Metro Inner Development Assessment Panel Agenda

Meeting Date and Time: Tuesday, 22 October 2024; 9:30am
Meeting Number: MIDAP/41
Meeting Venue: 140 William Street, Perth

A live stream will be available at the time of the meeting, via the following link:
MIDAP/41 - 22 October 2024 - City of Stirling

PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement
2. Apologies
3. Members on Leave of Absence
4. Noting of Minutes

PART B – CITY OF STIRLING

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
   - 3.1 Lot No 156 and 157 (House Numbers 279 and 283) Harborne Street and Lot No. 2 (House Number 4) Jon Sanders Drive, Glendalough – Child Care Premises – DAP/24/02729
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

PART C – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals
2. General Business
3. Meeting Closure

Please note, presentations for each item will be invited prior to the items noted on the agenda and the presentation details will be contained within the related information documentation

ATTENDANCE

DAP Members

Eugene Koltasz (Presiding Member)
Karen Hyde (Deputy Presiding Member)
John Syme (Specialist Member)

Part B – City of Stirling
Cr Michael Dudek (Local Government DAP Member, City of Stirling)
Cr Teresa Olow (Local Government DAP Member, City of Stirling)

Minute Secretary

Laura Simmons (DAP Secretariat)

Officers in Attendance

Zoe Hendry (DAP Secretariat)

PART A – INTRODUCTION

1. **Opening of Meeting, Welcome and Acknowledgement**
2. **Apologies**
3. **Members on Leave of Absence**
4. **Noting of Minutes**

PART B – CITY OF STIRLING

1. Declarations of Due Consideration

2. Disclosure of Interests

3. Form 1 DAP Applications

3.1 Lot No 156 and 157 (House Numbers 279 and 283) Harborne Street and Lot No. 2 (House Number 4) Jon Sanders Drive, Glendalough – Child Care Premises – DAP/24/02729

4. Form 2 DAP Applications

Nil.

5. Section 31 SAT Reconsiderations

Nil.

Item 3.1 - LOT NO. 156 AND 157 (HOUSE NUMBERS 279 AND 283) HARBORNE STREET AND LOT NO. 2 (HOUSE NUMBER 4) JON SANDERS DRIVE, GLENDALOUGH – CHILD CARE PREMISES

Form 1 – Responsible Authority Report

12

DAP Name:	P
Local Government Area:	
Applicant:	
Owner:	P
Value of Development:	2 2 ☐ 5 ☒ 6
Responsible Authority:	
Authorising Officer:	P
LG Reference:	24 0665
DAP File No:	P 24 02729
Application Received Date:	15 2024
Report Due Date:	14 2024
Application Statutory Process Timeframe:	90 13
Attachment(s):	1 P 15 2024 2 P 3 4 P N 3 5 P 15 2024 6 P 7 13 2024 15 2024 15 2024

	N P 15 2024 15 2024 15 2024 15 2024 P 15 2024 P 15 2024 8 P P 6 2024 9 10 P 24 2024	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☐ ☒ N	
	☐ N	

Responsible Authority Recommendation

P

Approve P P 24 02729
3 68 2
P *Planning and Development (Local Planning Schemes) Regulations 2015* P
N 3 P 156 157
N 279 283 2 N 4

Conditions

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DRAWING TITLE	Revision	Date	Drawing Number	Drawn By
P	08	01 07 2024	01	
3	08	01 07 2024	02	
3	08	01 07 2024	03	
P	08	01 07 2024	04	
P	08	01 07 2024	05	
P	08	01 07 2024	06	
P	08	01 07 2024	07	
P	08	01 07 2024	08	
	08	01 07 2024	09	
	08	01 07 2024	10	
P P	08	01 07 2024	11	
P	08	01 07 2024	12	
	08	01 07 2024	13	
	08	01 07 2024	14	

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Environmental Protection (Noise) Regulations 1997.

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Environmental Protection (Noise) Regulations 1997

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Advice Notes

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11 P N

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13 P *Environmental Protection Act 1986* *Environmental Protection (Noise) Regulations 1997*

14 *Food Act 2008* *Food Regulations 2009* N 4674 2004

15 P

1 50

Details: outline of development application

P	P N 3 P 3

P	60 156 157 N 279 283 2 N 4
P P P	N
P P P	N
	P P 9 4 P 3 64 *Planning and Development (Local Planning Schemes) Regulations 2015*
	1 513 ^{2}
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	☒ N ☐ ☐
	☐ N ☒ P ☐ P ☐
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	N

Proposal:

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- P 7 00 6 30
- V
- 12 11 102

V

- 336 19

Background

156 157 N 279 283

2 N 4

V

V

P P

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8

Legislation and Policy:

- *Planning and Development Act 2005*
- *Planning and Development (Development Assessment Panels) Regulations 2011*
- *Planning and Development (Local Planning Schemes) Regulations 2015*
- *Metropolitan Region Scheme*
- *City of Stirling Local Planning Scheme No. 3* P 3

P P

- P P 5 4 N PP5 4
- P P 7 0 PP7 0

P

- V 1 P

P P

P P

- P P 6 1 PP6 1
- P P 6 3 PP6 4
- P P 6 4 P PP6 4
- P P 6 6 PP6 6
- P P 6 7 P PP6 7
- P P 6 11 PP6 11
- P P 6 12 P P PP6 12
- P P 6 18 P PP6 18

