TRANSPORT IMPACT STATEMENT

No 67 Berwick Street,

Victoria Park

August 2023

Rev C

kctt

HISTORY AND STATUS OF THE DOCUMENT

Revision	Date issued	Reviewed by	Approved by	Date approved	Revision type
Rev A	20.12.2022	M Kleyweg	M Kleyweg	20.12.2022	Issued for Review
Rev B	24.01.2023	M Kleyweg	M Kleyweg	24.01.2023	Issued for Review
Rev C	18.08.2023	M Kleyweg	M Kleyweg	18.08.2023	Proposed layout amended

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1. Executive Summary

Site Context

- The subject site is fronting Berwick Street to the east. Currently, it is occupied by a single residential dwelling with ancillary facilities, located in a predominantly residential area.

- Proponent seeks to construct a childcare centre with capacity for up to 50 children at any time. Proposed development plans are enclosed in Appendix 1.

Technical Findings

- KCTT have checked the proposed internal parking area with B99 Passenger Vehicle (5.2m) and B85 Passenger Vehicle (4.92m). No major navigability issues were found. KCTT would suggest keeping the landscape low to allow clear sights and visibility of the parking bays on site. Plans are enclosed in Appendix 3.

- KCTT believe that a childcare centre does not require a specific bay for delivery and service vehicles. All deliveries can be conducted outside of peak hours of operation. The delivery vehicles are not expected to be larger than the largest passenger vehicle. The waste collection vehicle should service the site once a week with an on-street pick-up. The bin store will be located at the rear end of the parking area.

Relationship with Policies

- Parking Provision – The plans for the proposed development show a total of 10 car parking bays provided on-site, inclusive of 9 standard and 1 ACROD bay. This is in line with the statutory requirement prescribed in Local Planning Policy 23 - Parking Policy.

- Building Code of Australia ACROD Provision – The proposed plans show 1 ACROD bay, meeting the requirements outlined by the Building Code of Australia.

Conclusion

- The subject development is expected to generate additional 209 daily vehicular trips, 39 vehicle trips in the AM peak and 34 vehicle trips in the PM peak hour.

- 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.

- Berwick Street is classified as Distributor A as per MRWA classification with the indicative traffic volume above 8,000 vehicles per day. Currently, there are around 17,000 vehicles per day on weekdays on a section of Berwick Street in proximity of the subject development location.

  Therefore, the additional traffic from the subject site is less than 1.5% of the existing traffic volume on this road.

  Other surrounding roads would absorb significantly less traffic than Berwick Street, moreover, the traffic would be dispersed so that the impact can be considered negligible. 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

Germano Designs engaged KCTT to prepare a Transport Impact Statement (TIS) for the proposed Childcare Centre on Lot 1177 (No.67) Berwick Street, Victoria Park.

The proposed development would be accessed via crossover on Berwick Street

This report will primarily address the level of traffic 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	1177
Street Number	67
Road Name	Berwick Street
Suburb	Victoria Park
Description of Site	The subject site is fronting Berwick Street to the east. Currently, it is occupied by a single residential dwelling with ancillary facilities, located in a predominantly residential area. Proponent is seeking to construct a childcare centre with capacity for a maximum of 50 children at the time. Proposed development plans are enclosed in Appendix 1 for clarity.

2.3 Technical Literature Used

Local Government Authority	Town of Victoria Park
Type of Development	Individual - 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, Nominae:	
Name and Number of Scheme	Local Planning Scheme No. 1 (Updated to include AMD 85 GG 27/04/2021)
Are Austroads documents referenced?	YES
Are there applicable DAP schemes for this type of development?	NO

2.4 Land Uses

Are there any existing Land Uses	YES
If YES, Nominate:	Single residential dwelling with ancillary facilities

Proposed Land Uses	
How many types of land uses are proposed?	One (1)
Nominate land use type and yield	**Childcare Centre** • Up to 50 children • Assumed up to 8 staff members present on site at any one time.
Are the proposed land uses complementary with the surrounding land-uses?	YES The subject lot is designated as ''Residential R30'' in the Town of Victoria Park Local Planning Scheme No.1. It is surrounded by residential lots on all sides and situated within Precinct Plan ''**P5** - Raphael Precinct''.

2.5 Local Road Network Information

How many roads front the subject site? 1

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

Road Name	**Berwick Street**
Number of Lanes	two way, one lane per direction, divided
Road Reservation Width	App. 20m
Road Pavement Width	App.9m
Classification	Distributor A
Speed Limit	60kph
Bus Route	YES
If YES Nominate Bus Routes	72, 75, 284
On-street parking	NO

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

Road Name	**Cargill Street**
Number of Lanes	two way, one lane (no linemarking), undivided
Road Reservation Width	App. 20m
Road Pavement Width	App.7m
Classification	Access Road
Speed Limit	50kph or State Limit
Bus Route	NO
On-street parking	YES

2.6 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?*		
Berwick Street	East of Canning Highway (SLK 0.27)	16,584	08:00 – 1,317	16:45 – 1,410	4.4%	2018/ 19	–
	Geddes Street to Cargill Street*	16,520	n/a	n/a	n/a	May 2021	–
	East of McMillan Street (SLK 1.15)	19,378	08:00 – 1,321	15:15 – 1,639	4.9%	2021/ 22	–
Canning Highway	North of Berwick Street (SLK 0.47)	41,798	07:45 – 3,458	16:45 – 4,169	6.4	2020/ 21	–
	South of Berwick Street (SLK 1.05)	42,000	07:45 – 3,161	16:30 – 3,515	5.3%	2020/ 21	–
	South of Way Road (SLK 1.26)	31,947	07:45 – 2,654	16:15 – 2,870	6.5%	2021/ 22	–
Cargill Street	West of Albany Highway (SLK 0.14)	1,191	08:00 – 271	14:30 – 166	6.3%	2020/ 21	–

Note - These traffic counts have been obtained from the Town of Victoria Park's Intramap. All other data are delivered from MRWA.*

2.7 Vehicular Crash Information

Is Crash Data Available on Main Roads WA website?	YES
If YES, nominate important survey locations:	
Location 1	Berwick Street (SLK 0.35 to 0.59)
Location 2	Intersection of Berwick Street and Geddes Street
Location 3	Intersection of Berwick Street and Cargill Street
Location 4	Intersection of Berwick Street and Mackie Street
Period of crash data collection	01/01/2018 - 31/12/2022

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
Berwick Street	0.35 to 0.59	Distributor A	60kph	0	0	1	0

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

No of MVKT Travelled at Location	App.17,000 VPD * 365 * 5 years * 0.24km = 7.45 MVKT
KSI Crash Rate	0 KSI crashes/MVKT
All Crash Rate	1 crash / 7.45 MVKT = 0.13 crashes/MVKT
Comparison with Crash Density and Crash Rate Statistics	All crashes rate of 0.13 is lower than 0.37 crashes per MVKT.

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
Berwick Street and Geddes Street	Distributor A / Access Road	60kph / 50kph or State Limit	0	0	2	2

MR Type	Involving Overtaking	Involving Parking	Involving Animal	Involving Pedestrian	Entering / Leaving Driveway	Other / Unknown
Count	0	0	0	0	1	3

No of MVKT Travelled at Location	App. 18,500 VPD * 365 * 5 years *0.3 km =10.13 MVKT
KSI Crash Rate	0 KSI crashes/MVKT
All Crash Rate	4 crashes / 10.13 MVKT = 0.39 crashes/MVKT
Comparison with Crash Density and Crash Rate Statistics	All crashes rate of 0.39 is lower than the network average of 0.85 crashes per MVKT.

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
Berwick Street and Cargill Street	Distributor A / Access Road	60kph / 50kph or State Limit	1	0	1	0

MR Type	Involving Overtaking	Involving Parking	Involving Animal	Involving Pedestrian	Entering / Leaving Driveway	Other / Unknown
Count	0	0	0	0	0	2

No of MVKT Travelled at Location	App. 18,500 VPD * 365 * 5 years *0.3 km =10.13 MVKT
KSI Crash Rate	1 KSI crashes / 10.13 MVKT = 0.10 KSI crashes/MVKT
All Crash Rate	2 crashes / 10.13 MVKT = 0.20 crashes/MVKT
Comparison with Crash Density and Crash Rate Statistics	KSI crash rate of 0.10 is higher than the network average of 0.03 KSI crashes per MVKT. All crashes rate of 0.20 is lower than 0.85crashes per MVKT.

Berwick Street and Mackie Street	Distributor A / Access Road	60kph / 50kph or State Limit	0	2	2	2

MR Type	Involving Overtaking	Involving Parking	Involving Animal	Involving Pedestrian	Entering / Leaving Driveway	Other / Unknown
Count	0	0	0	0	0	6

No of MVKT Travelled at Location	App. 18,500 VPD * 365 * 5 years *0.3 km =10.13 MVKT
KSI Crash Rate	0 KSI crashes/MVKT
All Crash Rate	6 crashes / 10.13 MVKT = 0.59 crashes/MVKT
Comparison with Crash Density and Crash Rate Statistics	All crashes rate of 0.59 is lower than the network average of 0.85 crashes per MVKT.

The following tables show crash rates and crash densities in the Perth Metropolitan area on local roads and state roads for the period from 2017 to 2022, as obtained from Main Roads WA on the 31st May 2022 by email request:

Crash Density and Crash Rate on Metropolitan State 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 State Roads - Midblock	20.12	0.37	0.89	0.02
Metro State Roads - All	46.28	0.85	1.80	0.03

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

In order to identify black spots being the locations noted for a high incidence of crashes involving death and injury, it is important to conduct the crash criteria analysis as shown in the table below. If the below crash criteria are met, there is a way to measure the cost-effectiveness of the proposed treatment. It is called BCR and it ensures that the black spot exhibits a significant number of crashes that are correctable by infrastructure treatment.

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			

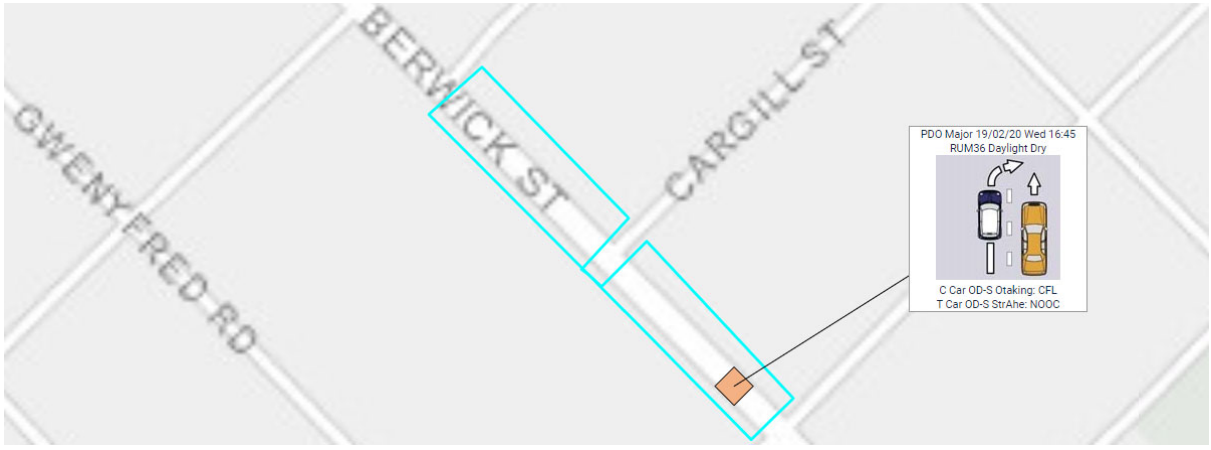
(Main Roads/ WALGA 2004)

Analysed section of the Berwick Street (SLK 0.35 to 0.59) represents a portion of Berwick Street (SLK 0.04 to 2.97), between the intersection with Canning Street to the northwest and Langler Street to the southeast, which do qualify as Black Spot Location.

Neither of the above analysed intersection do not meet the criteria above, nor it is listed in the MRWA database as a location eligible for the black spot program.

2.7.1 Section of Berwick Street (SLK 0.35 to 0.59)– Detailed crash analysis

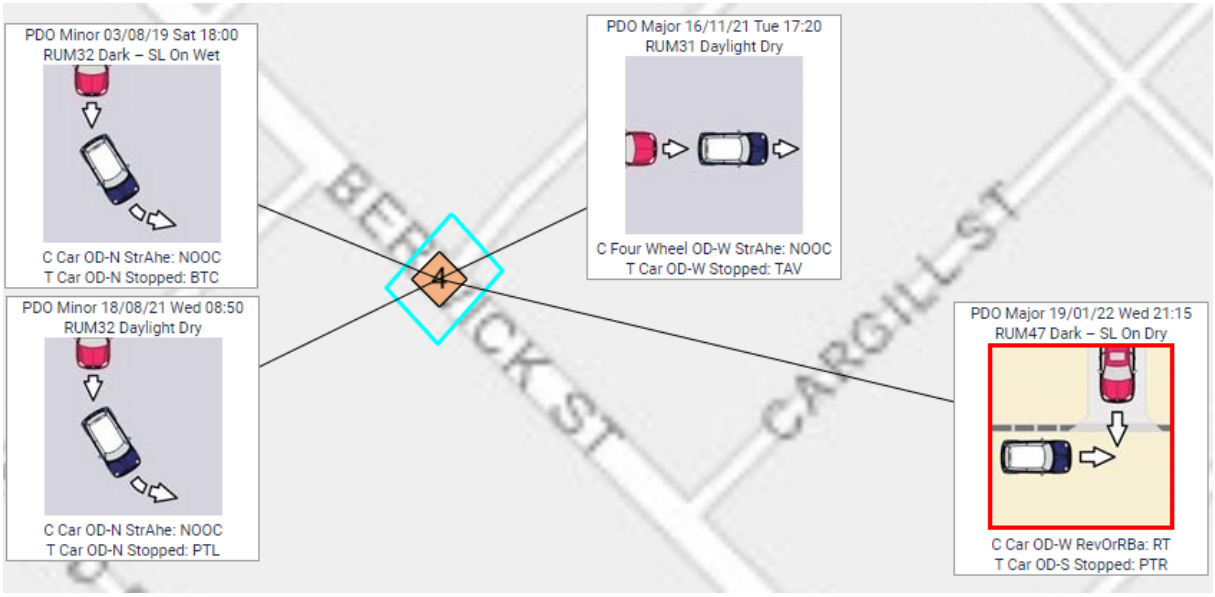
Below is an extract of the MRWA Crash Map for the subject section of Berwick Street.



In the last 5 years, 1 crash was recorded. It involved two passenger vehicles colliding, resulting in Property Damage Only (PDO). Details of this crash is shown in the following table.

