLANADE BUSPORT - BASSENDEAN
66 MORLEY BUS STN - PERTH VIA BEAUFORT STREET
67 MLRRABOOKA BUS STN - PERTH VIA GRAND PROMENADE
68 MIRRABOOKA BUS STN - PERTH VIA LENNARD ST REET
950 MORLEY BUS STN - QEII MEDICAL CENTRE VIA BEAUFORT ST, PERTH & UWA

LEGEND

No	DATE	AMENDMENT
C	08-09-2022	INFORMATION UPDATED
B	08-07-2016	KCTT LOCATION CHANGED
A	31-03-2016	ISSUED FOR REVIEW

PROJECT: LOT 38 (NO. 103-105) SUMMERS STREET AND LOT 1 (NO. 34) CHERITON STREET, PERTH

DRAWN BY: J.S.

TITLE: PUBLIC TRANSPORT PLAN - 800M RADIUS

DRAWING NUMBER: KC00482.000_ S03

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PARKS AND RECREATION
WATERWAYS
PUBLIC PURPOSE
SHOPPING AREA
ROAD
Hay Street STREET NAME
RAILWAY
UNDERGROUND RAILWAY
ROAD BRIDGE
LOCATION BOUNDARY
DISTANCE FROM LOCATION
NORTHBRIDGE LOCAL GOVERNMENT NAME
LOCAL AUTHORITY BOUNDARY
TRAIN TRANSFER
TRAIN STATION
PSP PRINCIPAL SHARED PATH (PSP)
HIGH QUALITY SHARED PATH
OTHER SHARED PATH (SHARED BY PEDESTRIANS & CYCLISTS)
PEDESTRIAN PATH WITHIN 400M RADIUS FROM THE SUBJECT LOCATION
WALKING TRAIL

LEGEND

No	DATE	AMENDMENT
C	08-09-2022	INFORMATION UPDATED
B	08-07-2016	KCTT LOCATION CHANGED
A	31-03-2016	ISSUED FOR REVIEW

PROJECT: LOT 38 (NO. 103-105) SUMMERS STREET AND LOT 1 (NO. 34) CHERITON STREET, PERTH

TITLE: PEDESTRIAN PATHS PLAN - 800M RADIUS

DRAWING NUMBER: KC00482.000_ S04

DRAWN BY: J.S.

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PARKS AND RECREATION
WATERWAYS
PUBLIC PURPOSE
SHOPPING AREA
ROAD
Hay Street STREET NAME
RAILWAY
UNDERGROUND RAILWAY
ROAD BRIDGE
LOCATION BOUNDARY
DISTANCE FROM LOCATION
NORTHBRIDGE LOCAL GOVERNMENT NAME
LOCAL AUTHORITY BOUNDARY
TRAIN TRANSFER
TRAIN STATION
5,512 NUMBER OF VEHICLES PER DAY
AM 1145 – 381 NUMBER OF VEHICLES PER AM PEAK HOUR
PM 1630 – 480 NUMBER OF VEHICLES PER PM PEAK HOUR
2014 YEAR
EAST OF HARLOW ROAD LOCATION

LEGEND

No	DATE	AMENDMENT
D	20-09-2022	INFORMATION UPDATED
C	08-09-2022	INFORMATION UPDATED
B	08-07-2016	KCTT LOCATION CHANGED
A	31-03-2016	ISSUED FOR REVIEW

PROJECT: LOT 38 (NO. 103-105) SUMMERS STREET AND LOT 1 (NO. 34) CHERITON STREET, PERTH

TITLE: EXISTING TRAFFIC COUNTS - 800M RADIUS

DRAWING NUMBER: KC00482.000_ S05

DRAWN BY: J.S.

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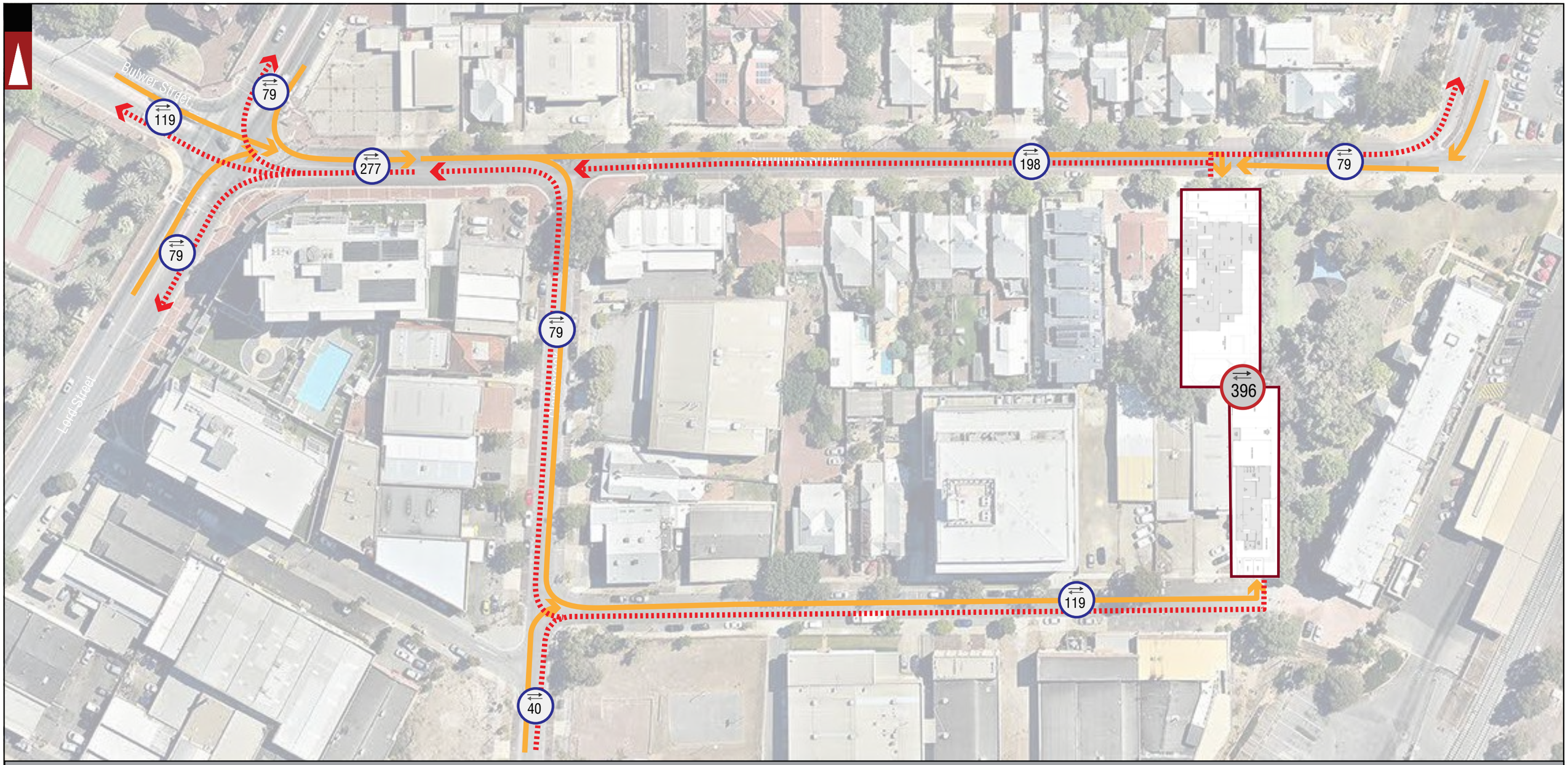