Consultation:

P

28
64 3 6 *the Planning and Development (Local Planning Schemes) Regulations 2015*

16 2024 13
2024 18
14

Submissions Received	Within 200m Radius	Greater than 200m Radius	Number of Submissions
SUPPORT	3 75	1 25	4 22 2
OBJECT	8 57 1	6 42 9	14 77 8
OTHER (Comment)	0 0	0	0 0

Public Consultation Submissions		
Submission Number	**Submission Details**	**Officer Comment**
8		7
7	P	
7		

Public Consultation Submissions		
Submission Number	**Submission Details**	**Officer Comment**
		P V
2		
1		
1		22 336 10 152
1		P P P P P P
1		3

- P
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-

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9

Department of Health – Environmental Health Directorate (DOH)

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Guidance for the Assessment of Environmental Factors – Separation Distances between Industrial and Sensitive Land Uses (Guidelines)

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  7 00
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Planning Assessment:

1 P
2 P P
3 P P 6 4 P PP 6 4
4 P
5 P
6 P P

6 P

1. Proposed Land Use

LPS3 Clause 4.3 and Land Use Permissibility	
Land Use	**Use Class**
P	P

LPS3 Clause 4.3 and Land Use Permissibility	
Land Use	**Use Class**
	9 4 P 3 64 *Planning and Development (Local Planning Schemes) Regulations 2015*

P

P 3

Residential Zone Objectives	
Objective	**Officer Comment**
a) To provide for residential development at a range of densities with a variety of housing type and size, to meet the current and future needs of the community.	
b) To provide for a range of non-residential uses, which are compatible with and complementary to residential development.	P P

P P 6 4 P

P

2. Primary Planning Controls

Element	Provisions	Proposed
	P 8	P 4 8
	P 2	P 1 9 11 7
	1 5	N P 5 1

Element	Provisions	Proposed
		P 3 3 P 14
P P	• • 100 P • 1 2 3 P	• P P N
	• 10 • 1 5 • 2	• 22 336 • N 0 5 • 0 9 4 8 • 1 6 2 4
P	21	12 102 V

6

3. Local Planning Policy 6.4 - Child Care Premises (LPP 6.4)

P PP 6 4

- P 2 2 1 2
- P 1 8 2
- P 0 98 1 5
- P 2
- P

PP 6 4

LPP 6.4 – Policy Objectives	
Objective	**Officer Comment**
Prioritise the location of Child Care Premises close to activity centres and along urban corridors.	N
Ensure new buildings respect the existing or future built form, scale and character of the area.	
Provide landscaping to mitigate development impacts on the amenity of the surrounding area.	19 336 22 151 10
Ensure developments in residential areas are located along roads that can carry anticipated traffic volumes and minimises the impact on the function and safety of the local road network.	P
Ensure Child Care Premises operate in a manner that mitigates the impacts of amenity on people living in nearby dwellings with regard to intensity of use, hours of operation, noise, traffic impacts, light spill, waste management and the provision of facilities. *Require buildings to be designed in a way which minimises the impacts of noise, overlooking, overshadowing, traffic, car parking and access.* *Provide a safe and connected environment for pedestrians both on and around the site.*	

PP 6 4

P

PP 6 4

1

Figure 1 - Portion of dividing fence to be made of masonry or modular material.

PP 6 4

4. <u>Parking and Access</u>

P P 6 7

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P

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N

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PP 6 7

LPP 6.7 Parking and Access			
Land Use	**Policy Rate**	**Proposed**	**Bays Required**
P	1	13	13
	1 7	72	10 10 2
Parking Reductions 800 10			2 2 3
Total Required			21
Total Provided onsite			12
Reciprocal Parking			9
Total Provided:			21
0 5			

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N 1 25
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252
54 8 00 9 00 43
3 00 6 00

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5. Public Art

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PP 6 12 P

PP 6 12 2
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6. City of Stirling Design Review Panel (DRP)

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28 2024 6 2024
P 6 2024
8

15 2024

P
P

Conclusion:

Mallica Pty Ltd

Attachment 1 - Development Application Plans received 15 July 2024

Address:Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Childcare Centre

Job Number: 23105

Drawing No	Description
01	Cover Page
02	3D
03	3D
04	Existing Site Survey
05	Site Plan
06	Overall Site Plan
07	Amalgamation Plan
08	Context Plan
09	Aerial
10	Ground Floor
11	Breeze Path Plan
12	Roof Plan
13	Elevations
14	Sections/Solar Study

GERMANO DESIGNS

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V 1 V 11062995 11 07 2024

V

Revision	Description	Date
8.00	Landscaping Changes	01.07.24
7.00	DRP Comments	25.06.24
6.00	DRP Comments	07.05.24
5.00	DRP	07.03.24
4.00	Changes	27.02.24
3.00	Concept	21.02.24
2.00	Concept	02.02.24
1.00	Concept	31.01.24

Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
3D

Scale:	Sheet Size:
1:7.69	A1
Project No:	**Revision Number:**
23105	8.00

Drawing No.:
02 of 14

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V

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Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
3D