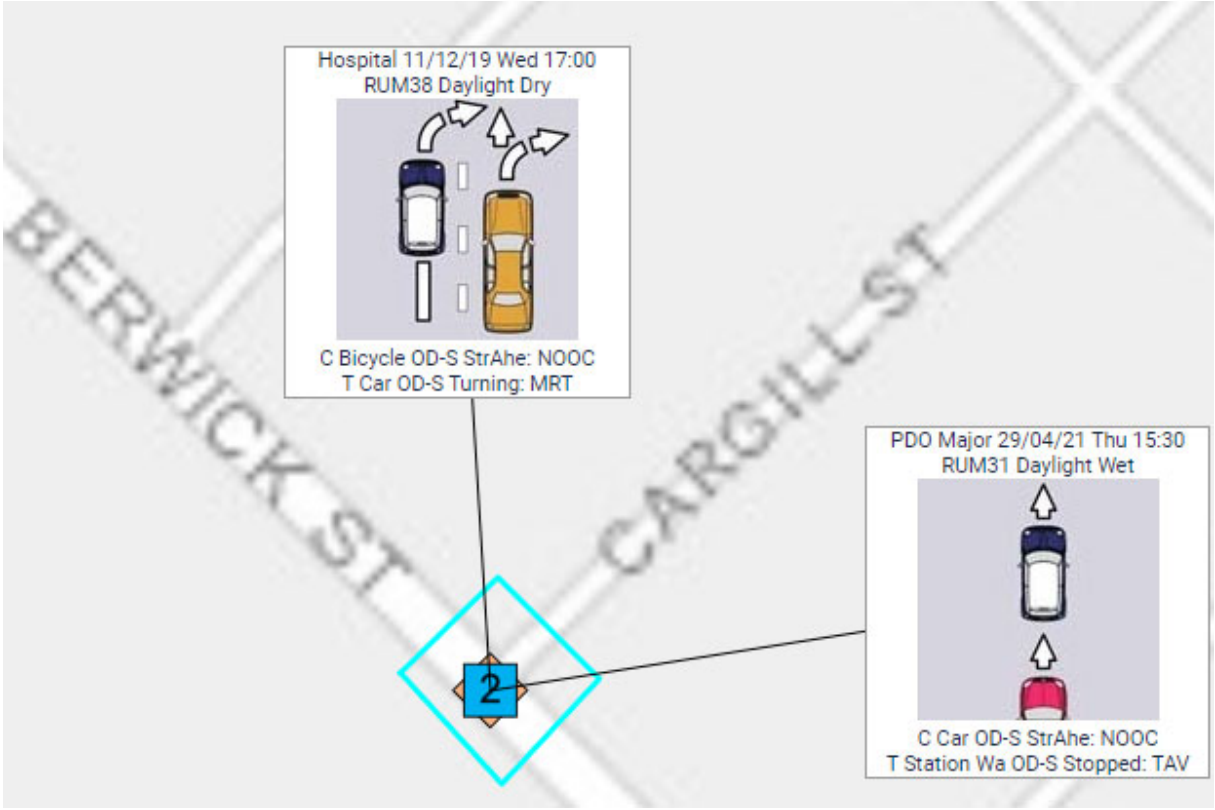
Crash No.	SLK	Date	Day	Time	Severity	Unit	Unit Type	Light Cond	From Dir	To Dir	Veh/Ped Move
20206 43783	0.56	19/02/20	Wed	16:45	PDO Major	Colliding	Car	Daylight	South	North	Overtaking: Cut In From Left
20206 43783	0.56	19/02/20	Wed	16:45	PDO Major	Target	Car	Daylight	South	North	Straight Ahead: Not Out Of Control

2.7.2 Intersection of Berwick Street and Geddes Street – Detailed crash analysis



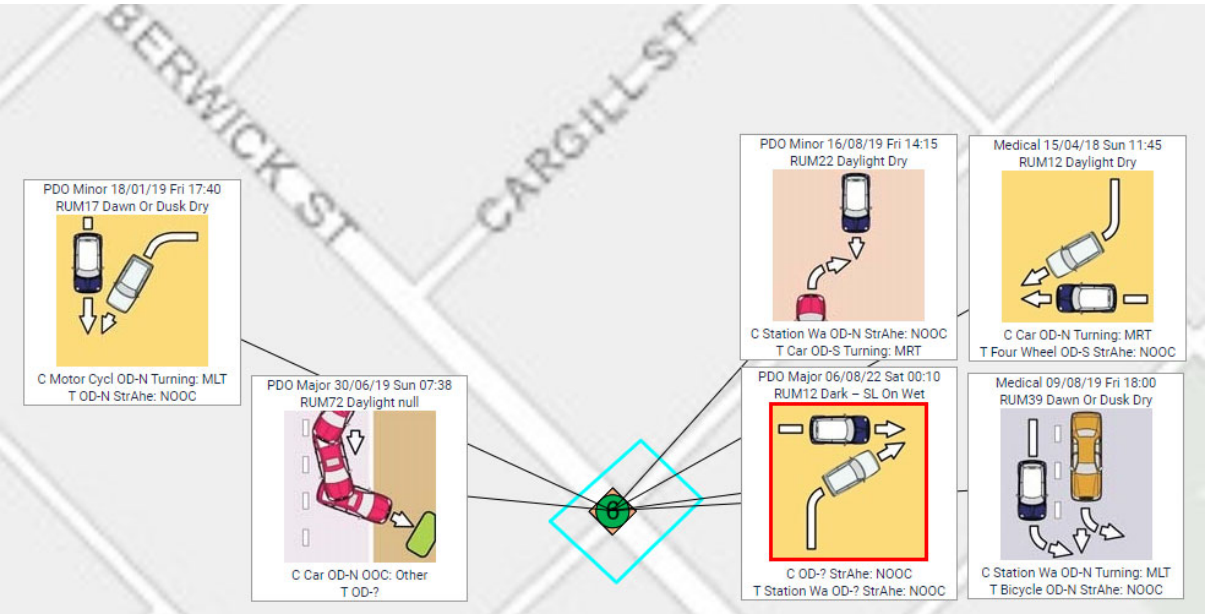
Crash No.	Date	Day	Time	Severity	Unit	Unit Type	Light Cond	From Dir	To Dir	Veh/Ped Move
2019214973	03/08/19	Sat	16:45	PDO Minor	Colliding	Car	Dark Street Lights On	N-Geddes St	S-Berwick St	Straight Ahead: Not Out Of Control
2019214973	03/08/19	Sat	16:45	PDO Minor	Target	Car	Dark Street Lights On	N-Geddes St	S-Berwick St	Stopped: By Traffic Control
2021585824	16/11/21	Tue	7:20	PDO Major	Colliding	Four Wheel Drive (Not Car Design)	Daylight	W-Berwick St	E-Berwick St	Straight Ahead: Not Out Of Control
2021585824	16/11/21	Tue	7:20	PDO Major	Target	Car	Daylight	W-Berwick St	E-Berwick St	Stopped: To Avoid Vehicle
2021367251	18/08/21	Wed	16:45	PDO Minor	Colliding	Car	Daylight	N-Geddes St		Straight Ahead: Not Out Of Control
2021367251	18/08/21	Wed	16:45	PDO Minor	Target	Car	Daylight	N-Geddes St	S-Berwick St	Stopped: Prepared To Turn Left
2022013693	19/01/22	Wed	21:15	PDO Major	Colliding	Car	Dark Street Lights On	W	S-Berwick St	Reversing Or Rolling Back: Right Turn
2022013693	19/01/22	Wed	21:15	PDO Major	Target	Car	Dark Street Lights On	S-Berwick St	N-Geddes St	Stopped: Prepared To Turn Right

2.7.3 Intersection of Berwick Street and Cargill Street – Detailed crash analysis



Crash No.	Date	Day	Time	Severity	Unit	Unit Type	Light Cond	From Dir	To Dir	Veh/Ped Move
2019340553	11/12/19	Wed	17:00	Hospital	Colliding	Bicycle	Daylight	S-Berwick St	N-Berwick St	Straight Ahead: Not Out Of Control
2019340553	11/12/19	Wed	17:00	Hospital	Target	Car	Daylight	S-Berwick St	N-Cargill St	Turning: To Make Right Turn
2021228216	29/04//21	Thu	15:30	PDO Major	Colliding	Car	Daylight	S-Berwick St	N-Berwick St	Straight Ahead: Not Out Of Control
2021228216	29/04//21	Thu	15:30	PDO Major	Target	Station Wagon	Daylight	S-	N-Berwick St	Stopped: To Avoid Vehicle

2.7.4 Intersection of Berwick Street and Mackie Street – Detailed crash analysis



Crash No.	Date	Day	Time	Severity	Unit	Unit Type	Light Cond	From Dir	To Dir	Veh/Ped Move
20224 37860	06/08/22	Sat	00:10	PDO Major	Colliding		Dark Street Lights On			Straight Ahead: Not Out Of Control
20224 37860	06/08/22	Sat	00:10	PDO Major	Target	Station Wagon	Dark Street Lights On			Straight Ahead: Not Out Of Control
20192 23266	09/08/19	Fri	18:00	Medical	Colliding	Station Wagon	Dark Street Lights On	N-Berwick St	N-Mackie St	Turning: To Make Left Turn
20192 23266	09/08/19	Fri	18:00	Medical	Target	Bicycle	Dark Street Lights On	N-Berwick St	S-Berwick St	Straight Ahead: Not Out Of Control
20180 95714	15/04/18	Sun	11:45	Medical	Colliding	Car	Daylight	N-Mackie St	N-Berwick St	Turning: To Make Right Turn
20180 95714	15/04/18	Sun	11:45	Medical	Target	Four Wheel Drive (Not Car Design)	Daylight	S-Berwick St	N-Berwick St	Straight Ahead: Not Out Of Control
20192 31110	16/08/19	Fri	14:15	PDO Minor	Colliding	Station Wagon	Daylight	N-Berwick St	S-Berwick St	Straight Ahead: Not Out Of Control
20192 31110	16/08/19	Fri	14:15	PDO Minor	Target	Car	Daylight	S-Berwick St	N-Mackie St	Turning: To Make Right Turn
20190 10470	18/01/19	Fri	17:40	PDO Minor	Colliding	Motorcycle	Daylight	N-Mackie St	S-Berwick St	Turning: To Make Left Turn
20190 10470	18/01/19	Fri	17:40	PDO Minor	Target		Daylight	N-Berwick St	S-Berwick St	Straight Ahead: Not Out Of Control
20191 74830	30/06/19	Sun	7:38	PDO Major	Colliding	Car	Daylight	N-Berwick St	S-Berwick St	Out Of Control: Other

2.8 Vehicular Parking

Local Government: Town of Victoria Park

Local Government Document Utilised:
- Local Planning Policy No. 6 - Family Day Care and Child Care Premises
- Local Planning Policy 23 - Parking Policy

Description of Parking Requirements in accordance with Scheme:
According to the LPP 6
'' Car parking shall be provided in accordance with Council's Local Planning Policy 23 – Parking Policy.''

Local Planning Policy 23 - Parking Policy prescribes the following rate:
''Childcare facilities - 1 bay for every 5 children.''
''Note: Parking requirements shall be calculated by rounding to the nearest whole number.''

Calculation of Parking

Land Use	Requirements	Yield	Total Parking
Childcare Centre	*1 bay for every 5 children.*	50	10
		Total Car Parking Requirement	**10**
		Total Volume of Parking Provided by Proponent	**10**

Justification

The plans for the proposed development show a total of 10 car parking bays provided on-site, inclusive of 9 standard and 1 ACROD bay. This is in line with the statutory requirement.

Have Vehicle Swept Paths been checked for Parking? YES

If YES, provide description of performance:

KCTT have checked the proposed internal parking area with B99 Passenger Vehicle (5.2m) and B85 Passenger Vehicle (4.92m). Parking bays close to the crossover need to perform three point-turn for egressing due to the limited space available. All these bays are allocated to staff members who will be familiar with the manoeuvre required to park out eliminating risk of congestion, particularly during drop off/pick up periods. No other navigability issues were found. KCTT would suggest that landscape be kept low to allow clear sights and visibility of the parking bays on site. Plans are enclosed in Appendix 3.

2.9 Compliance with AS2890.1:2004 and AS2890.6

Number of Parking Bays on-site: 10

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

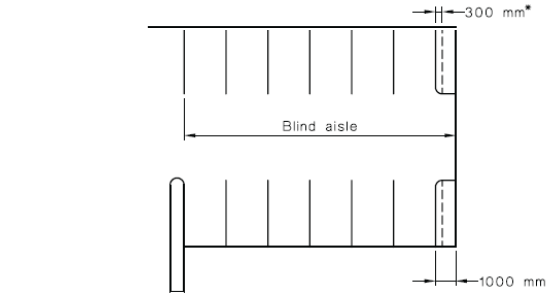
Proposed development User Class

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

AS2890.1:2004 Off-street car parking AS2890.6 Off-street parking for people with disabilities						
Parking Bay Type	Parking Bay Length		Parking Bay Width		Aisle Width	
	Required	Proposed	Required	Proposed	Required	Proposed
All bays at 90° (User Class 1A)	5.4m	5.5m	2.4m	2.5m/2.8m	5.8m	6.6m
All bays at 90° (User Class 2	5.4m	5.5m	2.5m	2.5m/2.8m	5.8m	6.6m
ACROD Parking	5.4m	5.5m	2.4m–ACROD 2.4m–shared space	2.4m–ACROD 2.4m–shared space	5.8m	6.6m

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.''



*Additional widening required if there is a wall or fence at the side of the last space, see Clause 2.4.1(b)(ii).

DIMENSIONS IN MILLIMETRES

FIGURE 2.3 BLIND AISLE EXTENSION

KCTT comment:

Single-sided aisles	Provided for bays 1, 6 and 7 as required
Blind aisle	Extended a 1m beyond last parking space
Reversing bay	Provided

Does the parking area meet the requirements set in AS2890.1:2004 and AS2890.6?

KCTT reviewed the proposed development layout and concluded that the dimensions of all car parking bays and aisle width comply with the Australian Standard AS/NZS 2890.1/2004 and AS2890.6.

2.10 Bicycle Parking

Local Government — Town of Victoria Park

Local Government Document Utilised — Local Planning Policy No. 6 - Family Day Care and Child Care Premises
Local Planning Policy 23 - Parking Policy

Description of Parking Requirements in accordance with Scheme:

Above listed documents do not stipulate requirements for the provision of bicycle parking.

Justification

The proponent's plans do not indicate the provision of bicycle racks.

2.11 ACROD Parking

Class of Building

Class 9b-an assembly building, including a trade workshop, laboratory or the like, in a primary or secondary school, but excluding any other parts of the building that are of another class.

Does this building class require specific provision of ACROD Parking?

YES

Reference Document Utilised

Building Code of Australia

Description of Parking Requirements:

Class 9b — (b) Other assembly building — (i) up to 1000 carparking spaces; - 1 space for every 50 carparking spaces or part thereof

Parking Requirement in accordance with regulatory documents

Land Use	Requirements	Yield	Total Parking
Childcare Centre	*1 space for every 50 carparking spaces or part thereof*	10	1
		Total Volume of ACROD Parking Required	**1**
		Total Volume of ACROD Parking Provided by Proponent	1

Justification

The proposed plans demonstrate 1 ACROD bay, meeting the requirements outlined by the Building Code of Australia.

2.12 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 Requirement in accordance with regulatory documents

Land Use	Minimum Requirements	Yield	Total Parking
Childcare centre	*1 space per 2,000m2*	Less than 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

The above requirements are stated as a guide only. KCTT believe that a childcare centre does not require a specific bay for delivery and service vehicles. All deliveries can be conducted outside of peak hours of operation. The delivery vehicles are not expected to be larger than the largest passenger vehicle.

The waste collection vehicle should service the site once a week on-street pick-up. The bin store will be located at the rear end of the parking area.

2.13 Calculation of Development Generated / Attracted Trips

What are the likely hours of operation?	Child Care Centre – 07:00-19:00 Note - Local Planning Policy 6: Family Day Care and Child Care Premises states the following: ''*As a general rule, the hours of operation of a child care premises should be limited to between the hours of 7am and 7pm Monday to Saturday, and 9am to 5pm on Sunday, unless otherwise agreed to by Council.''*
What are the likely peak hours of operation?	07:00 - 08:00 and 16:00 - 17:00
Do the development-generated peaks coincide with existing road network peaks? *If YES, Which:*	YES Both
Guideline Document Used *Rates from above document:*	**NSW RTA Guide to Traffic Generating Developments** ***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 this report, KCTT assumes that the two-hour traffic volume will be attracted to the development in a one-hour period, 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 daily vehicular trip generation rate for the proposed land use KCTT have 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 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 our experience, childcare centres tend to operate with an 85-95% 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 tend to have more than one child at once childcare 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 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**
Rates from above document:	***Residential*** *0.8 vehicle trips per dwelling for the AM/PM peak hours*

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 work by car as a driver.* *KCTT propose to use an average VPD 6.7 vehicular trips per day per residential unit for the single houses.*

Land Use Type	Rate above	Yield	Daily Traffic Generation	Peak Hour Traffic Generation	
				AM	PM
Existing					
Residential	*Daily – 6.7 VPD / dwelling* *AM Peak - 0.8 VPH / dwelling* *PM Peak - 0.8 VPH / dwelling*	1 unit	7	1	1
Proposed					
Childcare Centre	*Daily - 4 VPD/child & 2 VPD/ staff member* *AM Peak - 0.8 VPH per child* *PM Peak - 0.7 VPH per child*	50 children	200	40	35
		8 staff	16	-	-
Total traffic from the proposed development (A)			216	40	35
Total Existing Traffic from the subject site (A^0)			7	1	1
Total Additional traffic from the proposed development (A-A^0)			209	39	34

What is the total impact of the new proposed development?

The subject development is expected to generate additional 209 daily vehicular trips, 39 vehicle trips in the AM peak and 34 vehicle trips in the PM peak hour.

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.