LOCATION BOUNDARY

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 COURTEOUSY OF P.A.I.D.

LEGEND

No	DATE	AMENDMENT
F	08-09-2022	PROPOSED LAYOUT AMENDED
E	13-07-2016	PROPOSED LAYOUT AMENDED
D	08-07-2016	PROPOSED LAYOUT AMENDED
C	27-05-2016	PROPOSED LAYOUT AMENDED

PROJECT:
LOT 38 (NO. 103-105) SUMMERS STREET AND LOT 1 (NO. 34) CHERITON STREET, PERTH

TITLE:
TRAFFIC FLOW DIAGRAM - DAILY

DRAWING NUMBER:
KC00482.000_ S06

DRAWN BY:
J.S.

Civil & Traffic Engineering Consultants
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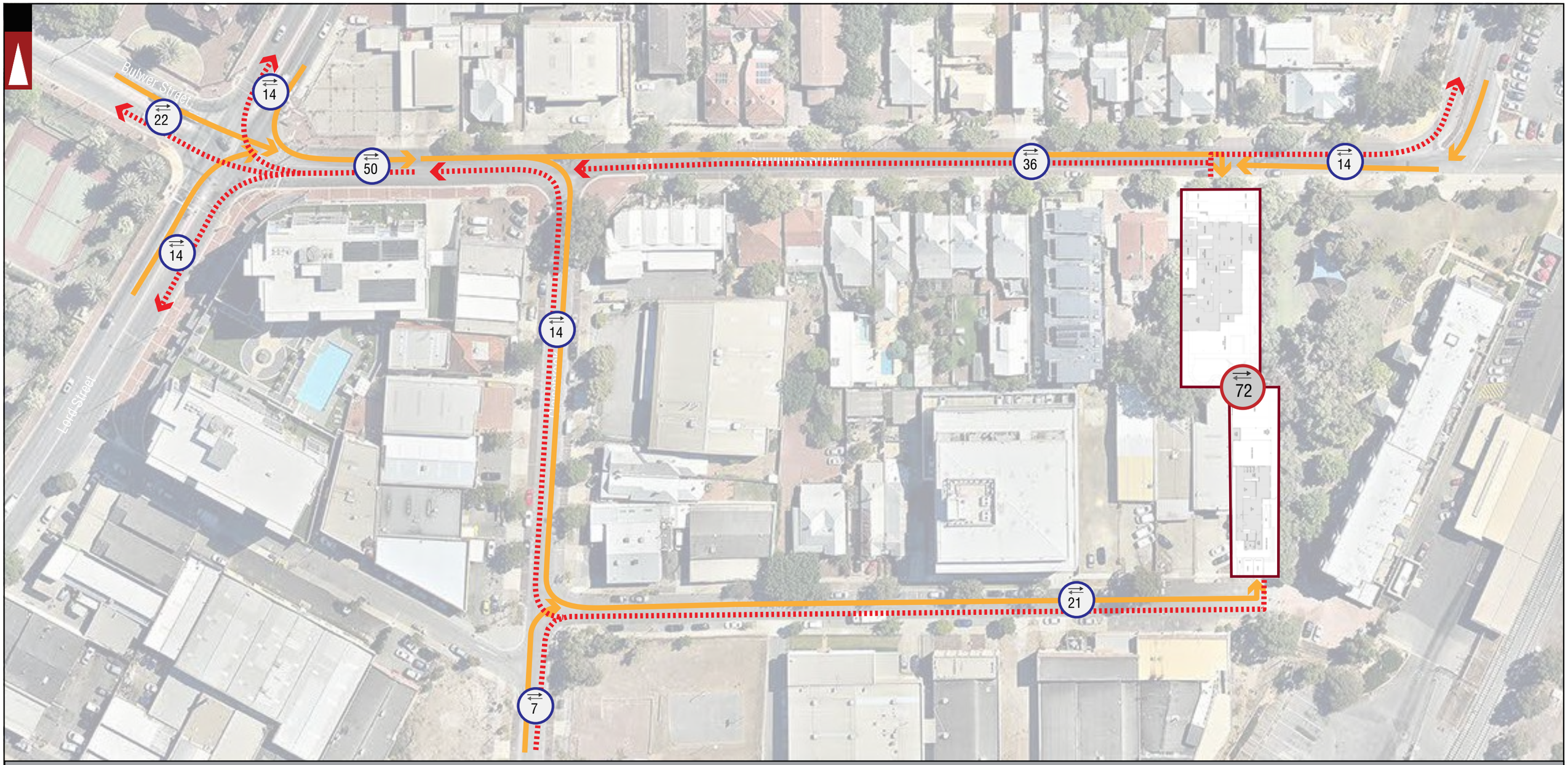

LOCATION BOUNDARY

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 COURTEOUSY OF P.A.I.D.

LEGEND

No	DATE	AMENDMENT
F	08-09-2022	PROPOSED LAYOUT AMENDED
E	13-07-2016	PROPOSED LAYOUT AMENDED
D	08-07-2016	PROPOSED LAYOUT AMENDED
C	27-05-2016	PROPOSED LAYOUT AMENDED

PROJECT:
LOT 38 (NO. 103-105) SUMMERS STREET AND LOT 1 (NO. 34) CHERITON STREET, PERTH

TITLE:
TRAFFIC FLOW DIAGRAM - AM PEAK

DRAWING NUMBER:
KC00482.000_ S07

DRAWN BY:
J.S.