Scale:	Sheet Size:
1:7.69	A1
Project No:	**Revision Number:**
23105	8.00

Drawing No.:
03 of 14

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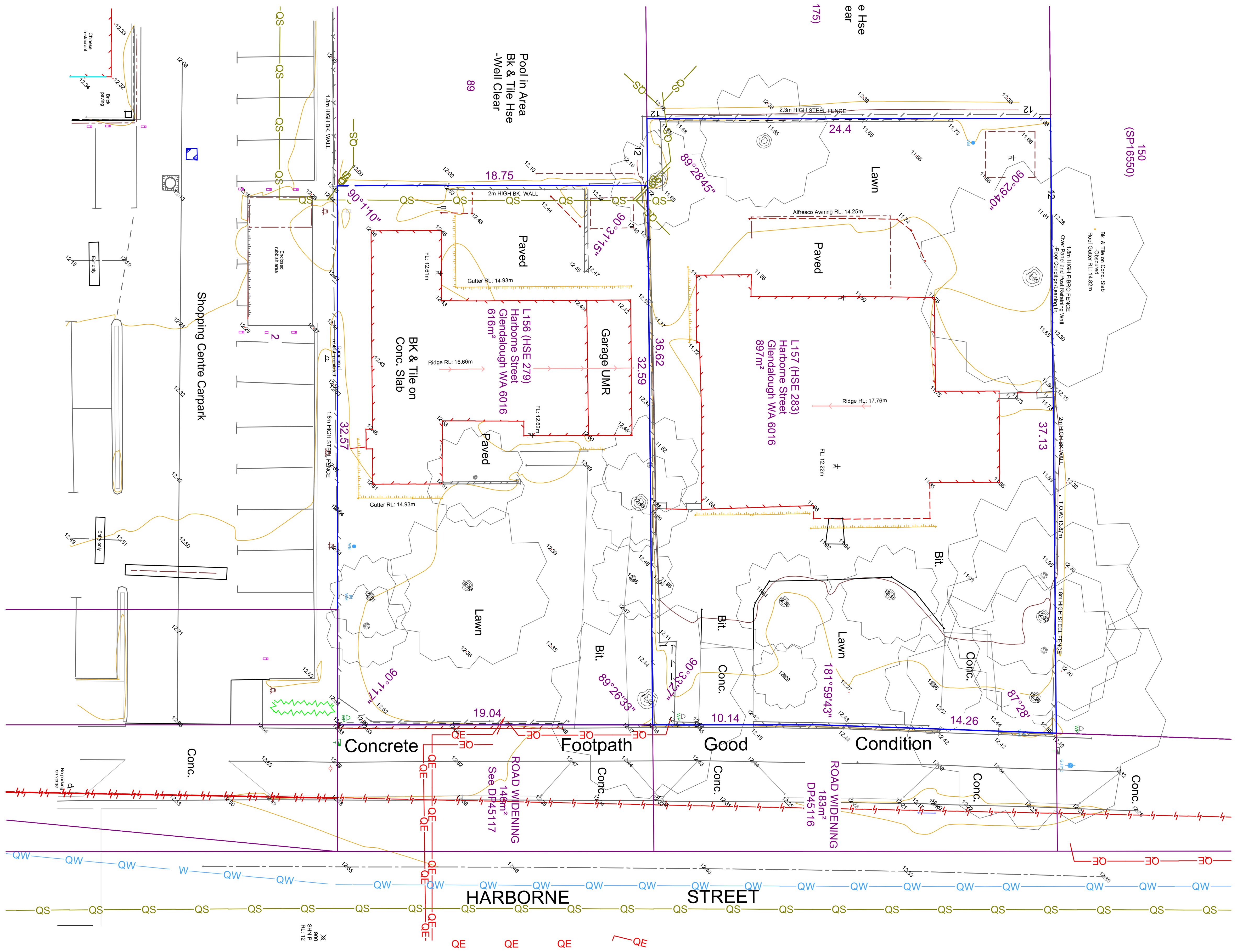

Landgate SCDB only

Existing boundaries have been extracted from Landgate's Spatial Cadastral Database, which is only a model of the cadastre. The depicted boundary locations are a graphical representation only and as they have not been re-established by survey. MNG does not guaranteed the position unless stated otherwise. Re-establishment of lot boundaries by a Licensed Surveyor is recommended for any works on or about a boundary. This note is an integral part of this plan

Detail/Feature Survey

Surface features and levels have been surveyed to meet the requested scope of works accuracy. The surface may be contoured to depict topography or defined only by spot heights.For clarity on hard copy some level information is not shown, refer to 3D digital file. Above ground indicators (markers) of underground services are located where visible. Third parties utilising this information should confirm the capture accuracies meet requirements prior to use. This note is an integral part of this plan.

MNG LOCATE- Class D

Quality level D (QL-D) is the lowest level providing the gathering of information such as BYDA or any existing site plans showing the indicative position of the utility. No equipment used to locate, and no potholing is carried out. Broad indication of any utility presence with no site verification.

Class 2 Accuracy Statement

This survey has been completed to CLASS 2 Accuracy
Horizontal Accuracy ± 20mm
Vertical Accuracy ± 20mm
This note is an integral part of this plan

Rev.	Description	Drawn	Date	Checked
B	Additional survey of shopping centre car-park	T. J. M.	09/06/2024	R. R.
A	Initial Issue	S. M.	02/01/2024	R. R.

SCALE 1:200 @ A3
ALL DISTANCES ARE IN METRES
For a true to scale reproduction of this plan, plot it to A3 with the Paging Scaling set to None.