2.14 Traffic Flow Distribution

How many routes are available for access / egress to the site?	Main routes are listed below
Route 1 / Movement 1	
Provide details for Route No 1	From/to northwest via Berwick Street
Percentage of Vehicular Movements via Route No 1	45%
Route 2 / Movement 2	
Provide details for Route No 2	From/to southeast via Berwick Street
Percentage of Vehicular Movements via Route No 2	50%
Route 3 / Movement 3	
Provide details for Route No 3	From/to northeast via Cargill Street
Percentage of Vehicular Movements via Route No 3	5%

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

2.15 Vehicle Crossover Requirements

Are vehicle crossovers required onto existing road networks?	YES
How many existing crossovers?	1 on/to Berwick Street
How many proposed crossovers?	1 on/to Berwick Street
How close are proposed crossovers to existing intersections?	Proposed crossover is opposite to the intersection with Cargill Street
Does this meet existing standards?	NO
Justification	

According to AS/NZS 2890.1:2004 Parking facilities Part 1: Off-street car parking applicable user class of the access point is: User Class 1A - Residential, domestic and employee .

Proposed development plans indicate a total of 10 parking bays and 1 crossover.

Crossover serves less than 25 parking bays from a local road, making it a ''Category 1 driveway''

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

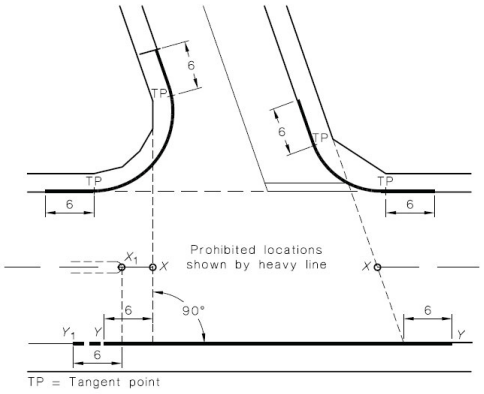
NOTES:
1 When a car park has multiple access points, each access should be designed for the number of parking spaces effectively served by that access.
2 This Table does not imply that certain types of development are necessarily suitable for location on any particular frontage road type. In particular,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

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.

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 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

The proposed crossover is located in the sections of kerb which are prohibited by AS2890.01. However, the crossover cannot be positioned in such a way to meet the set-out requirements, therefore it can be considered an exception as per the quoted standard above. Furthermore, the existing crossover is also in the prohibited section of the kerb.

2.16 Public Transport Accessibility

How many bus routes are within 400 metres of the subject site?	Four (4)
How many rail routes are within 800 metres of the subject site?	None

Bus Route	Description	Peak Frequency	Off-Peak Frequency
33	Perth - Curtin Central Bus Station via Kensington	20 minutes	1 hour
72	Perth - Cannington Station via Victoria Park & Curtin University	20 minutes	1 hour
75	Perth - Canning Vale via Victoria Park & Curtin University	20 minutes	1 hour on Saturday 2 hours on Sunday and Public Holidays
284	Belmont Forum Shop Centre – Curtin University Bus Station via Albany Highway	1 hour	no service

Walk Score Rating for Accessibility to Public Transport

57 | Good Transit. Many nearby public transportation options.

Is the development in a Greenfields area? NO

2.17 Pedestrian Infrastructure

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

Classification	Road Name
"Other Shared Path (Shared by Pedestrians and Cyclists)"	Berwick Street
Pedestrian Path	All roads surrounding the subject development site have a pedestrian path on one or both sides of the road reservation
"Walking Trail"	Mill Point Road, Ellam Street, Albany Highway

Does the site have existing pedestrian facilities NO

Does the site propose to improve pedestrian facilities? YES

If YES, describe the measures proposed.

A 1.6m wide pedestrian path is proposed along the northern lot boundary.

What is the Walk Score Rating?

70 | Very Walkable. Most errands can be accomplished on foot.

2.18 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)"	Canning Highway, Banksia Terrace, Berwick Street
"Good Road Riding Environment"	Third Avenue, Gloucester Street, Mill Point Road
"Perth Bicycle Network - Continuous Signed Routes"	Geddes Street, Berwick Street, Gwenyfred Road, Fourth Avenue, Banksia Terrace, View Street, Market Street, Washington Street, Hordern Street
"Bicycle Lanes or Sealed Shoulder Either Side"	McMillan Street, Mill Point Road

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

If YES, describe:

Classification	Road Name
"Other Shared Path (Shared by Pedestrians and Cyclists)"	Berwick Street
"Good Road Riding Environment"	Third Avenue, Gloucester Street, Mill Point Road
"Perth Bicycle Network - Continuous Signed Routes"	Geddes Street, Berwick Street, Gwenyfred Road, Fourth Avenue

Does the site have existing cyclist facilities?	NO
Does the site propose to improve cyclist facilities?	NO

If YES, describe the measures proposed.

The proposed development plans do not show designated parking space for bicycles.

2.19 Site-Specific Issues and Proposed Remedial Measures

How many site-specific issues need to be discussed?	One
Site-Specific Issue No 1	**Location of the proposed crossover**
Remedial Measure / Response	Subject lot is directly opposite the intersection of Berwick Street with Cargill Street, with only vehicular access to Berwick Street. Any crossover proposed on/to Berwick Street for subject site will be within a section of the kerb which are prohibited by AS2890.01. Therefore, as the crossover cannot be positioned in such a way to meet the set-out requirements, it can be considered an exception as per the quoted standard above. Furthermore, the existing crossover is also located within the prohibition zone.

Appendix 1

The Layout of the Proposed Development

Drawing No	Description
PD01	Cover Sheet
PD02	Existing Site Survey
PD03	Site Plan
PD04	Ground Floor
PD05	First Floor
PD06	Roof Plan
PD07	Elevations

Address:67 Berwick St Victoria Park

Childcare Centre

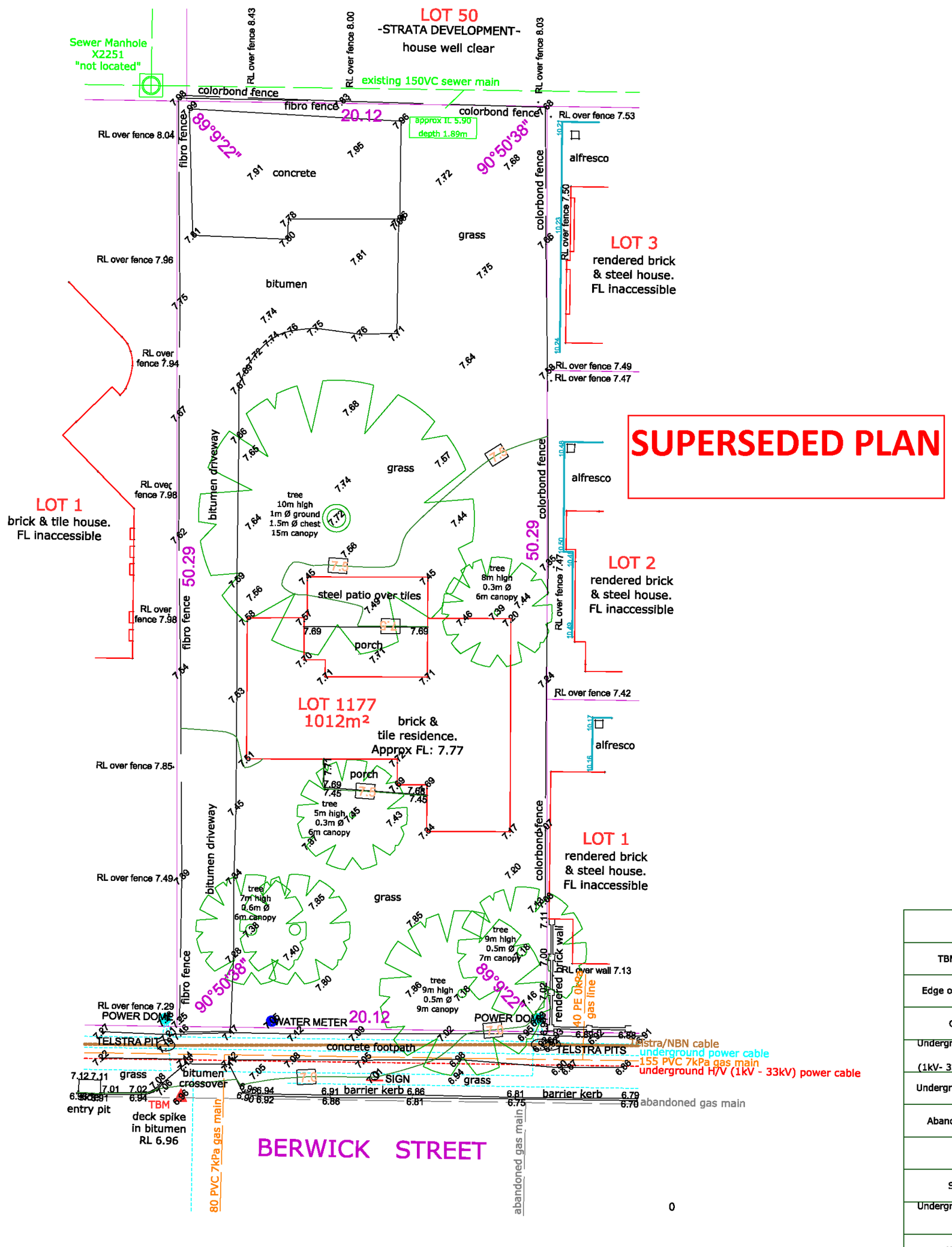
Job Number: 22077

GERMANO DESIGNS

Unit: 3/1 Mulgul Road, Malaga W.A 6090

(08) 9248 8392 www.germanodesigns.com.au

TOWN OF VICTORIA PARK
Received: 21/08/2023



LEGEND	
TBM - RL 6.96m	
Edge of Patio/Structure	
Gutter Line	
Underground Highvoltage (1kV- 33kV) Power Cable	
Underground Power Cable	
Abandoned Gas Main	
Gas Main	
Sewer Main	
Underground Telstra/NBN Cable	
Water Meter	
Sewer Manhole	
Power Dome	
Telstra Pit	
Sign	
Tree	

NOTE: No title viewed by The Land Division. A certificate of title check for easements and encumbrances is highly recommended as should they exist, they may affect design.

SCALE 1:200

Feature Survey by
THE LAND DIVISION
PO Box 2444,
Malaga, WA 6090
phone: 08 9209 3232
www.landdivision.com.au

FEATURE AND CONTOUR SURVEY
OF LOT 1177 ON PLAN 4377
67 Berwick Street, Victoria Park
C/T Vol: 2013 Fol: 947
our ref. 22-9806

Scale 1:200@A3 | Survey Date: 31 August 2022
Client: Learn & Care Pty Ltd

Drawn	Surv	Description	Date	Rev
TF	TF	Feature Survey Drafted	08/09/2022	0

TBM deck spike in bitumen equals RL 6.96 AHD
Based on sewer manhole 1326 RL 7.75 AHD (Water Corp e-plan)
Contractor to check datum before adopting levels

NOTES: 1) CONSULT LEGAL ADVICE ON EASEMENTS, ENCUMBRANCES AND CAVEATS THAT MAY APPEAR ON THE CERTIFICATE OF TITLE. 2) LEVELS ON ADJOINING PROPERTIES ARE APPROXIMATE DUE TO ACCESS RESTRICTIONS. 3) SERVICES PLOTTED AS VISUALLY SEEN ON SITE AND ARE APPROXIMATE. 4) SEWER POSITION AND LEVELS FROM WATER CORPORATION PLANS. 5) CONSULT DIAL BEFORE YOU DIG TO CHECK LOCATION OF UNDERGROUND SERVICES. 6) BEWARE OF OVERHEAD POWER LINE HAZARDS. 7) CONSULT TLD ON ANY ANOMALY BEFORE DESIGN AND CONSTRUCTION. 8) POSITION AND DEPTH OF SERVICES TO BE CONFIRMED ON SITE BY CONTRACTOR. 9) FEATURES ARE RELATED TO FENCE-LINES ONLY. NO CONNECTION MADE TO BOUNDARIES. **REPEG RECOMMENDED.**

Client
[redacted]
Project Name
Childcare Centre
Project Address
67 Berwick St Victoria Park

Drawing Title:
Existing Site Survey

Issue:
Development Approval

Scale: as noted | Sheet Size: A1
Project No: 22077 | Drawing No.: PD02 of 07

Rev:	Description:	Drawn:
009	Council Comments	CD

Revision Number: 009 | Date: 17.08.2023

Revision	Description	Date
009	Council Comments	17.08.23
008	Council Comments	21.07.23
007	Council Comments	23.06.23
006	Council Comments	07.06.23
005	Council Comments	01.06.23
004	Development Approval	25.01.23
003	Development Approval	02.12.22

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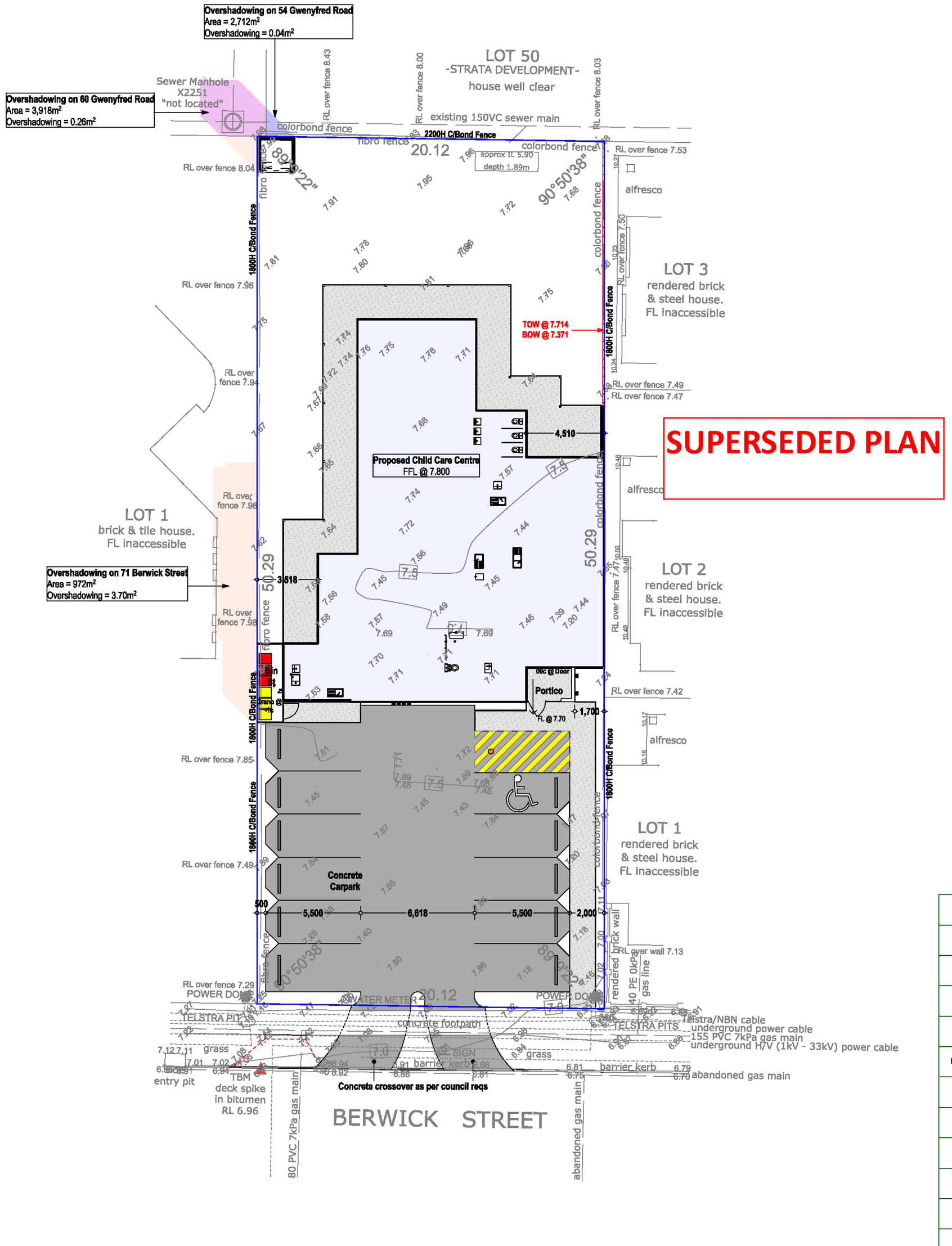
Building Areas

Store	4.50
Portico	5.62
Ground Floor	282.78
First Floor	86.60
Bin St	6.97
5	**386.47 m²**