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WEB: www.kctt.com.au

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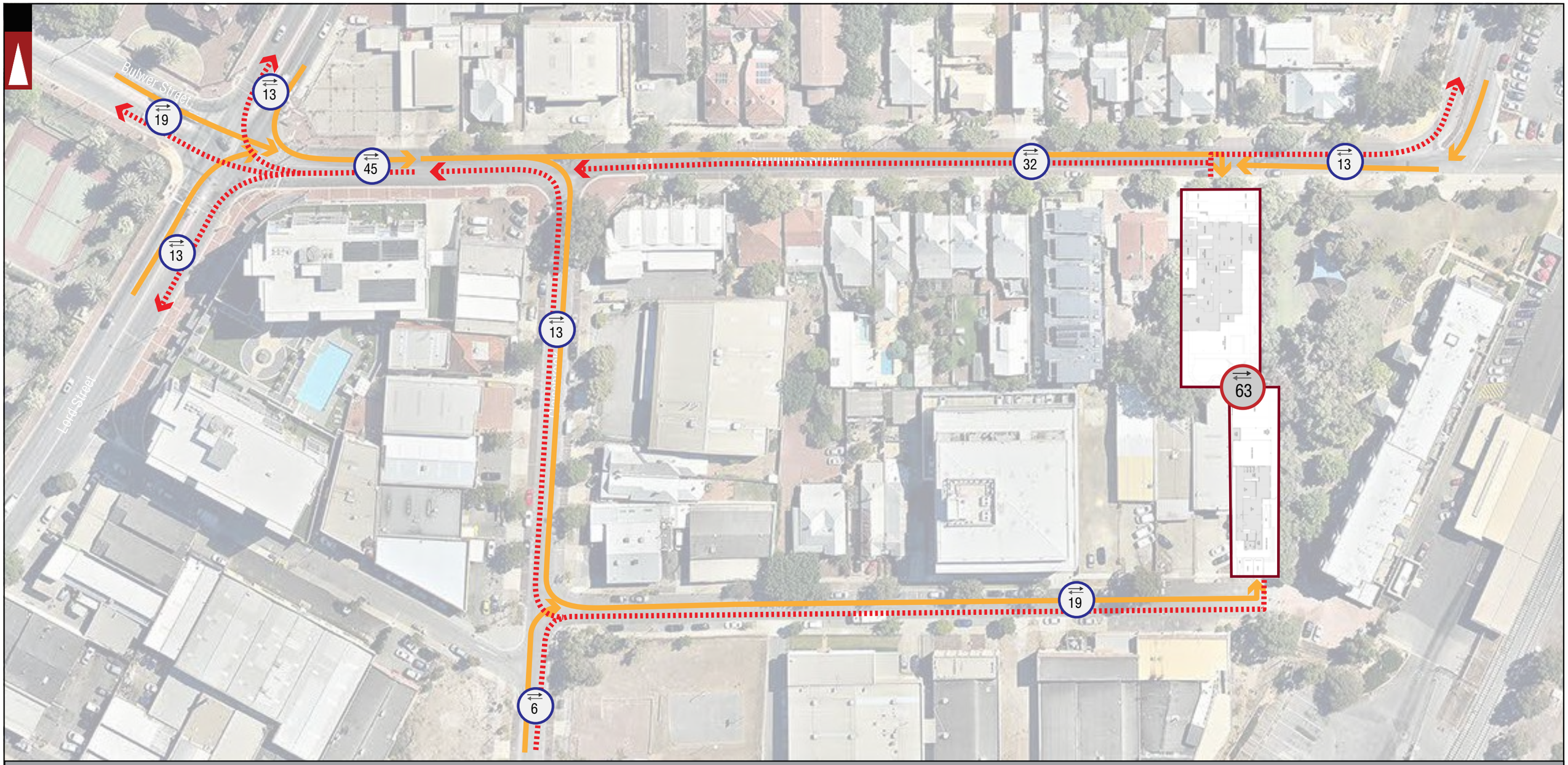

LOCATION BOUNDARY

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 COURTEOUSY OF P.A.I.D.

LEGEND

No	DATE	AMENDMENT
F	08-09-2022	PROPOSED LAYOUT AMENDED
E	13-07-2016	PROPOSED LAYOUT AMENDED
D	08-07-2016	PROPOSED LAYOUT AMENDED
C	27-05-2016	PROPOSED LAYOUT AMENDED

PROJECT:
LOT 38 (NO. 103-105) SUMMERS STREET AND LOT 1 (NO. 34) CHERITON STREET, PERTH

TITLE:
TRAFFIC FLOW DIAGRAM - PM PEAK

DRAWING NUMBER:
KC00482.000_ S08

DRAWN BY:
J.S.

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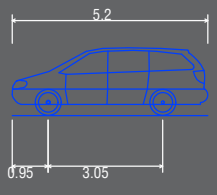
Appendix 3

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 Chasis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chasis Envelope (Reverse Vehicle Motion)

LEGEND

NO	DATE	AMENDMENT
H	20-09-2022	PROPOSED LAYOUT AMENDED
G	12-09-2022	PROPOSED LAYOUT AMENDED
F	29-07-2016	PROPOSED LAYOUT AMENDED
E	08-07-2016	PROPOSED LAYOUT AMENDED

PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m) - INBOUND

DRAWING NUMBER:
KC00482.000_S20a

DRAWN BY:
J.S.

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PH: 08 9441 2700
WEB: www.kctt.com.au
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NO	DATE	AMENDMENT
H	20-09-2022	PROPOSED LAYOUT AMENDED
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E	08-07-2016	PROPOSED LAYOUT AMENDED

PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m) - OUTBOUND

DRAWING NUMBER:
KC00482.000_S20b

DRAWN BY:
J.S.

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PO Box 1456 Scarborough WA 6922
PH: 08 9441 2700
WEB: www.kctt.com.au
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NO	DATE	AMENDMENT
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F	29-07-2016	PROPOSED LAYOUT AMENDED
E	08-07-2016	PROPOSED LAYOUT AMENDED

PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m) - INBOUND

DRAWING NUMBER:
KC00482.000_S21a

DRAWN BY:
J.S.

Civil & Traffic Engineering Consultants
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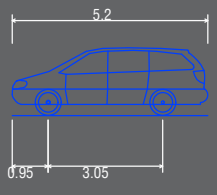

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Track Width	1.840m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.300m

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

LEGEND

NO	DATE	AMENDMENT
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E	08-07-2016	PROPOSED LAYOUT AMENDED

PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m) - OUTBOUND

DRAWING NUMBER:
KC00482.000_S21b

DRAWN BY:
J.S.