The boundaries shown on this plan were not re-established as part of this survey, therefore this plan does not guarantee their accuracy. Existing easements, encumbrance or interest are not depicted and a title search is recommended to obtain this information. Re-establishment of the cadastral boundaries is recommended for any proposed works on or near existing boundaries.

Surveyor:- SMEH
Survey Date:22/01/2024
Precal/Cad:-SCDB

Lots 156 and 157 (HES 279 & 283)
Harborne Street - Glendalough WA 6016
Detail Feature Survey

CLIENT:
Davison Advisory Services

The contents of this plan are current and correct as of the date stated within the revision panel. All consultants and persons wishing to utilise this data should satisfy themselves of this plans currency by contacting the McMullen Nolan Group.

MNG.
MCMULLEN NOLAN GROUP
Level 1, 2 Sabre Crescent
Jandakot, W.A. 6164
PO Box 3526, Success
W.A. 6964, Australia
Offices in: Perth | Melbourne | Kimberley| South West WA

Tel: (08) 6436 1599
Fax: (08) 6436 1500
info@mngsurvey.com.au
www.mngsurvey.com.au
ABN 90 009 363 311

Project Mngr TREVOR VEEN | Datum PCG2020/AHD

106148- DE- 001 - B
Job Number | Type | Plan Number | Revision

Revision	Description	Date
8.00	Landscaping Changes	01.07.24
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6.00	DRP Comments	07.05.24
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2.00	Concept	02.02.24
1.00	Concept	31.01.24

Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Existing Site Survey

Scale:
Sheet Size: A1

Project No: 23105
Revision Number: 8.00

Drawing No.:
04 of 14

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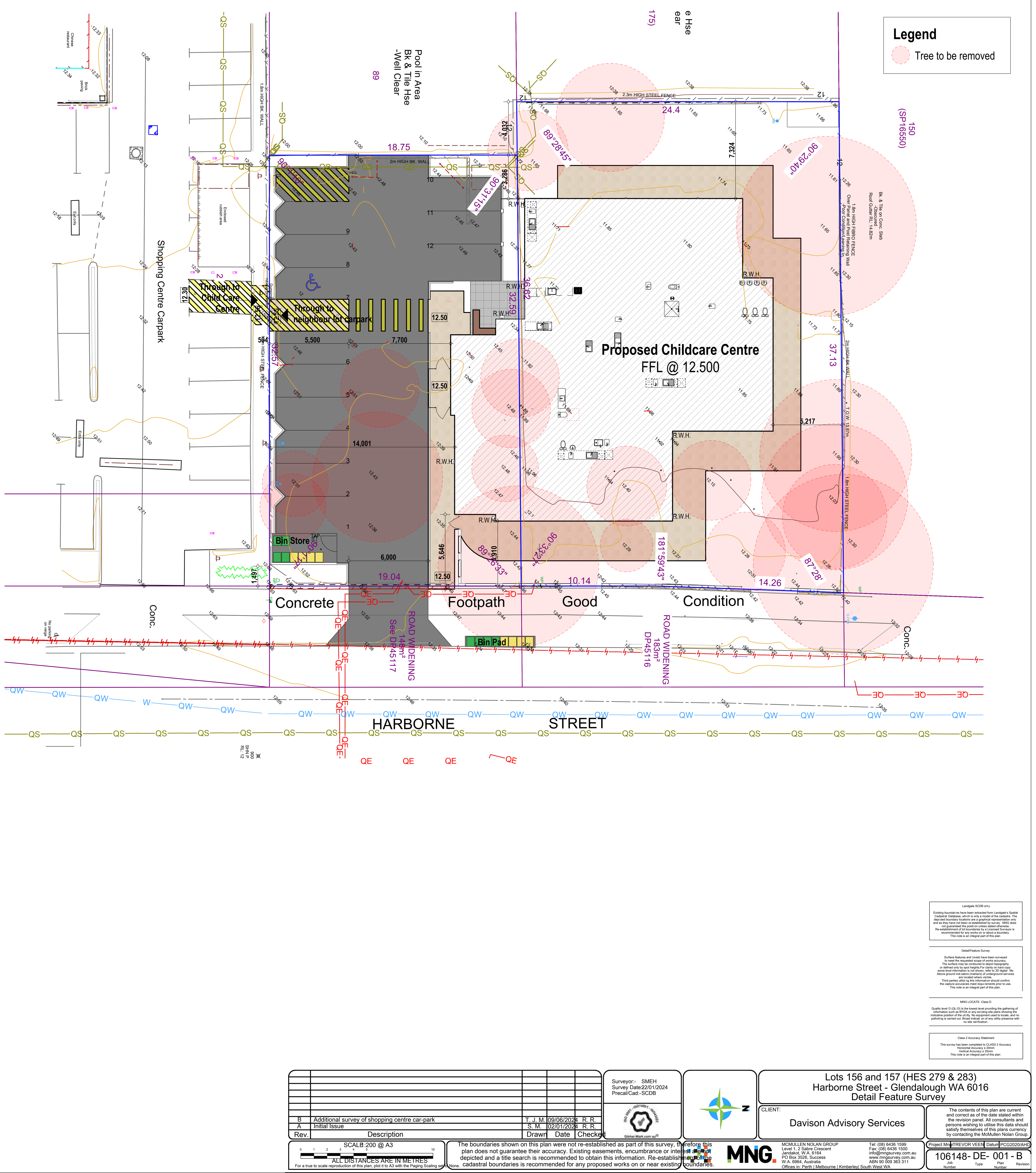