TOWN OF VICTORIA PARK
Received: 21/08/2023



LEGEND	
TBM - RL 6.96m	
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Underground Highvoltage (1kV- 33kV) Power Cable	
Underground Power Cable	
Abandoned Gas Main	
Gas Main	
Sewer Main	
Underground Telstra/NBN Cable	
Water Meter	
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Power Dome	
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Sign	
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5 10

SCALE 1:200

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FEATURE AND CONTOUR SURVEY
OF LOT 1177 ON PLAN 4377
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C/T Vol: 2013 Fol: 947
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Scale 1:200@A3 | Survey Date: 31 August 2022
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Client [redacted]
Project Name
Childcare Centre
Project Address
67 Berwick St Victoria Park

Drawing Title:
Site Plan

Issue:
Development Approval

Scale: as noted | Sheet Size: A1
Project No: 22077 | Drawing No.: PD03 of 07

Rev:	Description:	Drawn:
009	Council Comments	CD

Revision Number: 009 | Date: 17.08.2023

Revision	Description	Date
009	Council Comments	17.08.23
008	Council Comments	21.07.23
007	Council Comments	23.06.23
006	Council Comments	07.06.23
005	Council Comments	01.06.23
004	Development Approval	25.01.23
003	Development Approval	02.12.22

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Child / Room Calculations

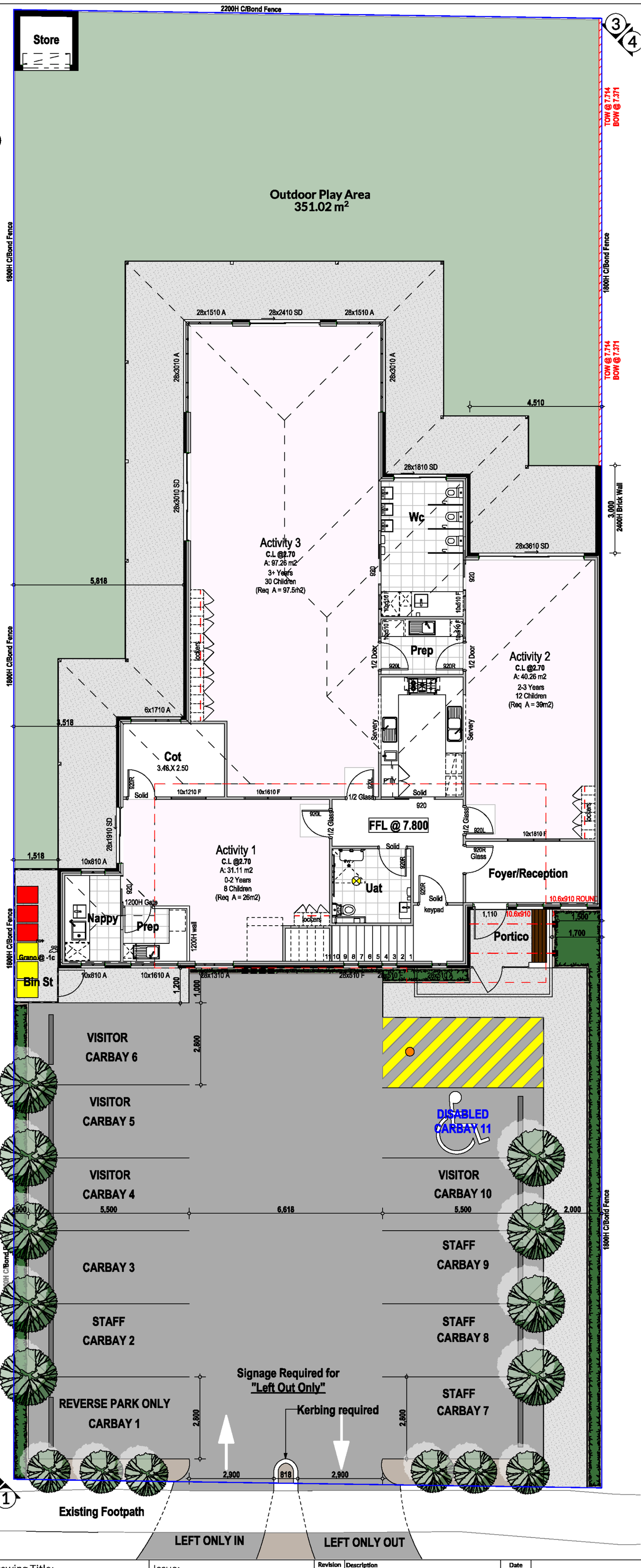
Room	Age (Yrs)	Quant	Size
Activity 1	*0-2*	8	*31.11m²*
Activity 2	*2-3*	12	*40.26m²*
Activity 3	*3+*	30	*97.26m²*
Total Internal = **(Min 3.25m² per child)**		**50**	**168.63m²** **(Min 162.50m² req)**
Total External Play Area = **(Min 7m² per child)**		**50**	**351.02m²** **(Min 350m² req)**

Victoria park parking policy - 1 bay for every 5 children (10 req)

SUPERSEDED PLAN

Building Areas

Store	4.50
Portico	5.62
~~Ground Floor~~	282.78
First Floor	86.60
Bin St	6.97



Landscaping Calculations

Site Area	= 1,011.73m²
Soft Landscaping Area	= 38.80m²

SCALE 1:100

Client
[redacted]
Project Name
Childcare Centre
Project Address
67 Berwick St Victoria Park

Drawing Title: Ground Floor
Scale: as noted | Sheet Size: A1
Project No: 22077 | Drawing No.: PD04 of 07

Issue: Development Approval

Rev:	Description:	Drawn:
009	Council Comments	CD

Revision Number: 009 | Date: 17.08.2023

Revision	Description	Date
009	Council Comments	17.08.23
008	Council Comments	21.07.23
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l External Play Area = **7m² per child)**		**50**	**351.02m²** **(Min 350m² re**

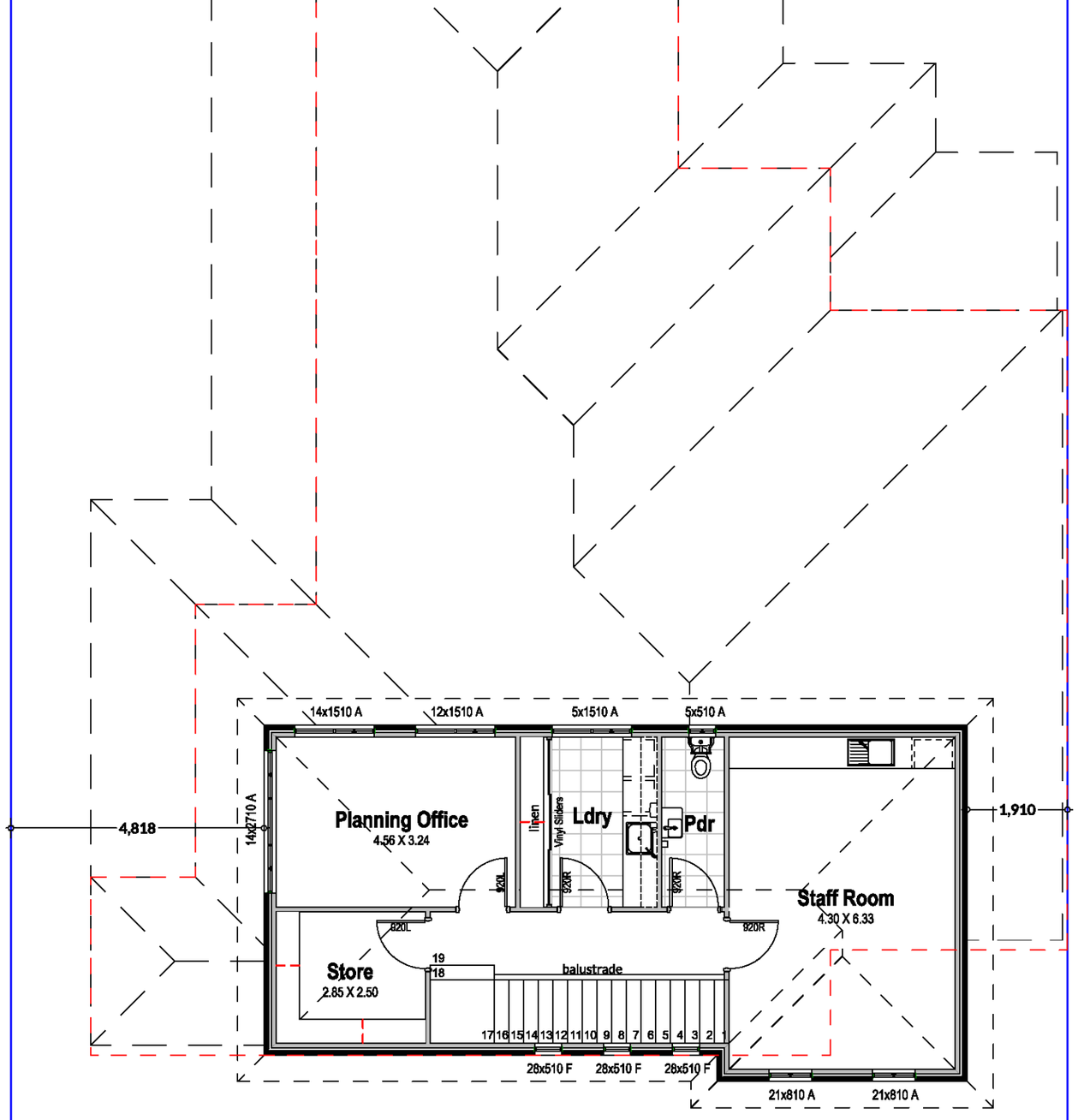
oria park parking policy - 1 bay for every 5 children (10 req)

SUPERSEDED PLAN

Building Areas

Store	4.50
Portico	5.62
~~Ground Floor~~	282.78
First Floor	86.60
Bin St	6.97

3/4



2/1

SCALE 1:100

Client
[redacted]
Project Name
Childcare Centre
Project Address
67 Berwick St Victoria Park

Drawing Title:
First Floor

Scale: as noted | Sheet Size: A1
Project No: 22077 | Drawing No.: PD05 of 07

Issue:
Development Approval

Rev:	Description:	Drawn:
009	Council Comments	CD

Revision Number: 009 | Date: 17.08.2023

Revision	Description	Date
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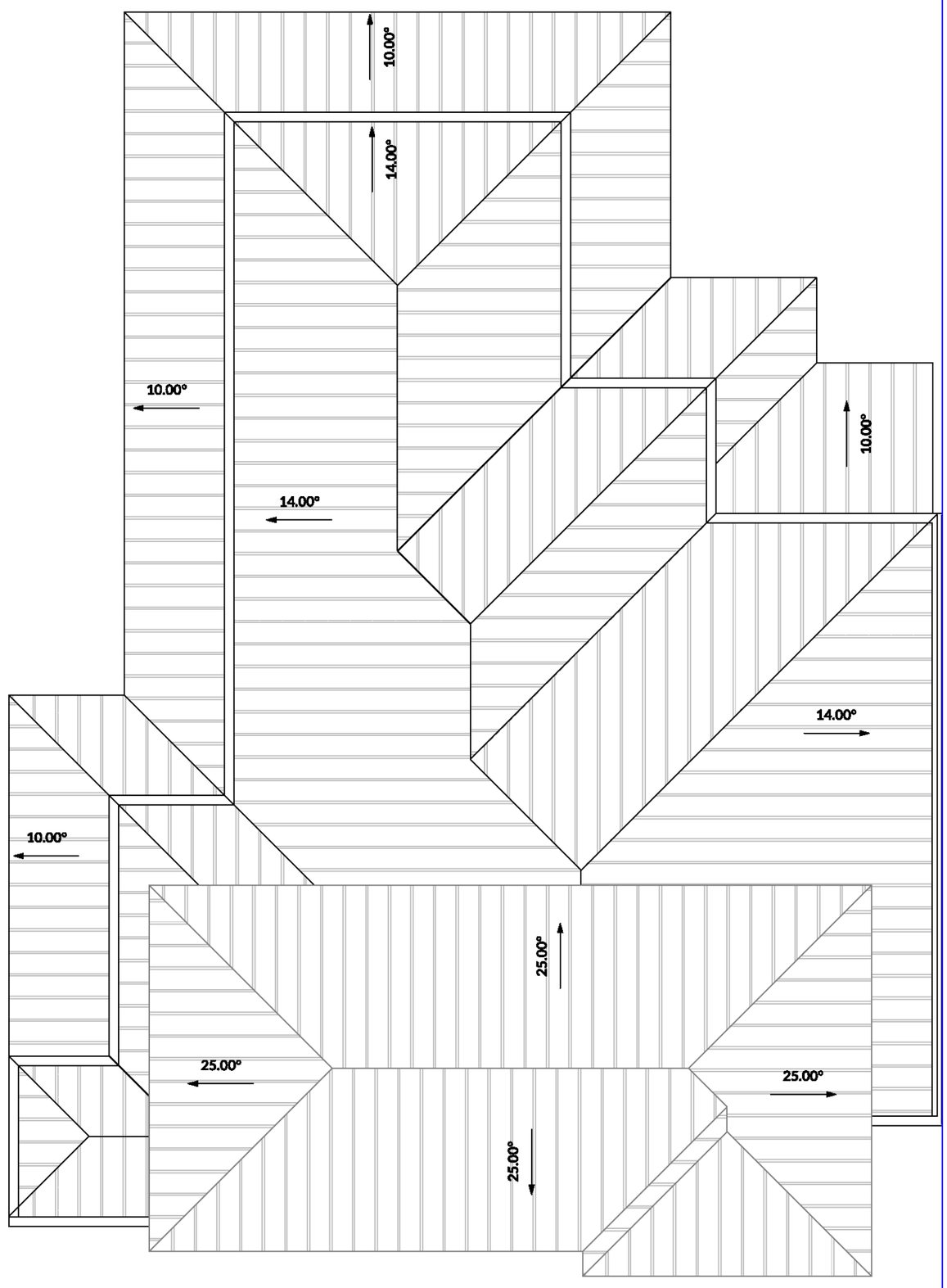
TOWN OF VICTORIA PARK
Received: 21/08/2023

SUPERSEDED PLAN



Roof Plan
1:100

SCALE 1:100

Client
[redacted]
Project Name
Childcare Centre
Project Address
67 Berwick St Victoria Park

Drawing Title:
Roof Plan

Scale: as noted | Sheet Size: A1
Project No: 22077 | Drawing No.: PD06 of 07

Issue:
Development Approval

Rev:	Description:	Drawn:
009	Council Comments	CD

Revision Number: 009 | Date: 17.08.2023

Revision	Description	Date
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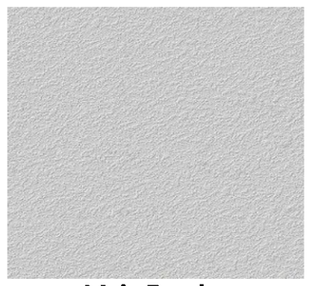
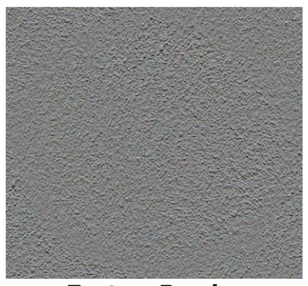
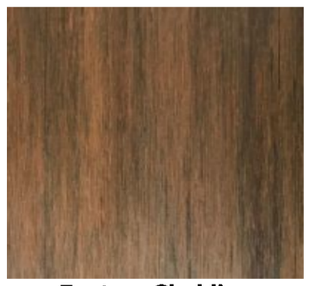
Material Schedule


Main Render
"Dulux Mt Aspiring"


Feature Render
"Dulux Champignon"


Feature Facebrick
"Austral Bricks San Selmo Reclaimed"


Feature Cladding
"CX Castellated Cladding in Spotted Gum"


Light Weight Awning
"Colorbond Night Sky"


Window Frames
"Jason Charcoal Lustre"


Windows & Door Glazing
"6.38mm Laminated Translucent Grey Glass"


Roof Sheeting
"Colorbond Surfmist"