Civil & Traffic Engineering Consultants
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WEB: www.kctt.com.au
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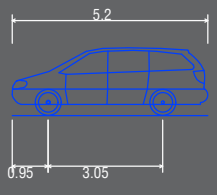

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- Lot boundary
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- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chasis Envelope (Reverse Vehicle Motion)

LEGEND

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PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m) - INBOUND

DRAWING NUMBER:
KC00482.000_S22a

DRAWN BY:
J.S.

Civil & Traffic Engineering Consultants
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PH: 08 9441 2700
WEB: www.kctt.com.au
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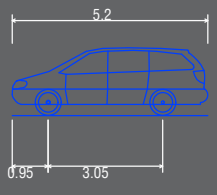

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Track Width	1.840m
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Kerb to Kerb Turning Radius	6.300m

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

LEGEND

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PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m) - OUTBOUND

DRAWING NUMBER:
KC00482.000_S22b

DRAWN BY:
J.S.

Civil & Traffic Engineering Consultants
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PH: 08 9441 2700
WEB: www.kctt.com.au
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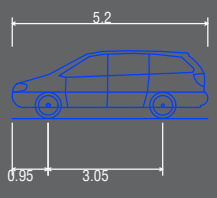

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- Lot boundary
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- Vehicle Chasis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
- Vehicle Chasis Envelope (Reverse Vehicle Motion)

LEGEND

NO	DATE	AMENDMENT
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F	29-07-2016	PROPOSED LAYOUT AMENDED
E	08-07-2016	PROPOSED LAYOUT AMENDED

PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m) - INBOUND

DRAWING NUMBER:
KC00482.000_S23a

DRAWN BY:
J.S.

Civil & Traffic Engineering Consultants
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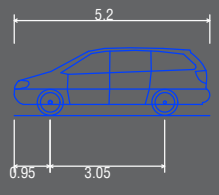
PH: 08 9441 2700
WEB: www.kctt.com.au
kctt



Passenger vehicle (5.2 m)	
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Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.300m

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

LEGEND

NO	DATE	AMENDMENT
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E	08-07-2016	PROPOSED LAYOUT AMENDED

PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m) - OUTBOUND

DRAWING NUMBER:
KC00482.000_S23b

DRAWN BY:
J.S.

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WEB: www.kctt.com.au
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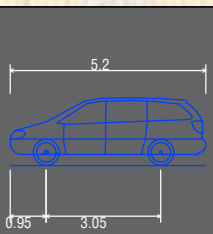

Passenger vehicle (5.2 m)	
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Overall Body Height	1.804m
Min Body Ground Clearance	0.295m
Track Width	1.840m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.300m

Lot boundary

Wheel Path (Forward Vehicle Motion)

Vehicle Chasis Envelope (Forward Vehicle Motion)

Wheel Path (Reverse Vehicle Motion)

Vehicle Chasis Envelope (Reverse Vehicle Motion)

LEGEND

NO	DATE	AMENDMENT
H	20-09-2022	PROPOSED LAYOUT AMENDED
G	12-09-2022	PROPOSED LAYOUT AMENDED
F	29-07-2016	PROPOSED LAYOUT AMENDED
E	08-07-2016	PROPOSED LAYOUT AMENDED

PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER:
KC00482.000_S24

DRAWN BY:
J.S.

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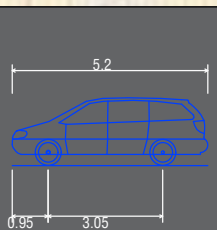
PO Box 1456 Scarborough WA 6922
PH: 08 9441 2700
WEB: www.kctt.com.au



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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 Chasis Envelope (Forward Vehicle Motion)

Wheel Path (Reverse Vehicle Motion)

Vehicle Chasis Envelope (Reverse Vehicle Motion)

LEGEND

NO	DATE	AMENDMENT
H	20-09-2022	PROPOSED LAYOUT AMENDED
G	12-09-2022	PROPOSED LAYOUT AMENDED
F	29-07-2016	PROPOSED LAYOUT AMENDED
E	08-07-2016	PROPOSED LAYOUT AMENDED

PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER:
KC00482.000_S25

DRAWN BY:
J.S.

Civil & Traffic Engineering Consultants
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PH: 08 9441 2700
WEB: www.kctt.com.au

Attachment 7

Acoustic Report and State Planning Policy No. 5.4 – Road and Rail Noise Management Plan

19/12/2022

KC00482.000 L03– Addenda to Transport Impact Statement

Attn: Michael Sebbag
Beverley Group

c/o Nathan Stewart

Rowe Group
Level 3 369 Newcastle Street,
Northbridge WA 6003

RE: Addenda to Transport Impact Statement – Reduction of Parking on Cheriton Street

Michael / Nathan,

This letter is prepared as an addendum to the Transport Impact Statement prepared by KCTT on 20.09.2022 and should be read in conjunction with this document.

The abovementioned Transport Impact Statement looks into the anticipated traffic impact of the proposed expansion of Aikidamy Childcare Centre to include No 34 Cheriton Street. With this expansion, the capacity of the childcare centre will be expanded from 63 to 90 children. The proposal features two vehicular access points on Cheriton Street and Summers Street, therefore already low traffic impact is further dispersed. The original proposal showed three (3) parking spaces on Cheriton Street, inclusive of an ACROD bay. Initial comments from the City of Vincent expressed concern that three parking bays may have a negative impact on Cheriton Street visual appeal, and it was requested that KCTT review feasibility of reducing the number of parking bays in lieu of expanded vegetation areas.

The subject site is located within the Perth Parking Management Area; therefore, this document determines the quantum of parking. In contrast to the common parking requirement policies, Perth Parking Management Plan stipulates maximum required quantum of parking instead of minimum parking requirements.

According to the Perth Parking Management Plan, the maximum parking provision for this development is 33 parking bays, while the proponent is not technically required to provide parking (there is no minimum requirement). The proposed development will feature six (6) parking bays, with four (4) existing bays on Summers Street and an additional two (2) bays on Cheriton Street, inclusive of an ACROD bay.

As discussed on page 15 (Section 2.7) of the Transport Impact Statement, under the most conservative assumptions (approximately 95% of children in attendance, each child picked up and dropped off in a separate vehicle and no siblings in the centre), a total of six (6) parking bays can cater for pick up and drop off function. Given that the centre is already in operation and that data on transportation methods are available (through continuous surveys conducted by the management), approximately 30% of the patrons walk or cycle to the centre regularly. Coupled with concrete financial incentives to the staff to take advantage of ample public and/or transport opportunities in vicinity, it is reasonable to assume that the proposed six (6) parking bays will cater to the development's requirements

appropriately. Furthermore, both Cheriton Street and Summers Street have ample on-street parking which can aid the pick up and drop off if need be.