Zone	Area	Perim
Store	7.35	11,560
Bin Store	12.01	14,900
Childcare	470.40	97,560
	489.76 m²	124,020 mm

Zoning:	R60
Policies:	Local Centre
Heritage:	NA
Bushfire:	No
BAL:	No
Acoustic:	TBC
Sewer:	Street
Power:	Above Ground
Coastal:	NA
Water:	RHS
Wind Rating:	TBC

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1.00	Concept	31.01.24

Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Site Plan

Scale:

Sheet Size: A1

Project No: 23105

Revision Number: 8.00

Drawing No.: 05 of 14

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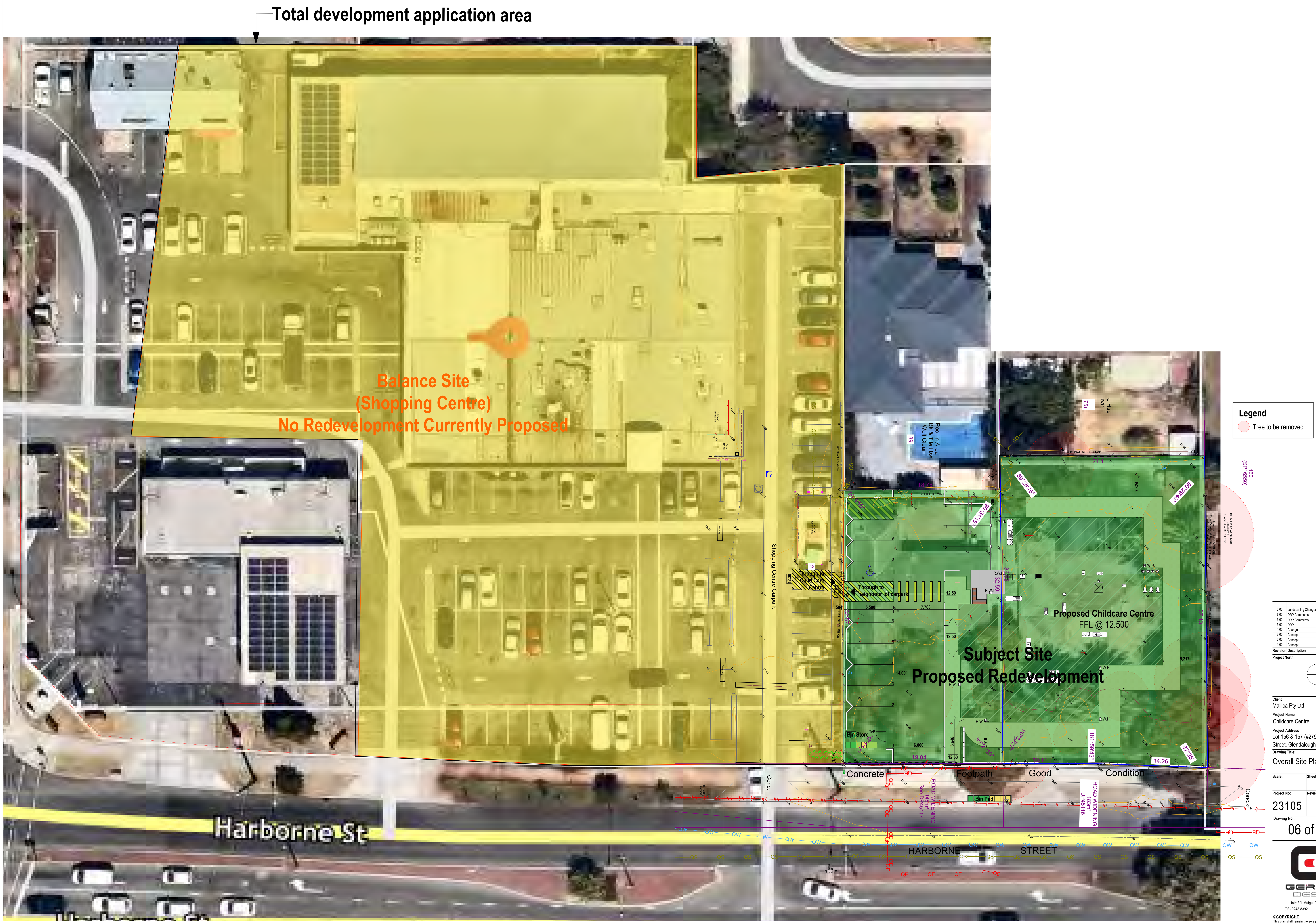

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Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Overall Site Plan

Scale:

Sheet Size: A1

Project No: 23105

Revision Number: 8.00

Drawing No.: 06 of 14

GERMANO DESIGNS
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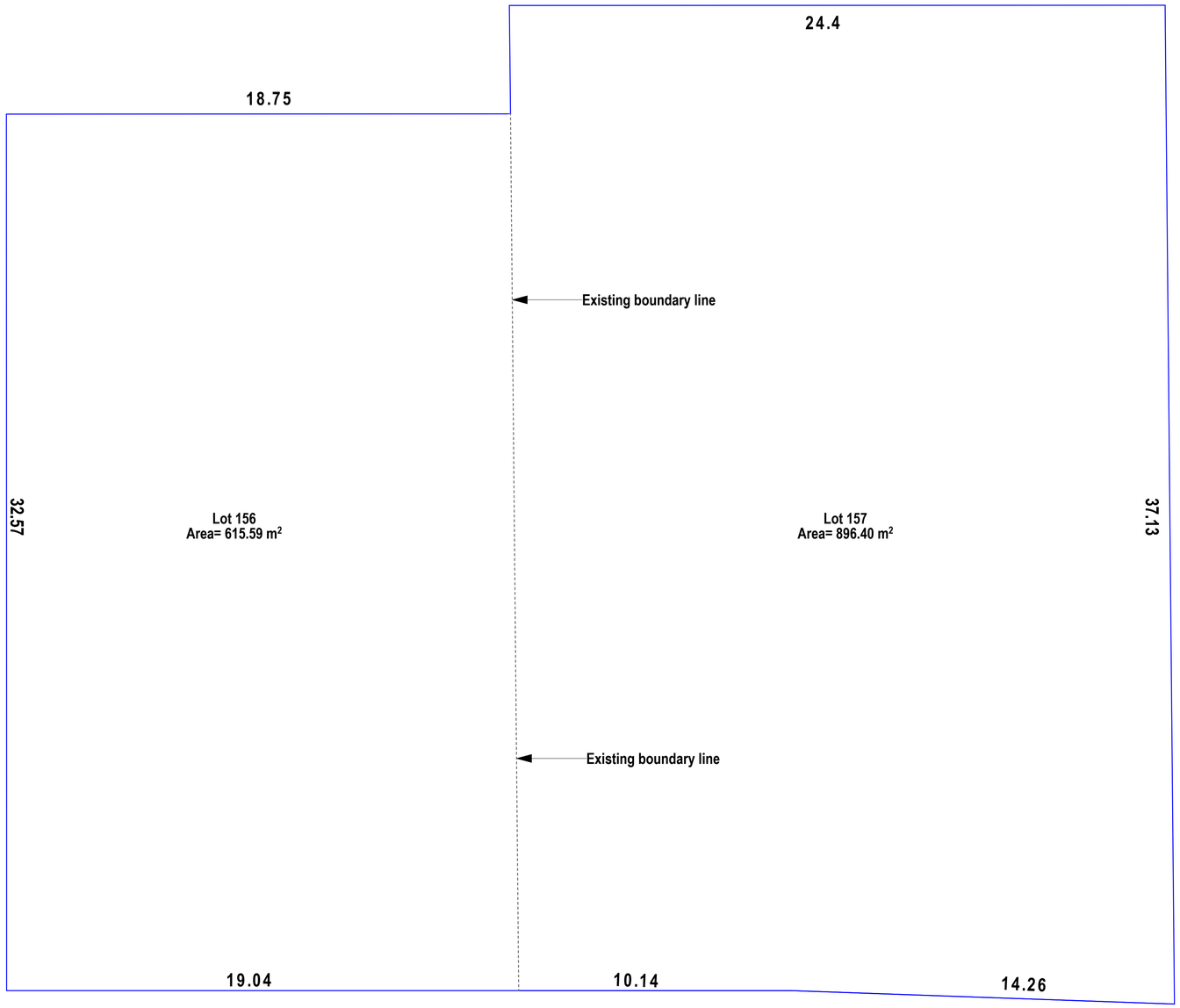

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Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Amalgamation Plan

Scale:	Sheet Size:
1:100	A1
Project No:	**Revision Number:**
23105	8.00

Drawing No.:
07 of 14

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Commercial: Glendalough Village on Harborne Street

Apartments: 291 Harborne Street

Commercial: 23 Rawlins Street

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Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Context Plan

Scale:	**Sheet Size:**
	A1
Project No:	**Revision Number:**
23105	8.00

Drawing No.:
08 of 14

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Project North:

N

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Aerial

Scale:	Sheet Size: A1
Project No: 23105	**Revision Number:** 8.00

Drawing No.: 09 of 14

GERMANO DESIGNS
Unit: 3/1 Mulgul Road, Malaga W.A 6090
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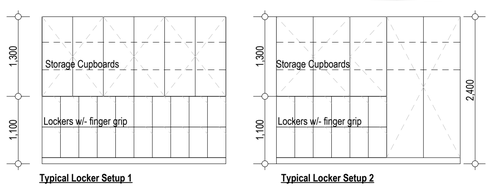
11062995
V 1 V 11 07 2024

Child / Room Calculations

Room	Age (Yrs)	Quant.	Size	Staff Req
Activity 1	*0-1*	*12*	*40.23m²*	*3*
Activity 2	*1-2*	*12*	*40.71m²*	*3*
Activity 3	*2-3*	*20*	*65.64m²*	*4*
Activity 4	*3+*	*28*	*91.72m²*	*3*
Total Internal = (Min 3.25m² per child)		**72**	**238.30m²** (Min 234.00m² req)	
Total External Play Area = (Min 7m² per child)		**72**	**504.20m²** (Min 504.00m² req)	



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Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Ground Floor