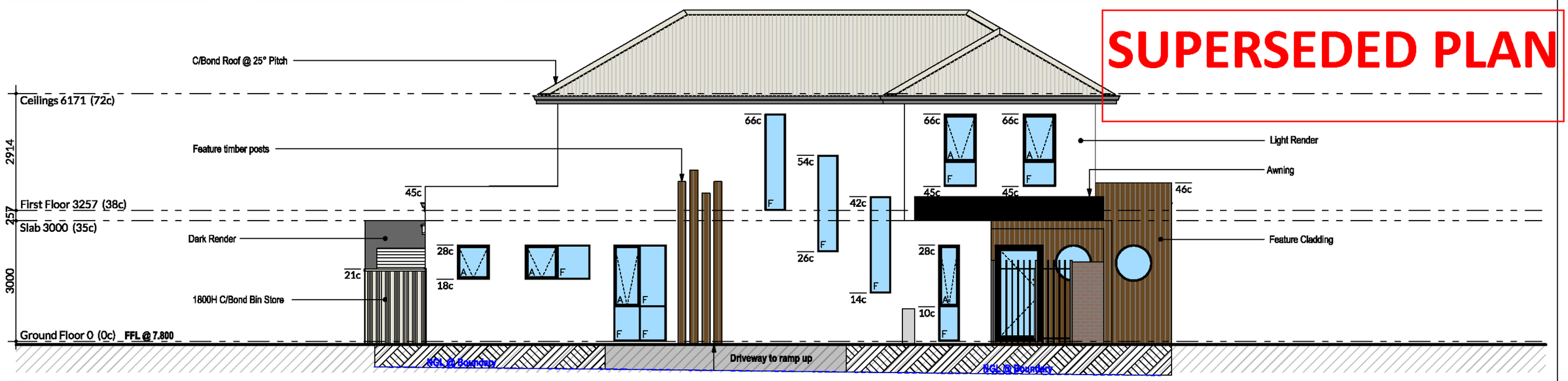

P/Coated Visually Permeable Infill Panel Fence


Concrete Carpark


Poured Limestone Path


Wintergreen Turf

SUPERSEDED PLAN



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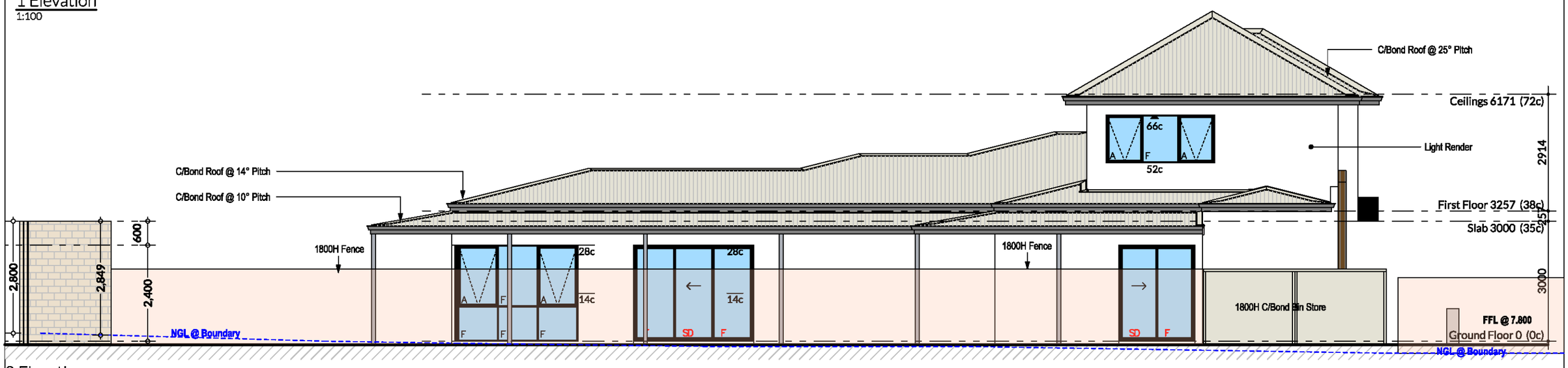
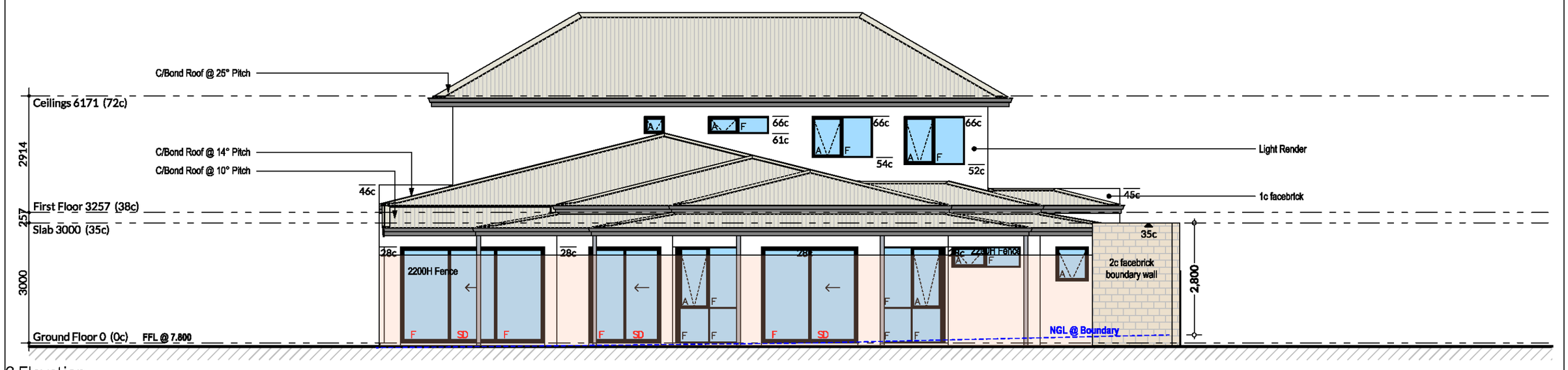
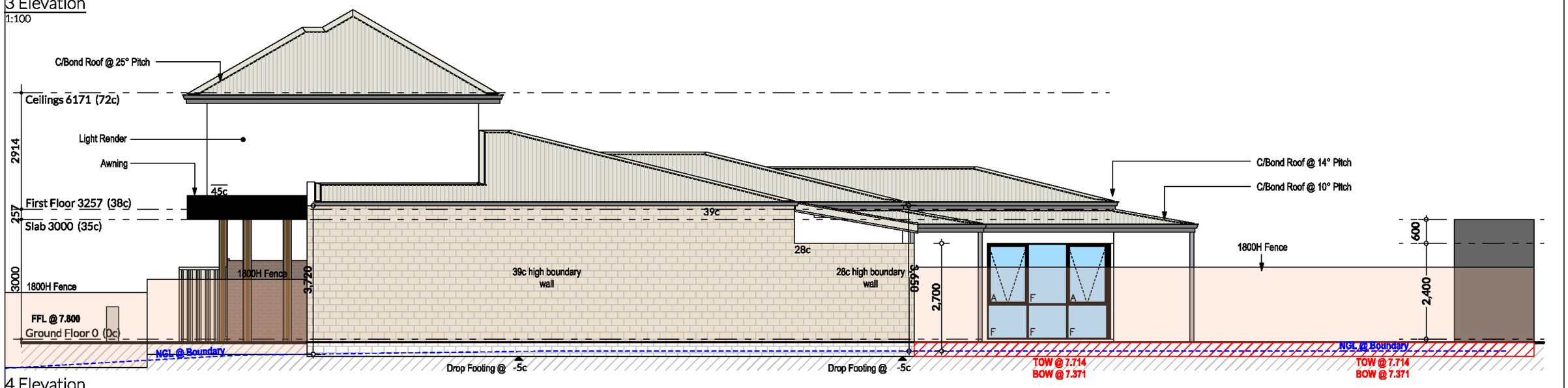


2 Elevation
1:100



3 Elevation
1:100



4 Elevation
1:100

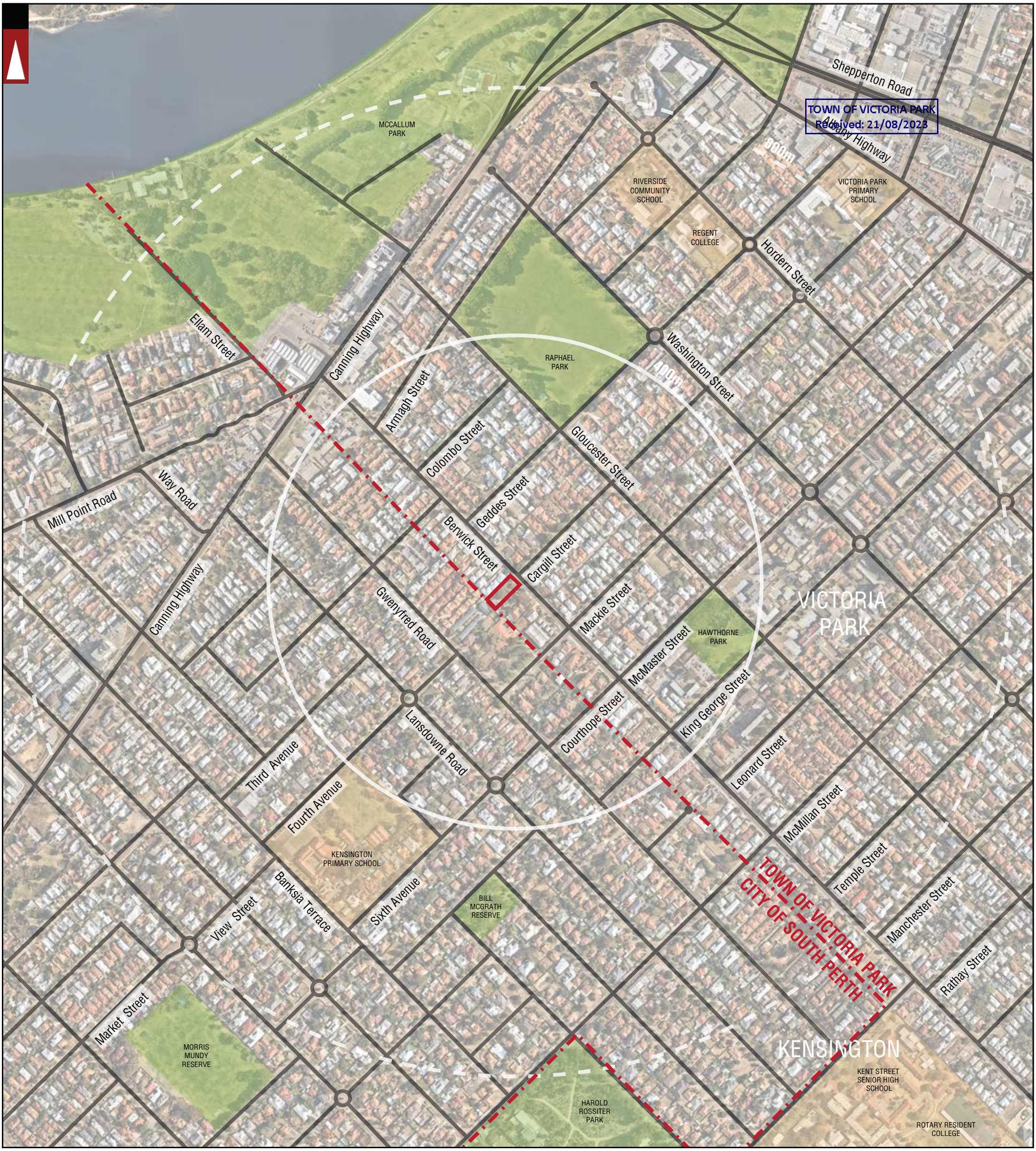
Client: [redacted]	Drawing Title: Elevations	Issue: Development Approval				
Project Name: Childcare Centre	Scale: as noted	Sheet Size: A1	Rev:	Description:	Drawn:	
Project Address: 67 Berwick St Victoria Park	Project No: 22077	Drawing No.: PD07 of 07	009	Council Comments	CD	
			Revision Number: 009	Date: 17.08.2023		

Revision	Description	Date
009	Council Comments	17.08.23
008	Council Comments	21.07.23
007	Council Comments	23.06.23
006	Council Comments	07.06.23
005	Council Comments	01.06.23
004	Development Approval	25.01.23
003	Development Approval	02.12.22

GERMANO DESIGNS
Unit: 3/1 Mulgul Road, Malaga W.A 6090
(08) 9248 8392 www.germanodesigns.com.au

Appendix 2

Transport Planning and Traffic Plans



PARKS AND RECREATION
WATERWAYS
PUBLIC PURPOSE
ROAD
Hay Street — STREET NAME
TOWN OF VICTORIA PARK — LOCAL GOVERNMENT NAME
LOCATION BOUNDARY
DISTANCE FROM LOCATION
NORTHBRIDGE — SUBURB NAME
LOCAL AUTHORITY BOUNDARY

LEGEND

No	DATE	AMENDMENT
A	19-12-2022	ISSUED FOR REVIEW

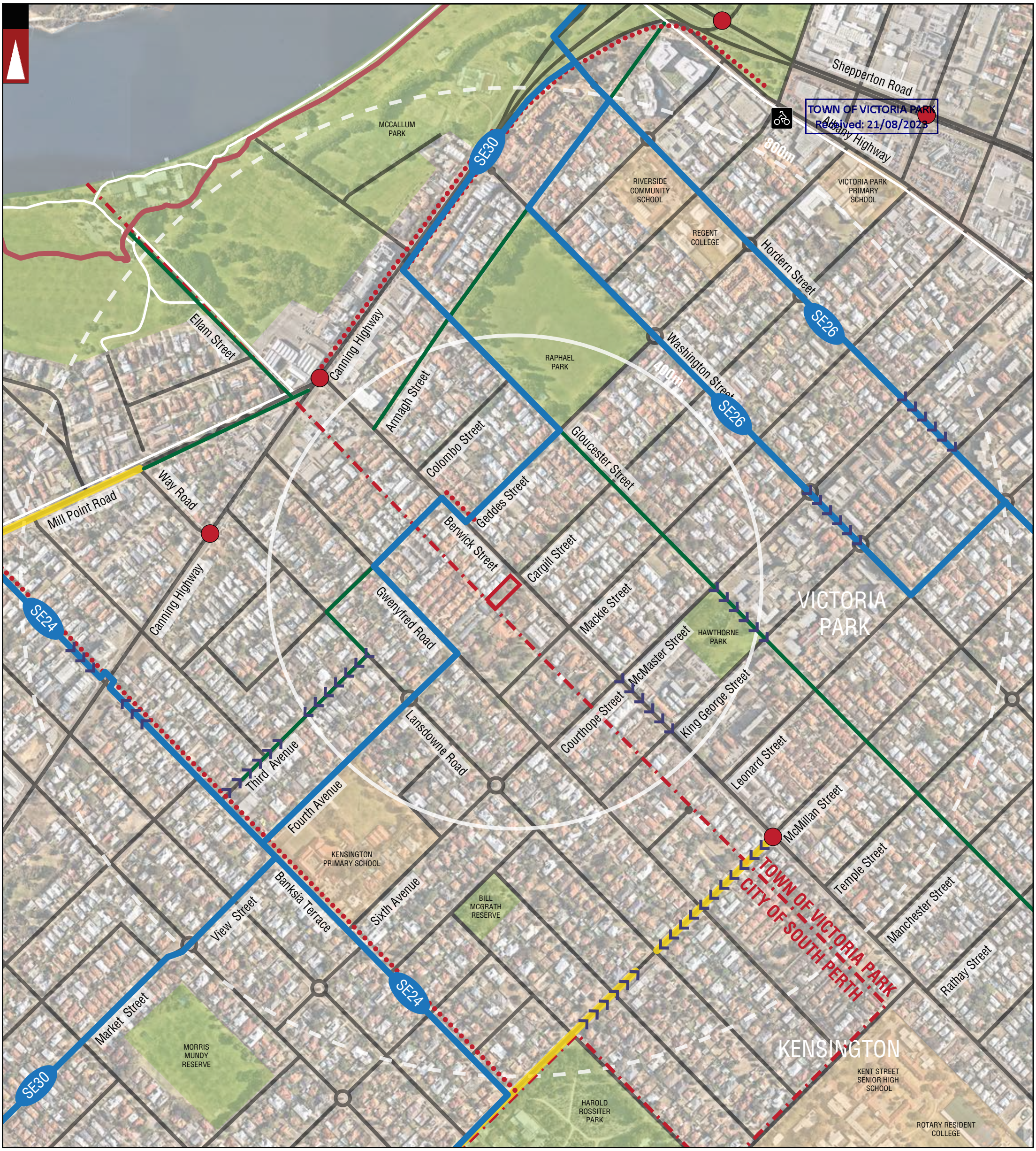
PROJECT: NO 67 BERWICK STREET, VICTORIA PARK

TITLE: LOCALITY PLAN - 800M RADIUS

DRAWING NUMBER: KC01535.000_ S01

DRAWN BY: J.S.