The facility on Summers Street successfully operated for several years, catering for up to 63 children with four (4) on-site parking bays. To our knowledge, no incident or complaint was recorded or filed with the operator or the City of Vincent pertaining to the traffic and parking associated with the facility. This provision would equate to a provision ratio of one (1) parking bay to 15.75 children. In a similar manner, provision of 6 (six) parking bays for 90 children equates to the ratio of one (1) parking bay to 15 children, therefore, the ratio of provision is increased. The proponent will provide an additional three (3) bicycle racks.

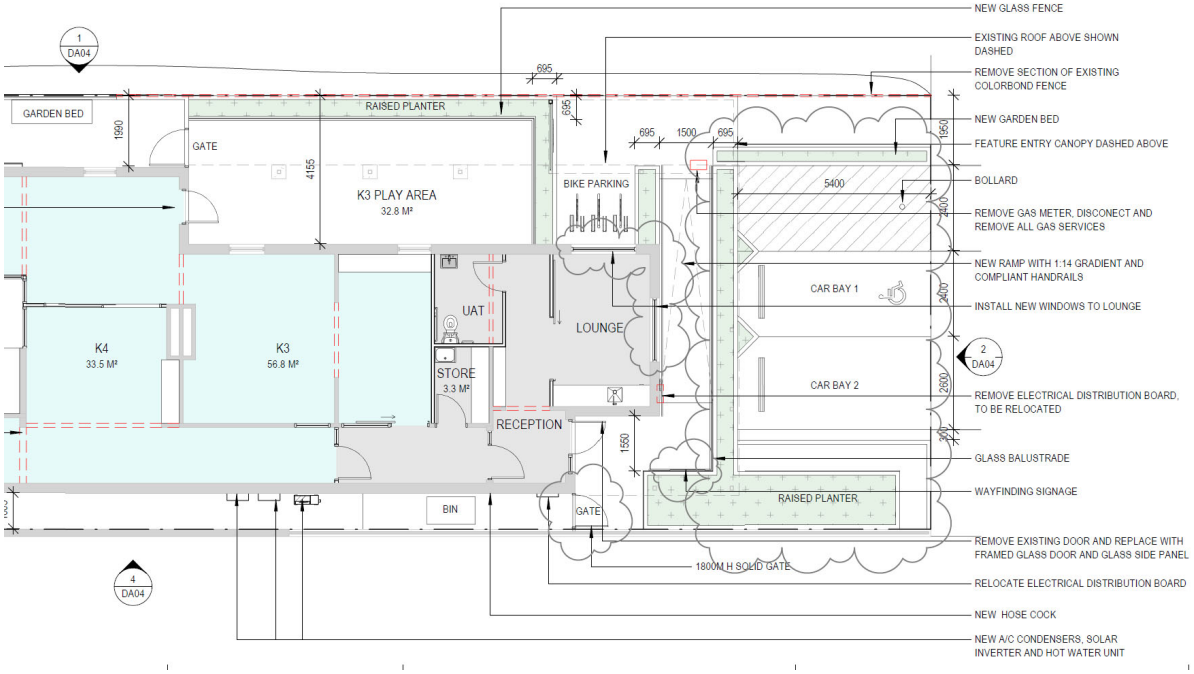


Figure 1 - Revision 4 (19.12.2022) plans - proposed parking configuration on Cheriton Street

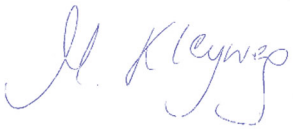
As shown in the figure above, the proposed parking is fully compliant to AS2890.01 requirements. The proposed visitors' bay is 2.6m wide, corresponding to a Class 3, high turnover bay. In addition to this, 0.3m is left between the edge of the bay and the raised planter to ensure that the door can open easily.

ACROD parking bay is proposed in line with the AS2890.06 requirements (2.4m wide with additional 2.4m wide shared space). Both parking bays are directly accessible from the crossover on Cheriton Street.

In summary, having in mind the opportunities for alternative access to the location and already established patterns of travel, we believe that the proposal of six (6) parking bays will be sufficient to cater for the requirements of future Aikidamy facilities.

If you have any further queries, please don't hesitate to contact us.

Regards,



Marina Kleyweg

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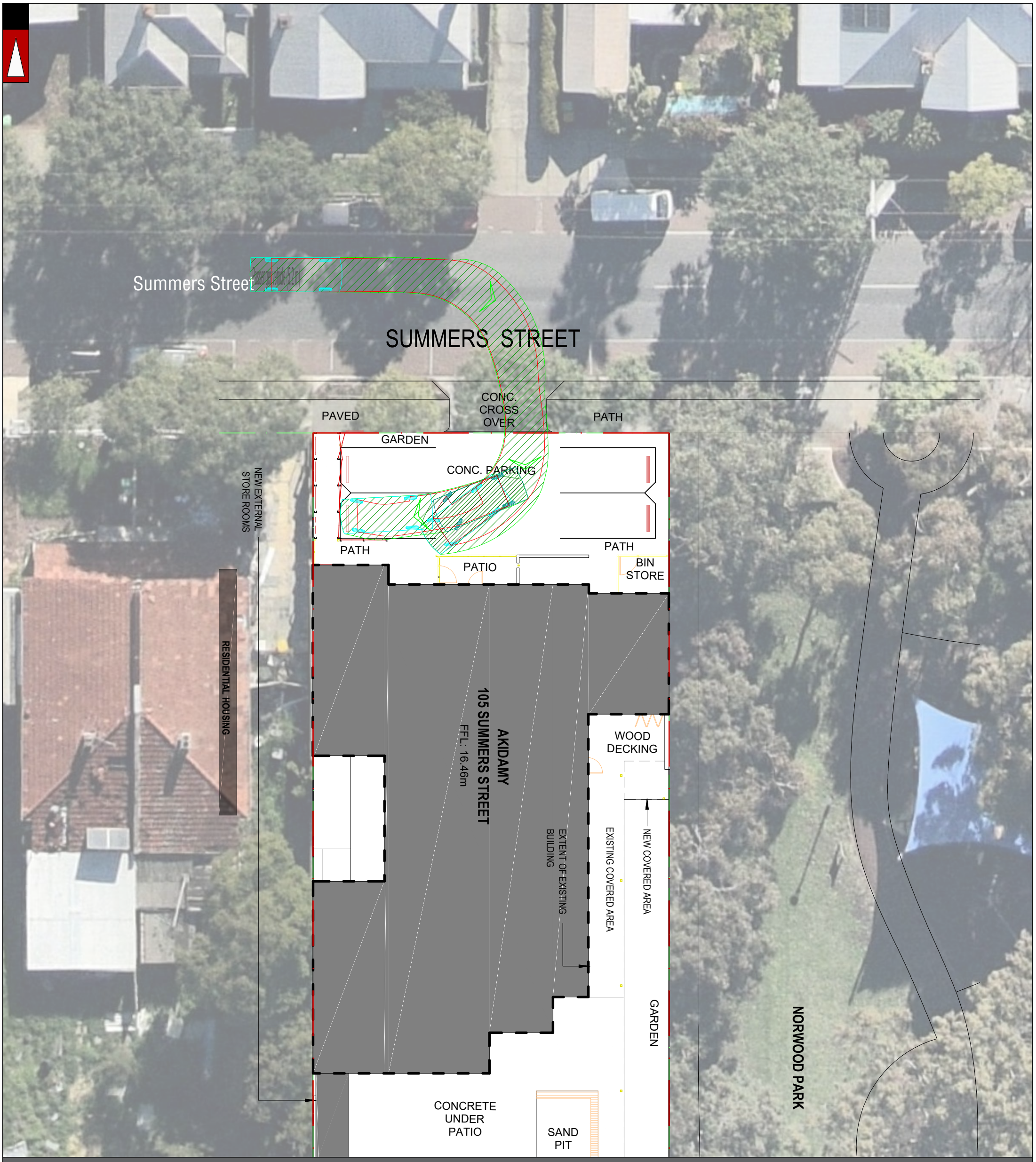
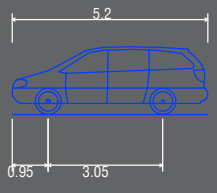
Appendix 3

Vehicle Turning Circle Plan





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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 Chasis Envelope (Forward Vehicle Motion)
- Wheel Path (Reverse Vehicle Motion)
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PROJECT:
Lot 38 (No. 103-105) Summers Street and Lot 1 (No. 34) Cheriton Street, Perth

TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m) - INBOUND

DRAWING NUMBER:
KC00482.000_S20a

DRAWN BY:
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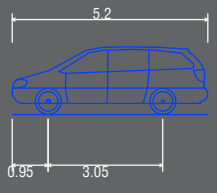

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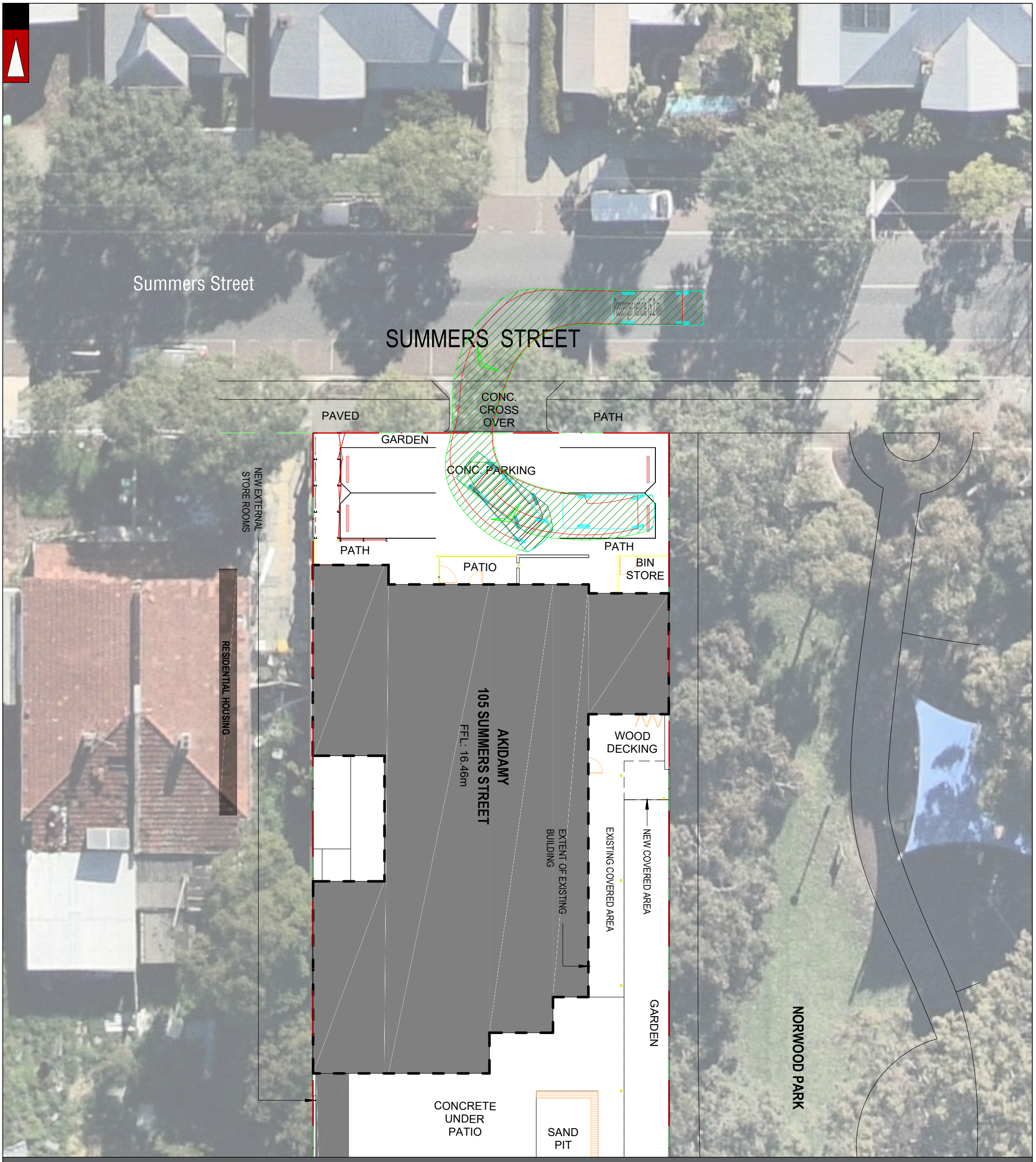