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



PARKS AND RECREATION
WATERWAYS
PUBLIC PURPOSE
ROAD
Hay Street — STREET NAME
TOWN OF VICTORIA PARK — LOCAL GOVERNMENT NAME
LOCATION BOUNDARY
DISTANCE FROM LOCATION
NORTHBRIDGE — SUBURB NAME
LOCAL AUTHORITY BOUNDARY
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
GRADIENT ARROW
WALKING TRAIL
TRAFFIC LIGHT
BIKE SHOP

LEGEND

No	DATE	AMENDMENT
A	19-12-2022	ISSUED FOR REVIEW

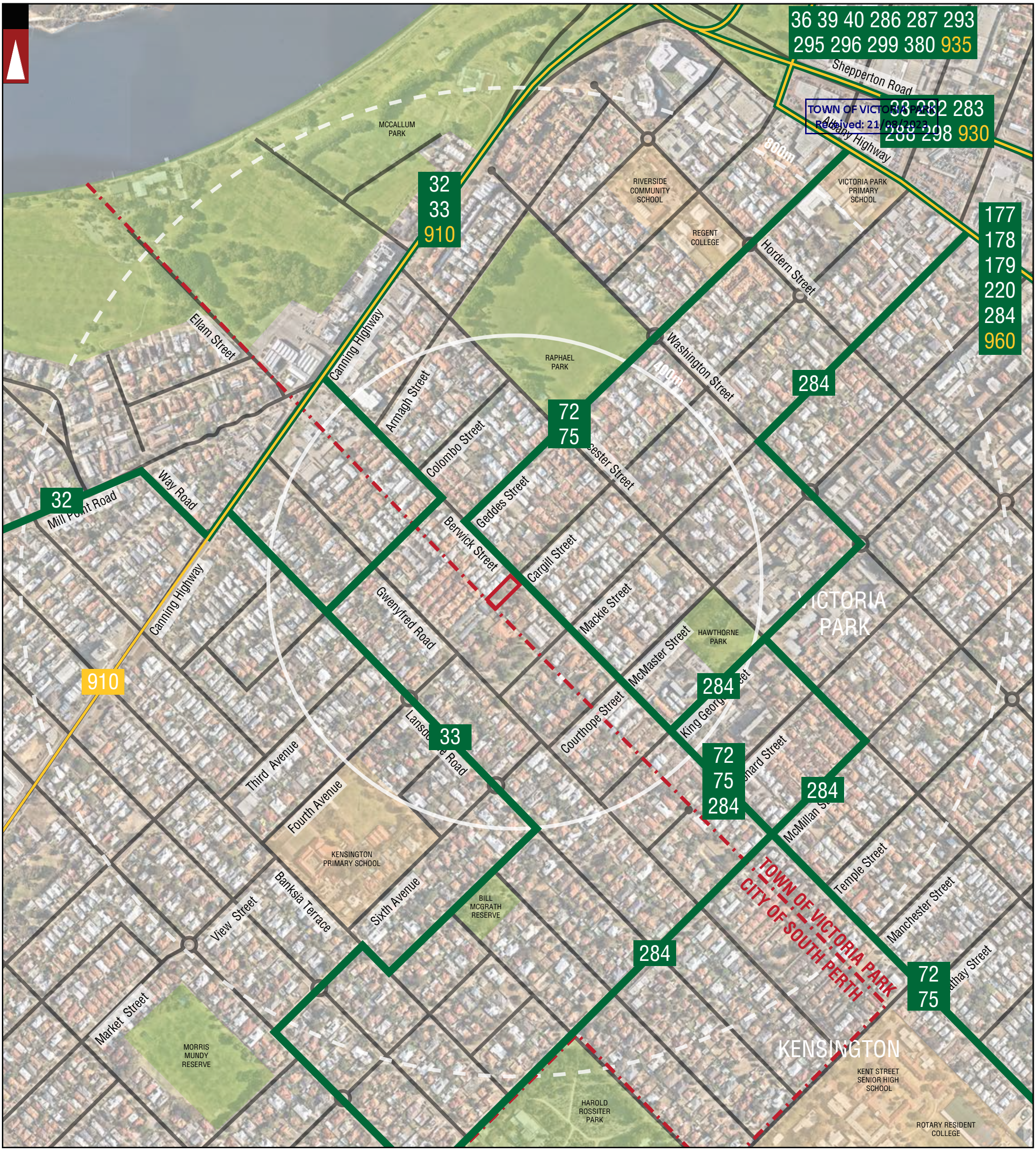
PROJECT: NO 67 BERWICK STREET, VICTORIA PARK

TITLE: BICYCLE NETWORK PLAN - 800M RADIUS

DRAWING NUMBER: KC01535.000_ S02

DRAWN BY: J.S.

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



PARKS AND RECREATION

WATERWAYS

PUBLIC PURPOSE

ROAD

Hay Street — STREET NAME

TOWN OF VICTORIA PARK — LOCAL GOVERNMENT NAME

LOCATION BOUNDARY

DISTANCE FROM LOCATION

NORTHBRIDGE — SUBURB NAME

LOCAL AUTHORITY BOUNDARY

BUS ROUTES

HIGH FREQUENCY BUS ROUTE

103 — BUS ROUTE NUMBER

990 — HIGH FREQUENCY 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

No	DATE	AMENDMENT
A	19-12-2022	ISSUED FOR REVIEW

PROJECT: NO 67 BERWICK STREET, VICTORIA PARK

TITLE: PUBLIC TRANSPORT PLAN - 800M RADIUS

DRAWING NUMBER: KC01535.000_ S03

DRAWN BY: J.S.

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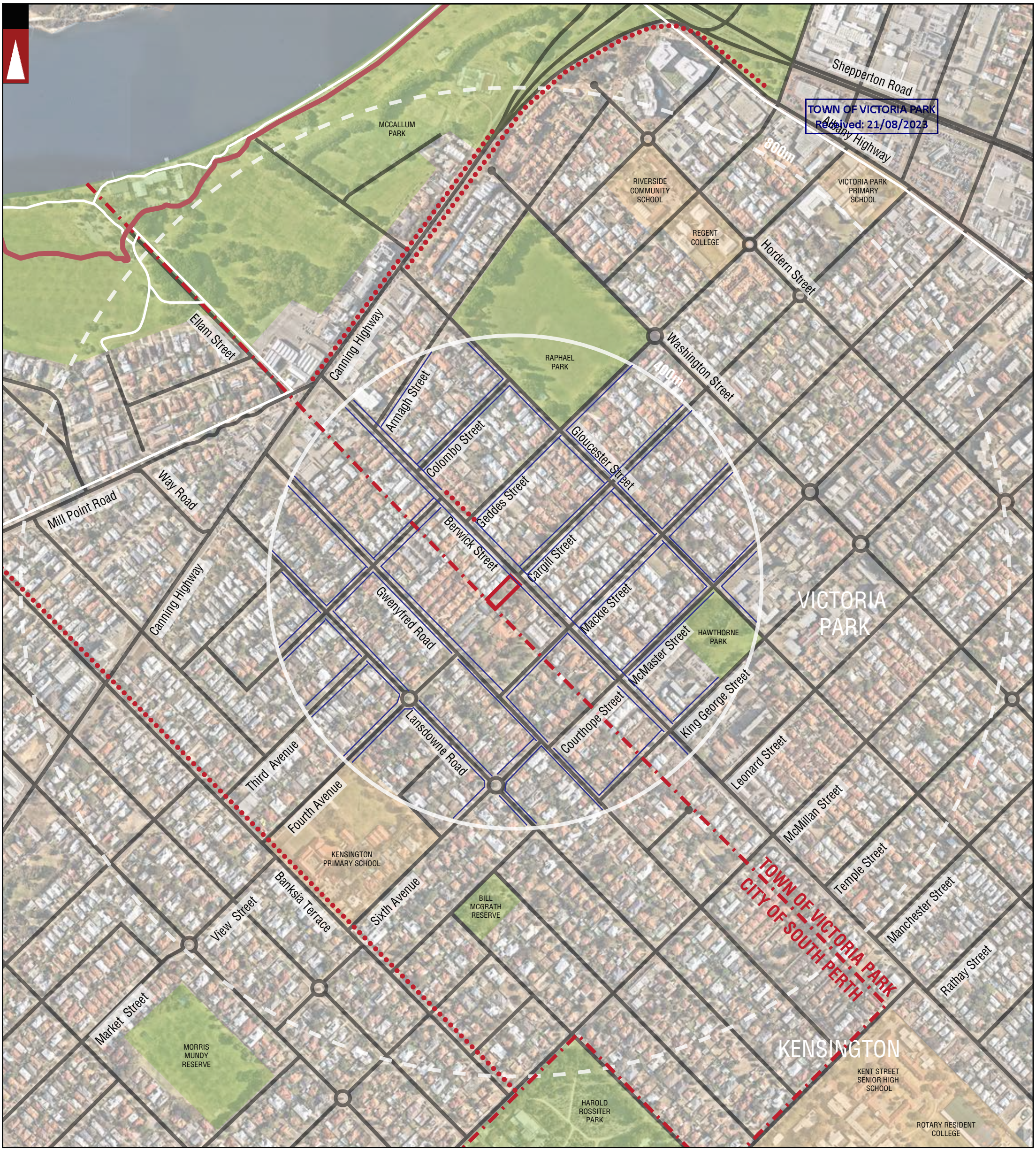
PO Box 1456 Scarborough WA 6922
PH: 08 9441 2700
WEB: www.kctt.com.au



PARKS AND RECREATION
WATERWAYS
PUBLIC PURPOSE
ROAD
Hay Street — STREET NAME
TOWN OF VICTORIA PARK — LOCAL GOVERNMENT NAME
LOCATION BOUNDARY
DISTANCE FROM LOCATION
NORTHBRIDGE — SUBURB NAME
LOCAL AUTHORITY BOUNDARY
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
A	19-12-2022	ISSUED FOR REVIEW

PROJECT: NO 67 BERWICK STREET, VICTORIA PARK

TITLE: PEDESTRIAN PATHS PLAN - 800M RADIUS

DRAWING NUMBER: KC01535.000_ S04

DRAWN BY: J.S.

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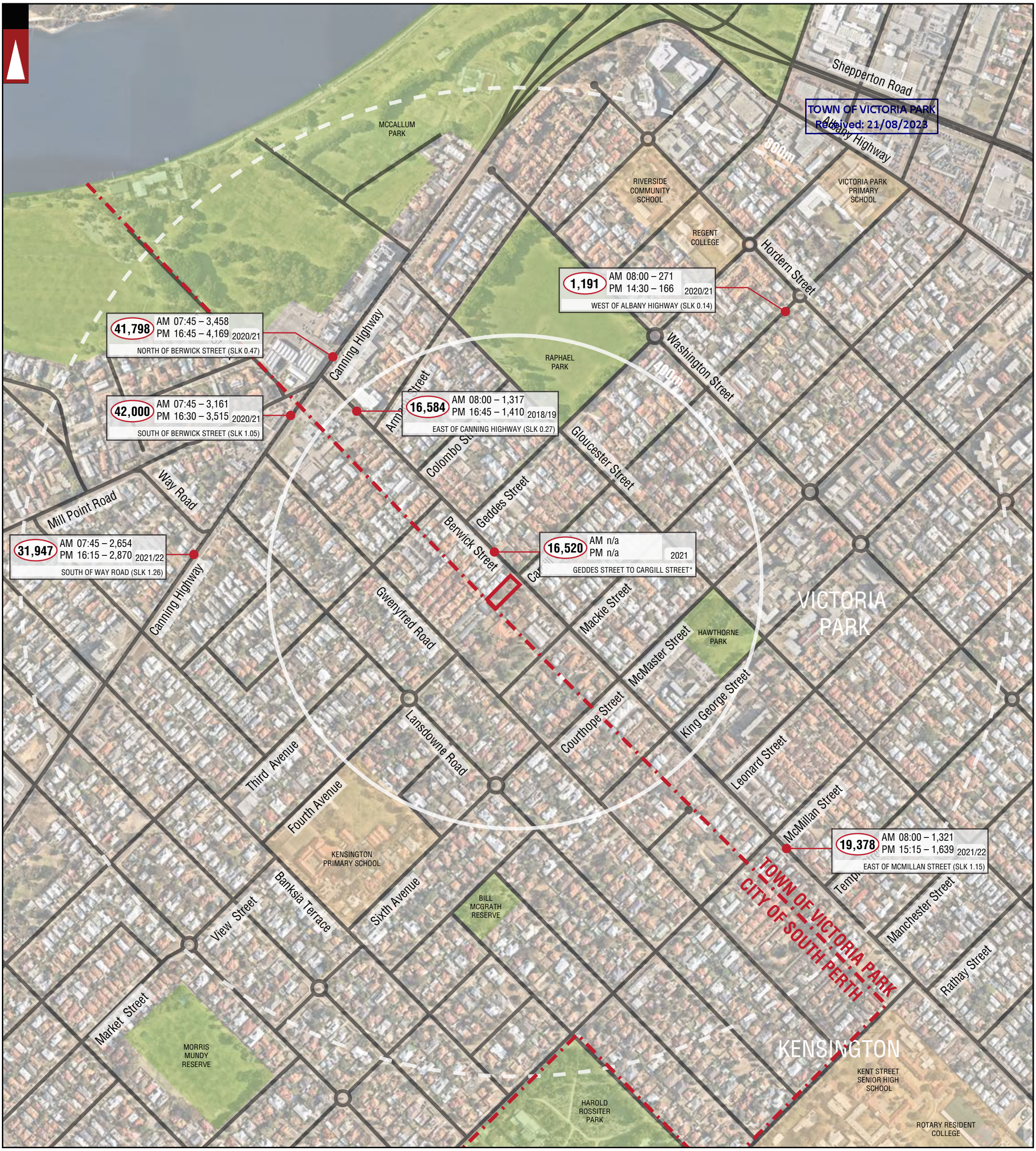
PO Box 1456 Scarborough WA 6922
PH: 08 9441 2700
WEB: www.kctt.com.au



PARKS AND RECREATION
WATERWAYS
PUBLIC PURPOSE
ROAD
Hay Street — STREET NAME
TOWN OF VICTORIA PARK — LOCAL GOVERNMENT NAME
LOCATION BOUNDARY
DISTANCE FROM LOCATION
NORTHBRIDGE — SUBURB NAME
LOCAL AUTHORITY BOUNDARY
5,512 — NUMBER OF VEHICLES PER DAY
AM 1145 – 381 PM 1630 – 480 — NUMBER OF VEHICLES PER AM PEAK HOUR / NUMBER OF VEHICLES PER PM PEAK HOUR
2014 — YEAR
EAST OF HARLOW ROAD — LOCATION

LEGEND

No	DATE	AMENDMENT
A	19-12-2022	ISSUED FOR REVIEW

PROJECT: NO 67 BERWICK STREET, VICTORIA PARK

TITLE: EXISTING TRAFFIC COUNTS - 800M RADIUS

DRAWING NUMBER: KC01535.000_ S05

DRAWN BY: J.S.

Civil & Traffic Engineering Consultants
KCTT (Trading as KC Traffic and Transport Pty Ltd)
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WEB: www.kctt.com.au

Appendix 3

Vehicle Turning Circle Plan

TOWN OF VICTORIA PARK
Received: 21/08/2023

Store

Outdoor Play Area
351.02 m²

Activity 3
C.I. @2.70
A: 97.26 m2
3+ Years
30 Children
(Req A = 97.5m2)

Wc

Prep

Activity 2
C.I. @2.70
A: 40.26 m2
2-3 Years
12 Children
(Req A = 39m2)

Cot
3.45 X 2.50

Activity 1
C.I. @2.70
A: 31.11 m2
0-2 Years
8 Children
(Req A = 26m2)

FFL @ 7.800

Uat

Foyer/Reception

Nappy

Prep

Portico

Bin St

VISITOR CARBAY 6
VISITOR CARBAY 5
VISITOR CARBAY 4
CARBAY 3
STAFF CARBAY 2
REVERSE PARK ONLY CARBAY 1
DISABLED CARBAY 11
VISITOR CARBAY 10
STAFF CARBAY 9
STAFF CARBAY 8
STAFF CARBAY 7

Sign age Required for Left Out Only
Kerbing required

Existing Footpath
LEFT ONLY IN
LEFT ONLY OUT

3-point turn required for egress

Berwick Street

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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

PROJECT:
No 67 Berwick Street, Victoria Park

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

DRAWING NUMBER:
KC01535.000_S20a

DRAWN BY:
J.S.