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Summers Street

SUMMERS STREET

PAVED

CONC. CROSS OVER

PATH

GARDEN

CONC. PARKING

PATH

PATH

PATIO

BIN STORE

NEW EXTERNAL STORE ROOMS

RESIDENTIAL HOUSING

AKIDAMY
105 SUMMERS STREET
FFL: 16.46m

WOOD DECKING

EXTENT OF EXISTING BUILDING

EXISTING COVERED AREA

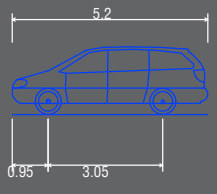
NEW COVERED AREA

GARDEN

NORWOOD PARK

CONCRETE UNDER PATIO

SAND PIT



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Vehicle Chasis Envelope (Forward Vehicle Motion)

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Summers Street

SUMMERS STREET

PAVED

CONC. CROSS OVER

PATH

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PATH

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BIN STORE

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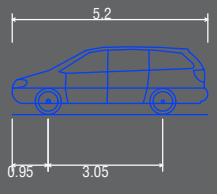

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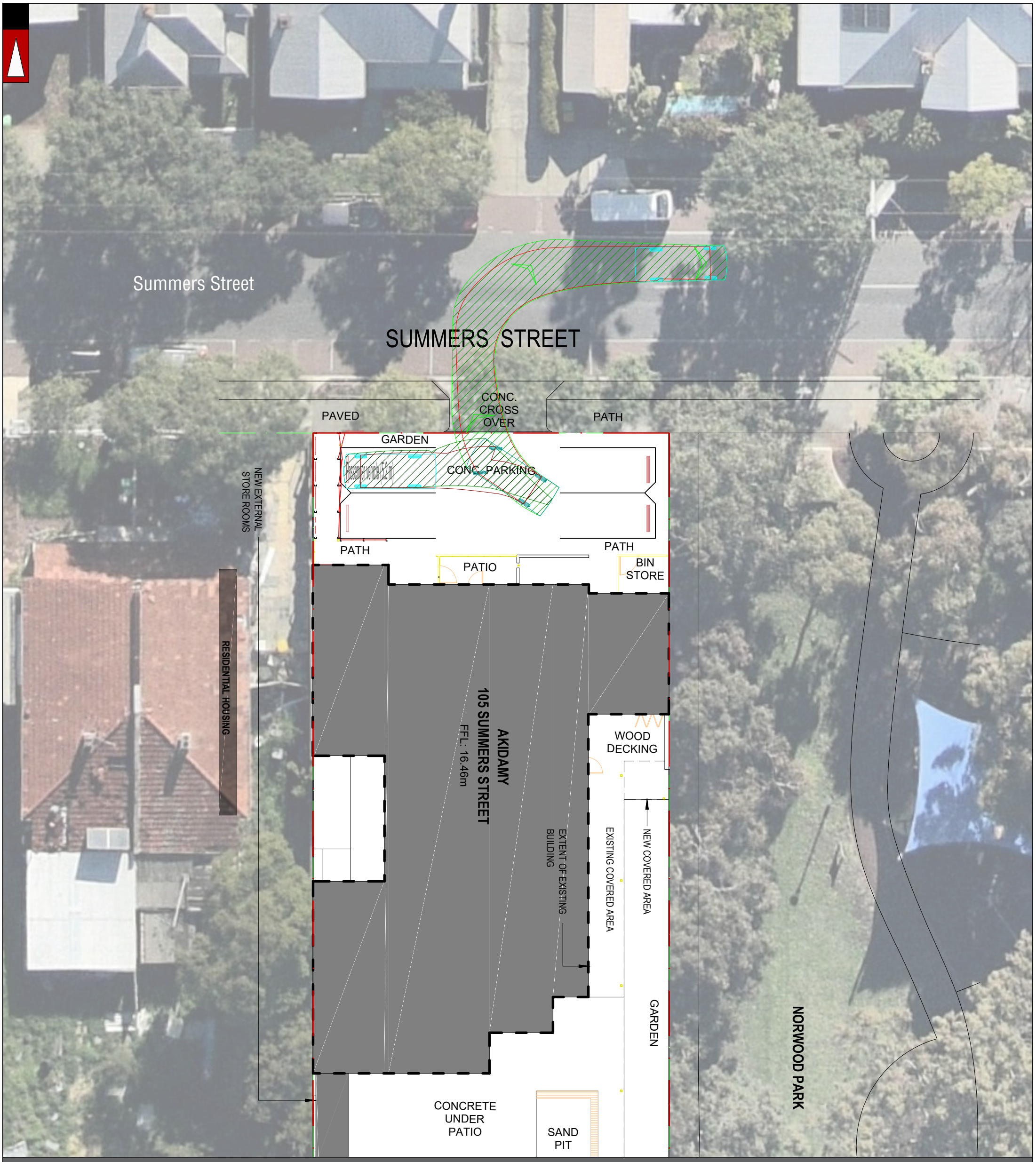