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

TOWN OF VICTORIA PARK
Received: 21/08/2023

Store

Outdoor Play Area
351.02 m²

Activity 3
C.I. @2.70
A: 97.26 m2
3+ Years
30 Children
(Req A = 97.5m2)

Wc

Prep

Activity 2
C.I. @2.70
A: 40.26 m2
2-3 Years
12 Children
(Req A = 39m2)

Activity 1
C.I. @2.70
A: 31.11 m2
0-2 Years
8 Children
(Req A = 26m2)

Cot
3.45 X 2.50

Nappy

Prep

Uat

FFL @ 7.800

Foyer/Reception

Portico

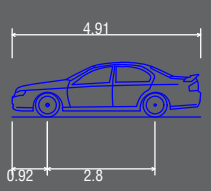
Bin St

VISITOR CARBAY 6
VISITOR CARBAY 5
VISITOR CARBAY 4
CARBAY 3
STAFF CARBAY 2
REVERSE PARK ONLY CARBAY 1
DISABLED CARBAY 11
VISITOR CARBAY 10
STAFF CARBAY 9
STAFF CARBAY 8
STAFF CARBAY 7

Signage Required for Left On Only
Kerbing required

Existing Footpath
LEFT ONLY IN
LEFT ONLY OUT

Berwick Street



B85 Vehicle (Realistic min radius) (2004)	
Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	5.750m

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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

PROJECT:
No 67 Berwick Street, Victoria Park

TITLE:
Vehicle Turning Circle Plan - B85 Passenger Vehicle (4.91m)

DRAWING NUMBER:
KC01535.000_S20b

DRAWN BY:
J.S.

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

TOWN OF VICTORIA PARK
Received: 21/08/2023

Store

Outdoor Play Area
351.02 m²

Activity 3
C.L @2.70
A: 97.26 m2
3+ Years
30 Children
(Req A = 97.5m2)

Activity 2
C.L @2.70
A: 40.26 m2
2-3 Years
12 Children
(Req A = 39m2)

Activity 1
C.L @2.70
A: 31.11 m2
0-2 Years
8 Children
(Req A = 26m2)

Wc
Prep
Cot
3.45 X 2.50
Nappy
Prep
Uat
FFL @ 7.800
Foyer/Reception
Portico
Bin St

VISITOR CARBAY 6
VISITOR CARBAY 5
VISITOR CARBAY 4
CARBAY 3
STAFF CARBAY 2
REVERSE PARK ONLY CARBAY 1
DISABLED CARBAY 11
VISITOR CARBAY 10
STAFF CARBAY 9
STAFF CARBAY 8
STAFF CARBAY 7

Signage Required for "Left Out Only"
Kerbing required

Existing Footpath
LEFT ONLY IN
LEFT ONLY OUT

Passenger vehicle (5.2 m)

Berwick Street

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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

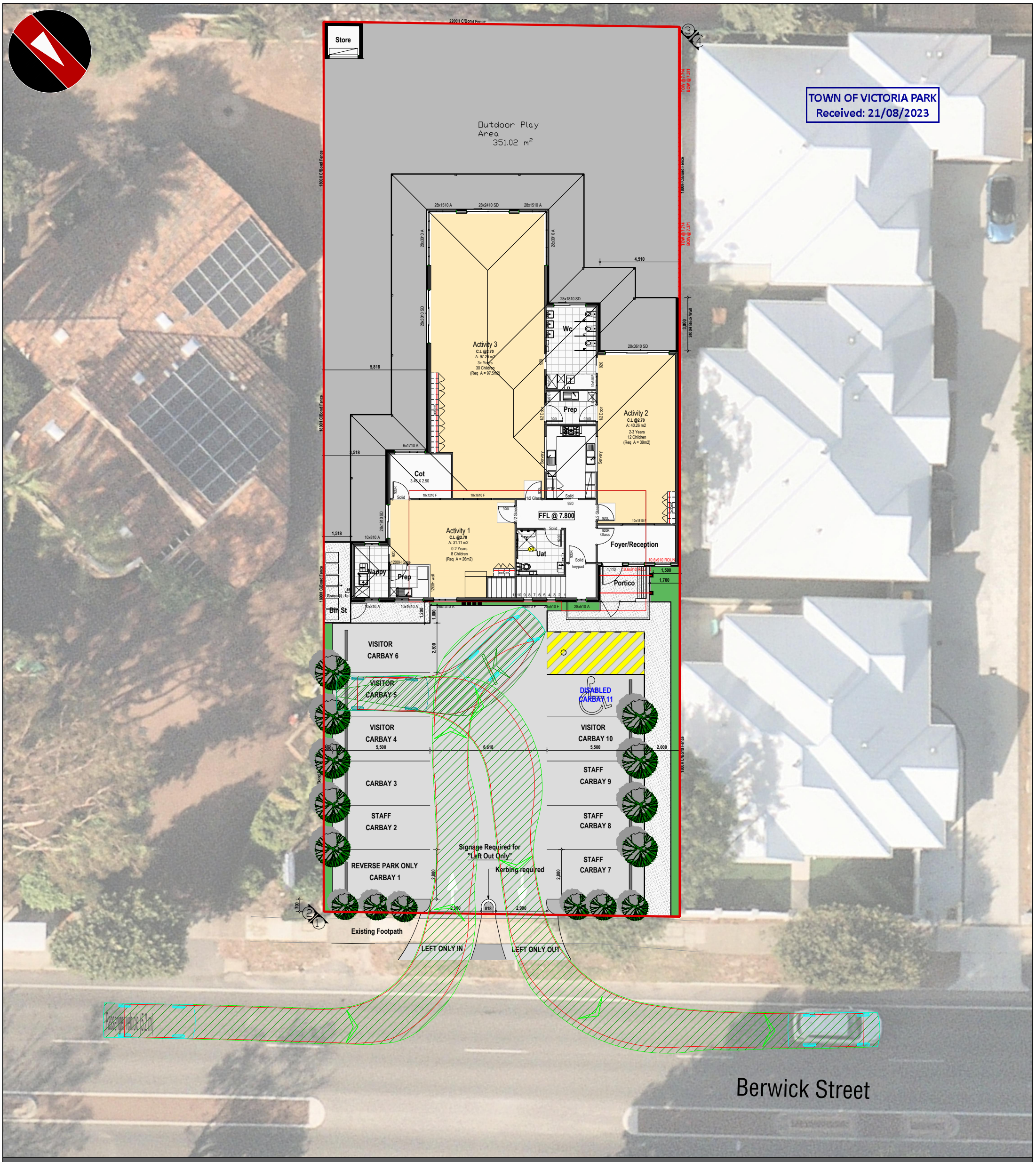
PROJECT:
No 67 Berwick Street, Victoria Park

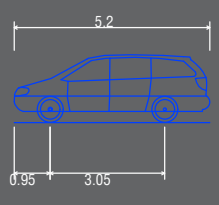
TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER:
KC01535.000_S21

DRAWN BY:
J.S.

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





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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

PROJECT:
No 67 Berwick Street, Victoria Park

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

DRAWING NUMBER:
KC01535.000_S22

DRAWN BY:
J.S.

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

Store

Outdoor Play Area
351.02 m²

Activity 3
C.L @2.70
A: 97.26 m2
3+ Years
30 Children
(Req A = 97.5m2)

Activity 2
C.L @2.70
A: 40.26 m2
2-3 Years
12 Children
(Req A = 39m2)

Activity 1
C.L @2.70
A: 31.11 m2
0-2 Years
8 Children
(Req A = 26m2)

Wc
Prep
Cot
3.45 X 2.50
Nappy
Prep
Uat
FFL @ 7.800
Foyer/Reception
Portico
Bin St

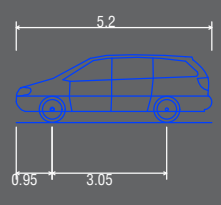
VISITOR CARBAY 6
VISITOR CARBAY 5
VISITOR CARBAY 4
CARBAY 3
STAFF CARBAY 2
REVERSE PARK ONLY CARBAY 1
DISABLED CARBAY 11
VISITOR CARBAY 10
STAFF CARBAY 9
STAFF CARBAY 8
STAFF CARBAY 7

Signage Required for "Left Out Only"
Kerbing required

Existing Footpath
LEFT ONLY IN
LEFT ONLY OUT

1800H C/Bond Fence
2200H C/Bond Fence

Berwick Street



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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

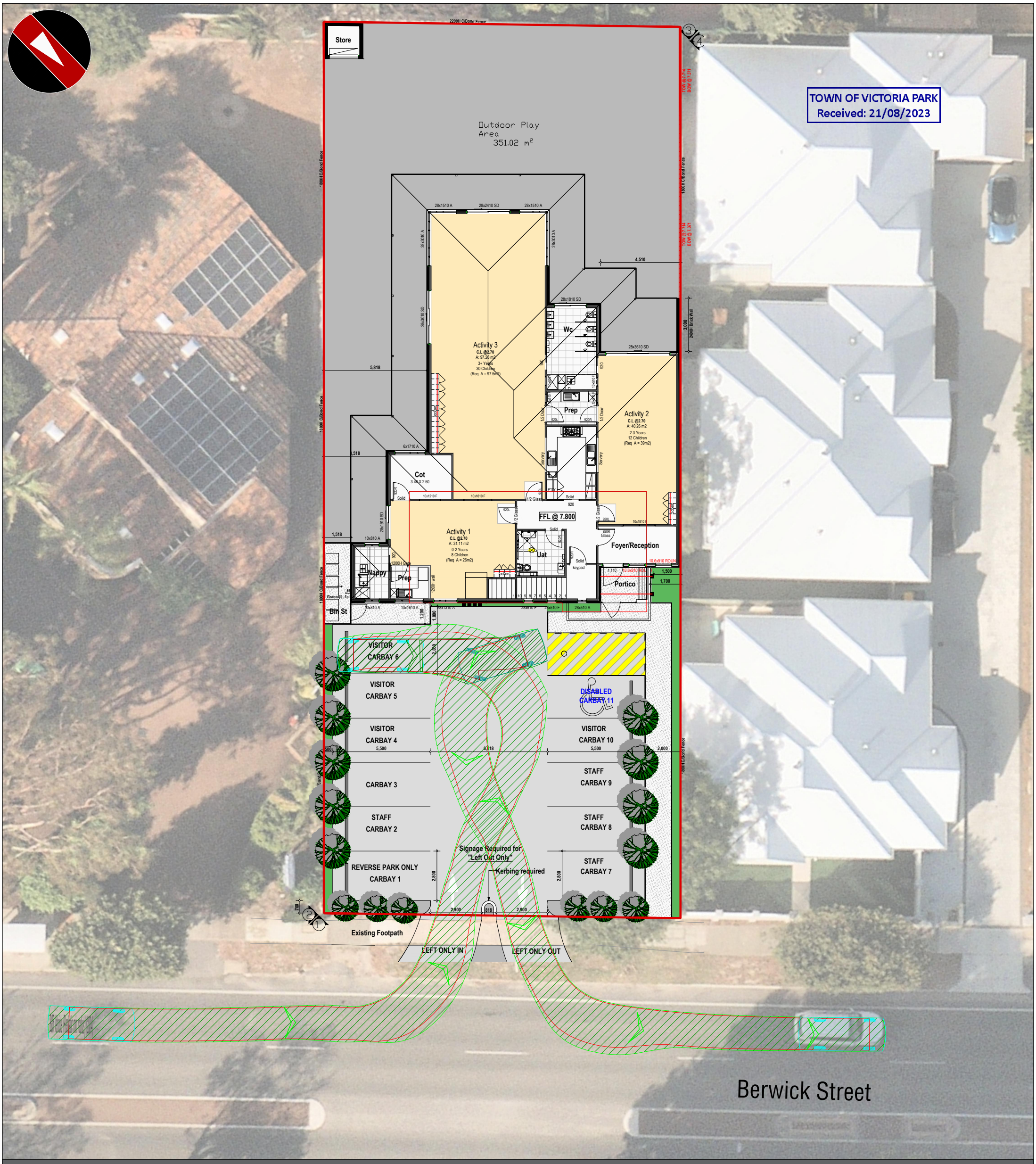
PROJECT:
No 67 Berwick Street, Victoria Park

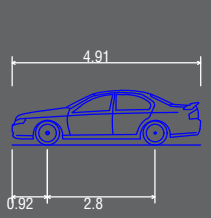
TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER:
KC01535.000_S23a

DRAWN BY:
J.S.

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





B85 Vehicle (Realistic min radius) (2004)	
Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	5.750m

- 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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

PROJECT:
No 67 Berwick Street, Victoria Park

TITLE:
Vehicle Turning Circle Plan - B85 Passenger Vehicle (4.91m)

DRAWING NUMBER:
KC01535.000_S23b

DRAWN BY:
J.S.

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

TOWN OF VICTORIA PARK
Received: 21/08/2023

Store
Outdoor Play Area
351.02 m²
Activity 3
C.L @2.70
A: 97.26 m2
3+ Years
30 Children
(Req A = 97.5m2)
Wc
Prep
Activity 2
C.L @2.70
A: 40.26 m2
2-3 Years
12 Children
(Req A = 39m2)
Cot
3.45 X 2.50
Activity 1
C.L @2.70
A: 31.11 m2
0-2 Years
8 Children
(Req A = 26m2)
FFL @ 7.800
Uat
Nappy
Prep
Foyer/Reception
Portico
Bin St
2200H C/Bond Fence
1800H C/Bond Fence
1200H C/Bond Fence
TOW @ 7.714
BOW @ 7.371
4,510
3,000
240 Brick Wall
5,818
1,518
1,110
1,500
1,700
VISITOR CARBAY 6
VISITOR CARBAY 5
VISITOR CARBAY 4
CARBAY 3
STAFF CARBAY 2
REVERSE PARK ONLY CARBAY 1
DISABLED CARBAY 11
VISITOR CARBAY 10
STAFF CARBAY 9
STAFF CARBAY 8
STAFF CARBAY 7
Signage Required for "Left Out Only"
Kerbing required
Existing Footpath
LEFT ONLY IN
LEFT ONLY OUT
Berwick Street

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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

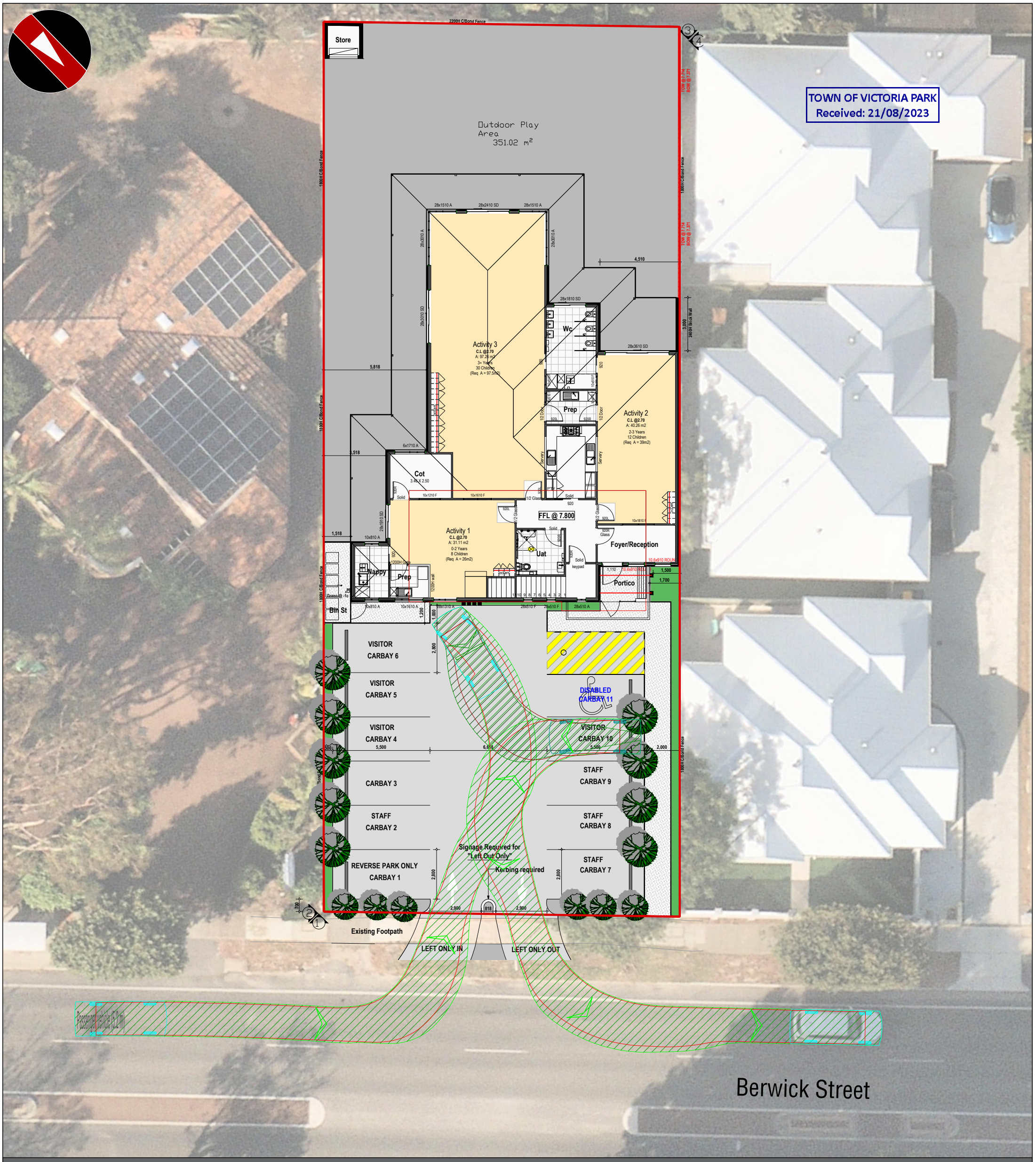
PROJECT:
No 67 Berwick Street, Victoria Park

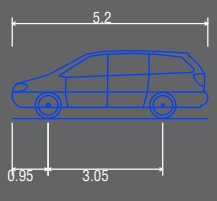
TITLE:
Vehicle Turning Circle Plan - B99 Passenger Vehicle (5.2m)

DRAWING NUMBER:
KC01535.000_S24

DRAWN BY:
J.S.

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





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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

PROJECT:
No 67 Berwick Street, Victoria Park

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

DRAWING NUMBER:
KC01535.000_S25

DRAWN BY:
J.S.

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

TOWN OF VICTORIA PARK
Received: 21/08/2023

Store

Outdoor Play Area
351.02 m²

Activity 3
C.I. @2.70
A: 97.26 m2
3+ Years
30 Children
(Req A = 97.5m2)

Activity 2
C.I. @2.70
A: 40.26 m2
2-3 Years
12 Children
(Req A = 39m2)

Activity 1
C.I. @2.70
A: 31.11 m2
0-2 Years
8 Children
(Req A = 26m2)

Wc
Prep
Cot
3.45 X 2.50
Nappy
Prep
Uat
FFL @ 7.800
Foyer/Reception
Portico
Bin St

VISITOR CARBAY 6
VISITOR CARBAY 5
VISITOR CARBAY 4
CARBAY 3
STAFF CARBAY 2
REVERSE PARK ONLY CARBAY 1
DISABLED CARBAY 11
VISITOR CARBAY 10
STAFF CARBAY 9
STAFF CARBAY 8
STAFF CARBAY 7

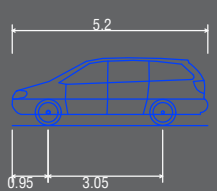
Signage Required for "Left Out Only"
Kerbing required

Existing Footpath
LEFT ONLY IN
LEFT ONLY OUT

2200H C/Bond Fence
1800H C/Bond Fence
1200H C/Bond Fence
1000H C/Bond Fence
240/361 Brick Wall

3-point turn required for egressing

Berwick Street



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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

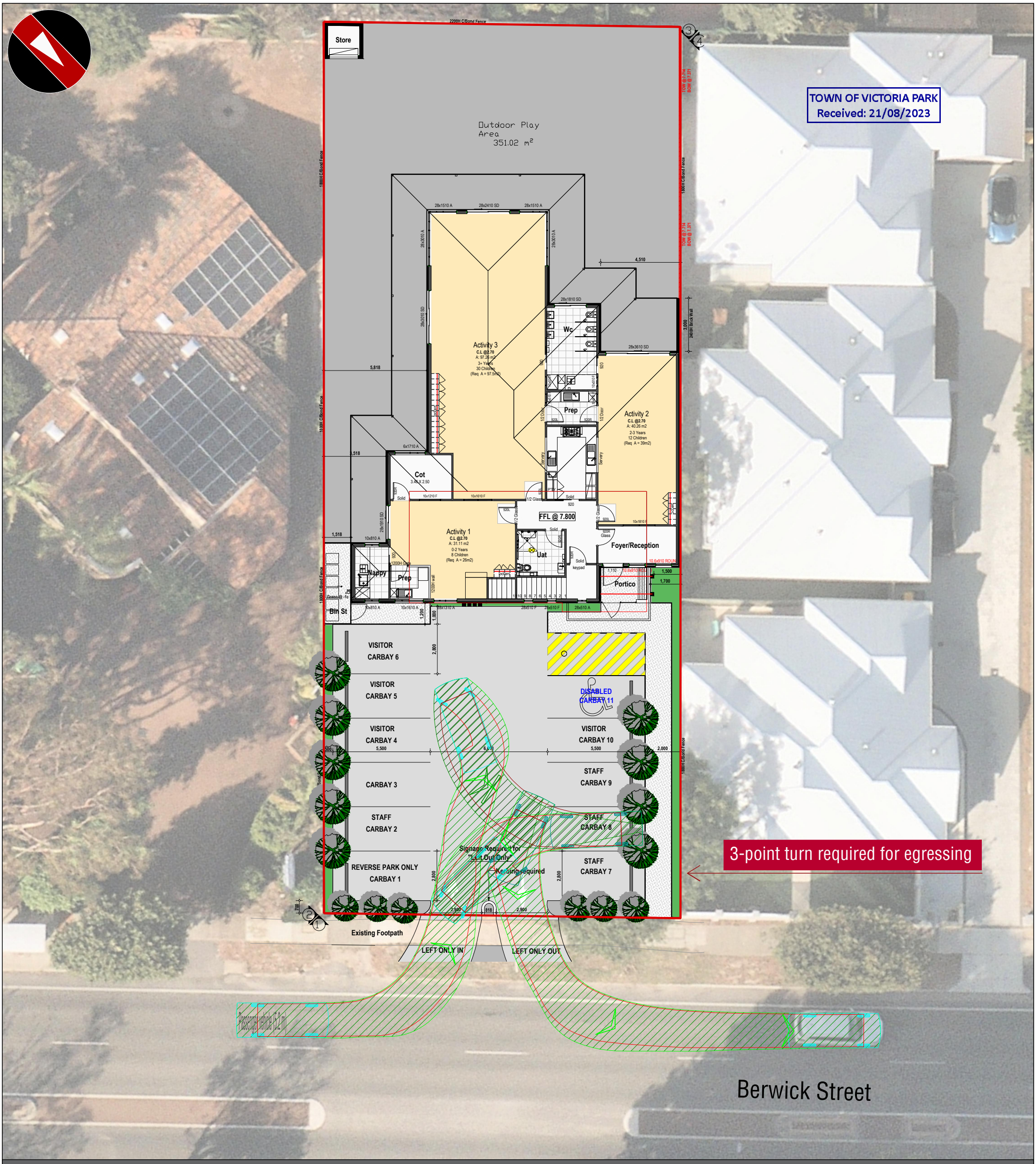
PROJECT:
No 67 Berwick Street, Victoria Park

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

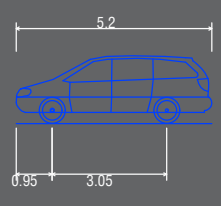
DRAWING NUMBER:
KC01535.000_S26

DRAWN BY:
J.S.

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



3-point turn required for egressing



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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

PROJECT:
No 67 Berwick Street, Victoria Park

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

DRAWING NUMBER:
KC01535.000_S27

DRAWN BY:
J.S.

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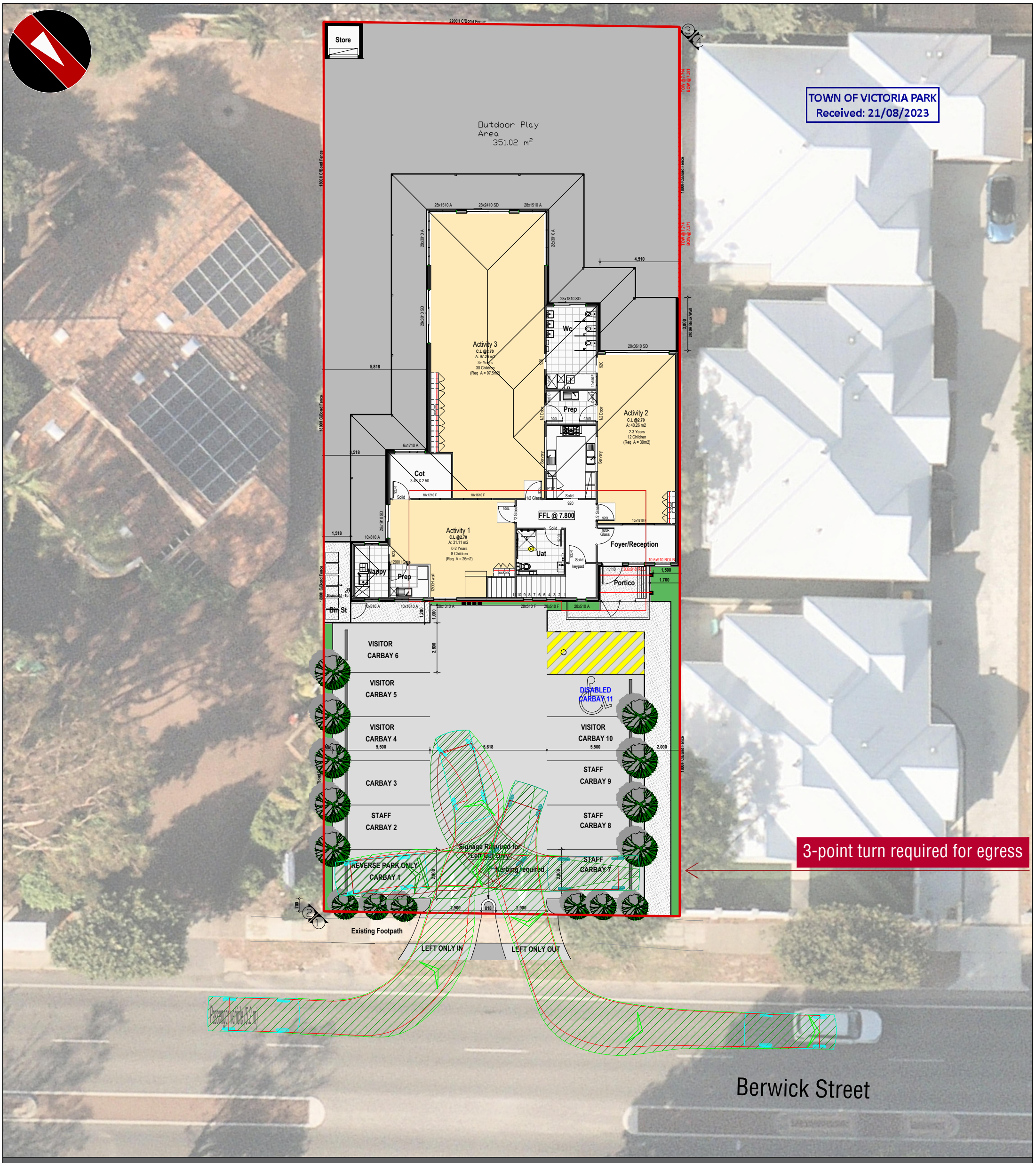
WEB: www.kctt.com.au



3-point turn required for egress

5.2	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
0.95 3.05	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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

PROJECT:
No 67 Berwick Street, Victoria Park

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

DRAWING NUMBER:
KC01535.000_S28a

DRAWN BY:
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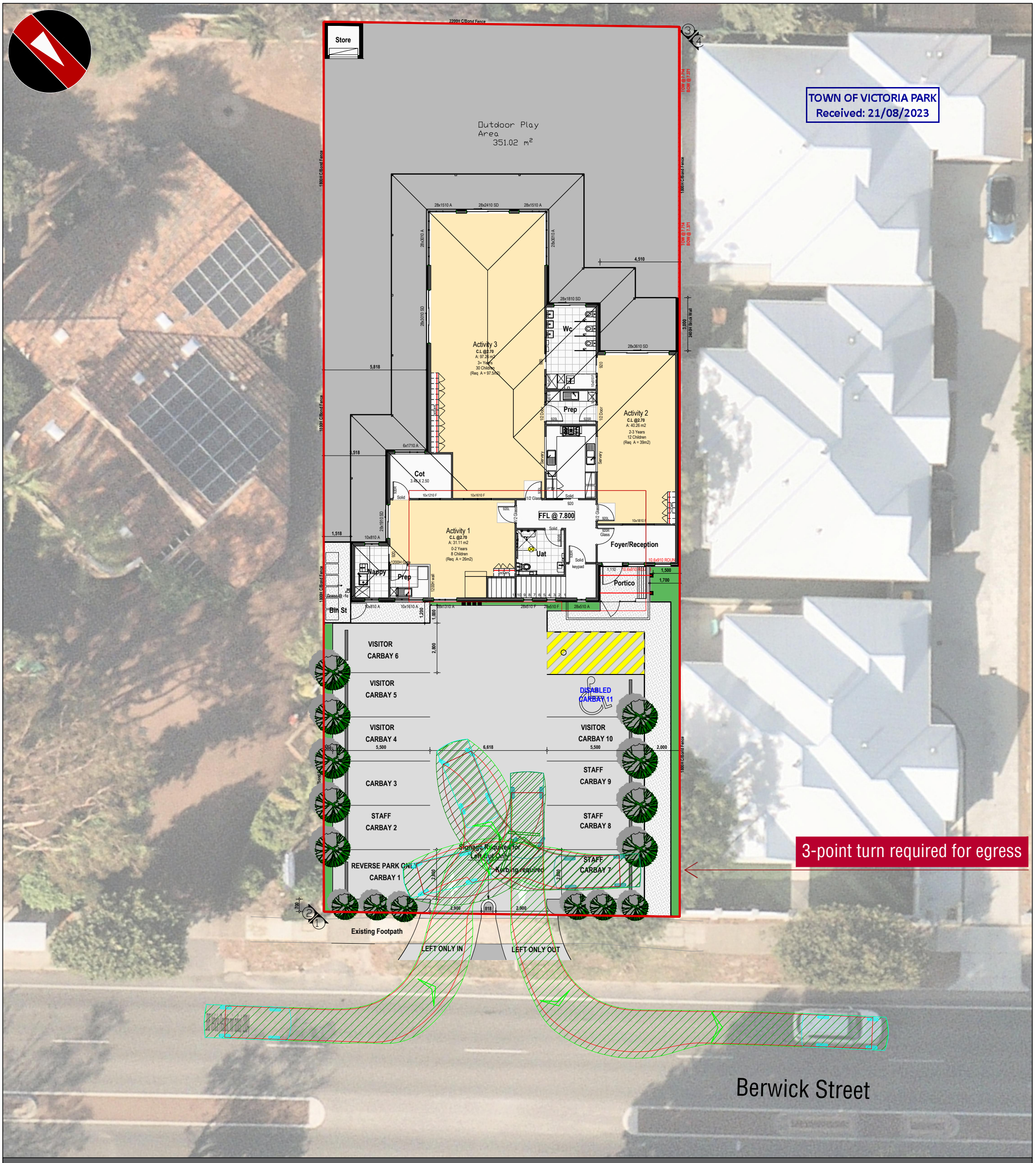

B85 Vehicle (Realistic min radius) (2004)		
Overall Length	4.910m	
Overall Width	1.870m	
Overall Body Height	1.421m	
Min Body Ground Clearance	0.159m	
Track Width	1.770m	
Lock-to-lock time	4.00s	
Curb to Curb Turning Radius	5.750m	

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
C	18-08-2023	PROPOSED LAYOUT AMENDED
B	04-07-2023	PROPOSED LAYOUT AMENDED
A	19-12-2022	ISSUED FOR REVIEW

PROJECT:
No 67 Berwick Street, Victoria Park

TITLE:
Vehicle Turning Circle Plan - B85 Passenger Vehicle (4.91m)

DRAWING NUMBER:
KC01535.000_S28b

DRAWN BY:
J.S.

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