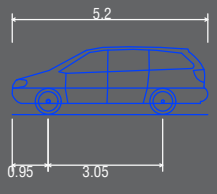

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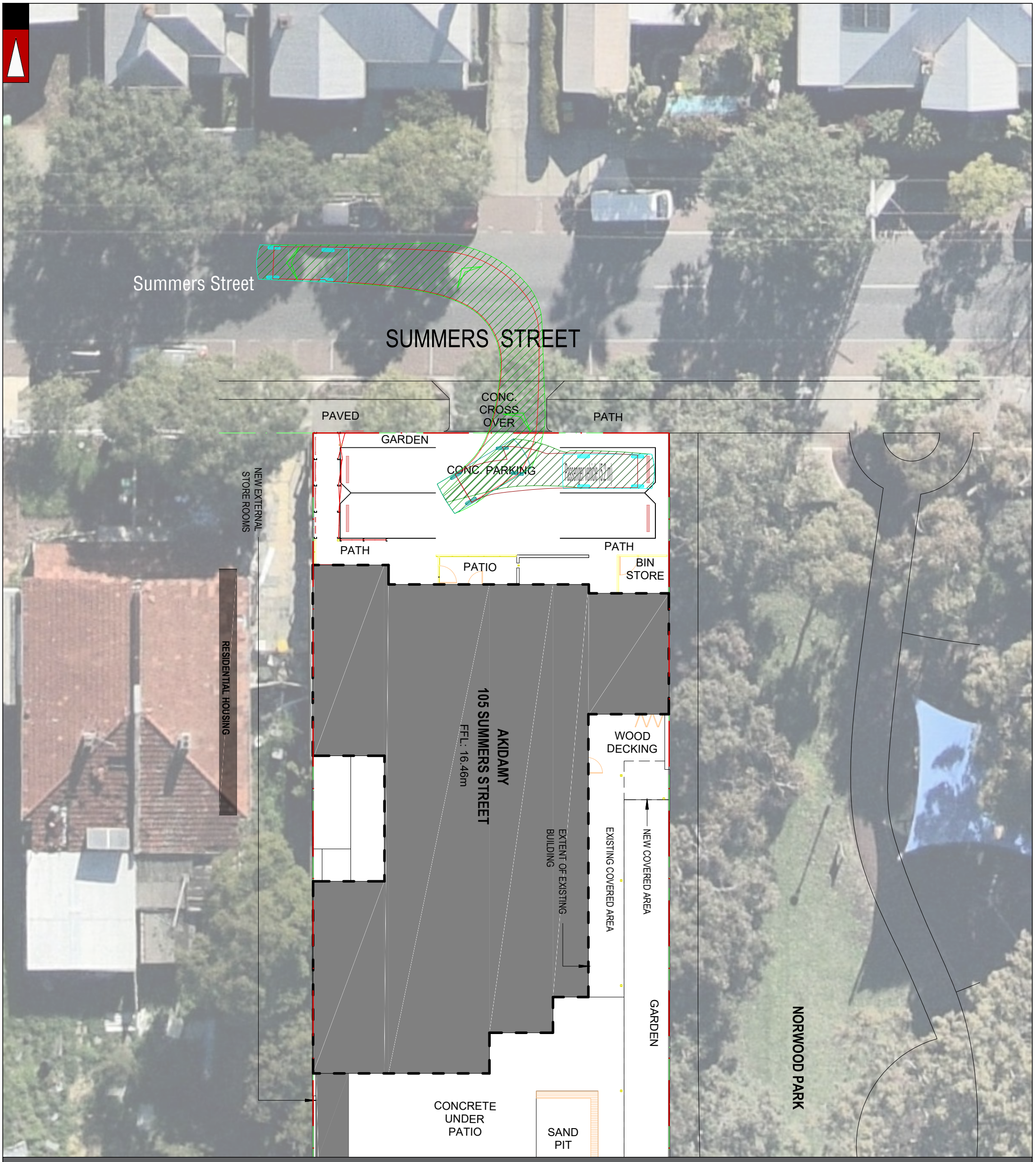

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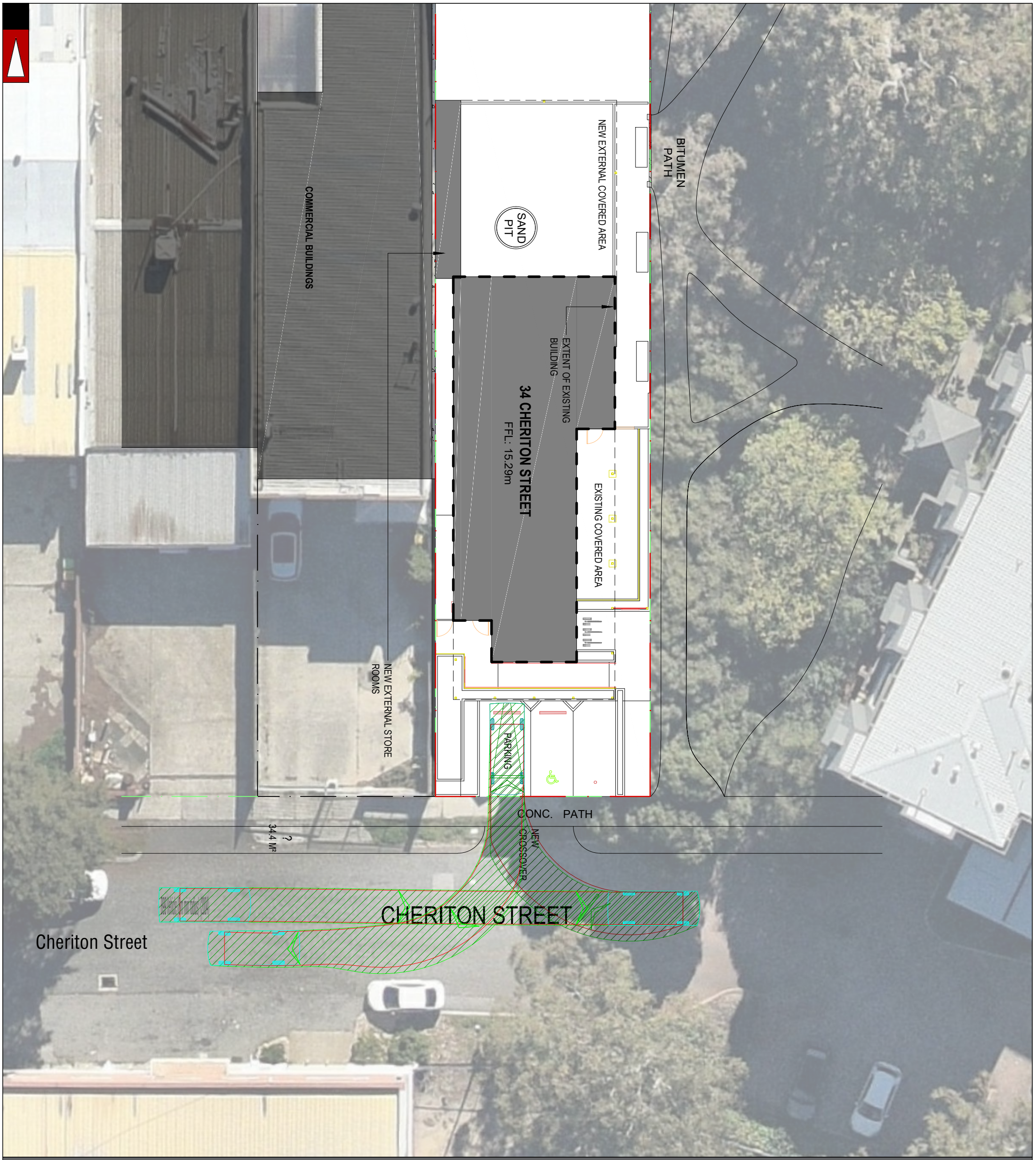

5.2
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3.05

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TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER:
KC00482.000_S24

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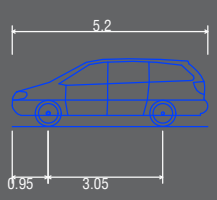

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Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER:
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