Scale:	Sheet Size:
1:100	A1
Project No:	**Revision Number:**
23105	8.00

Drawing No.:
10 of 14

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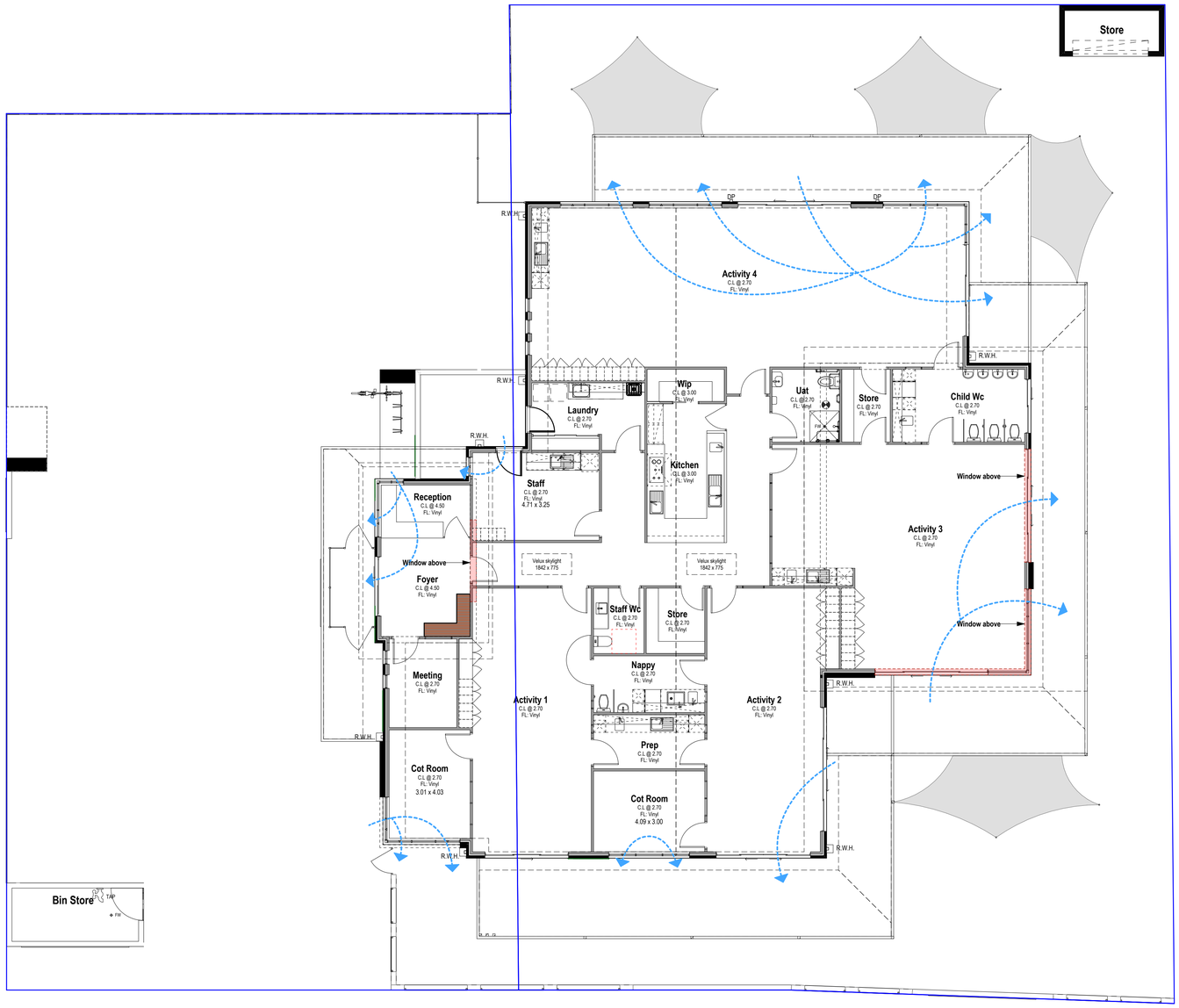

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Revision	**Description**	**Date**

Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Breeze Path Plan

Scale:	**Sheet Size:**
	A1
Project No:	**Revision Number:**
23105	8.00

Drawing No.:
11 of 14

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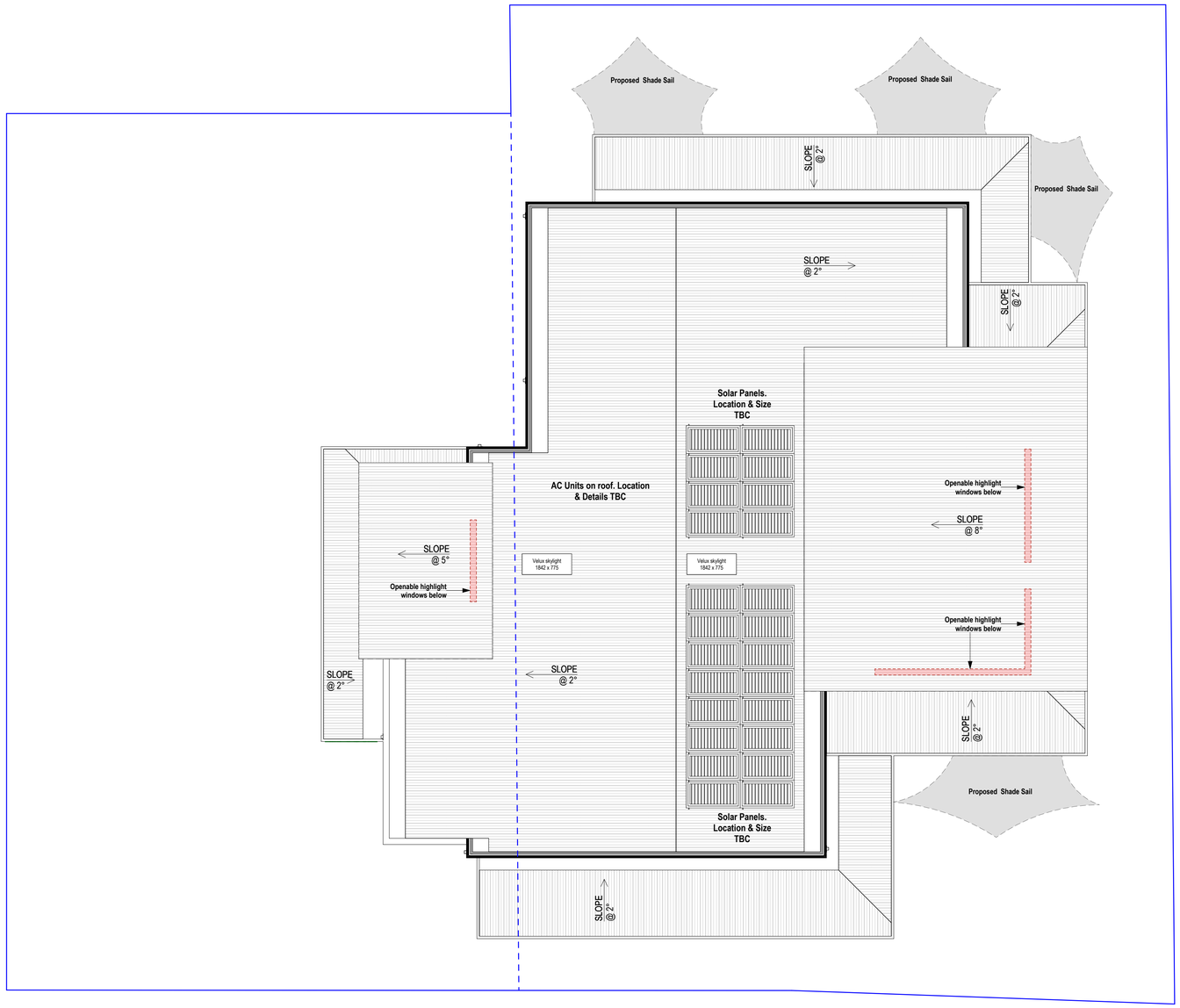

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8.00	Landscaping Changes	01.07.24
7.00	DRP Comments	25.06.24
6.00	DRP Comments	07.05.24
5.00	DRP	07.03.24
4.00	Changes	27.02.24
3.00	Concept	21.02.24
2.00	Concept	02.02.24
1.00	Concept	31.01.24

Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Roof Plan

Scale:

Sheet Size: A1

Project No: 23105

Revision Number: 8.00

Drawing No.:
12 of 14

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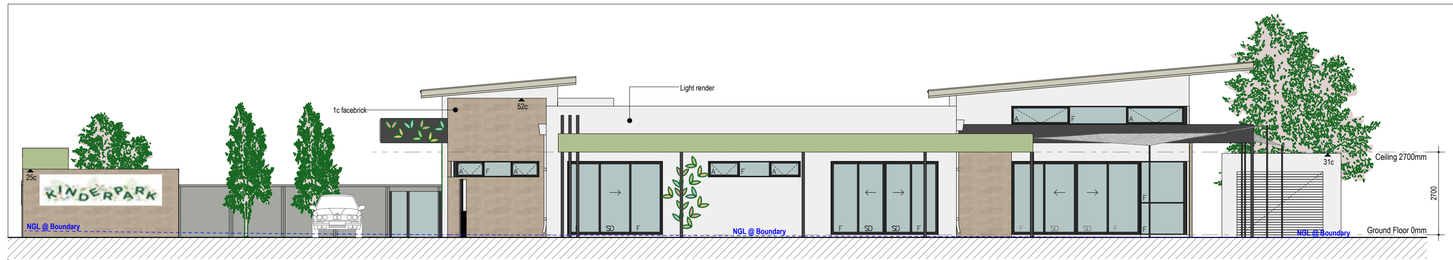

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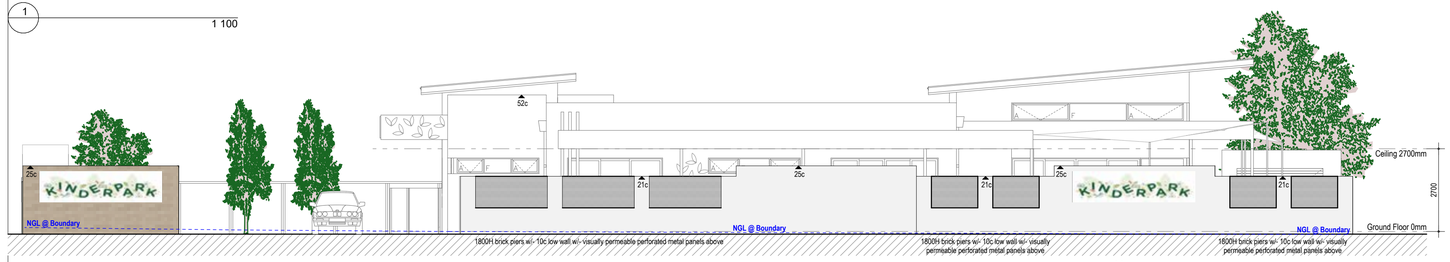

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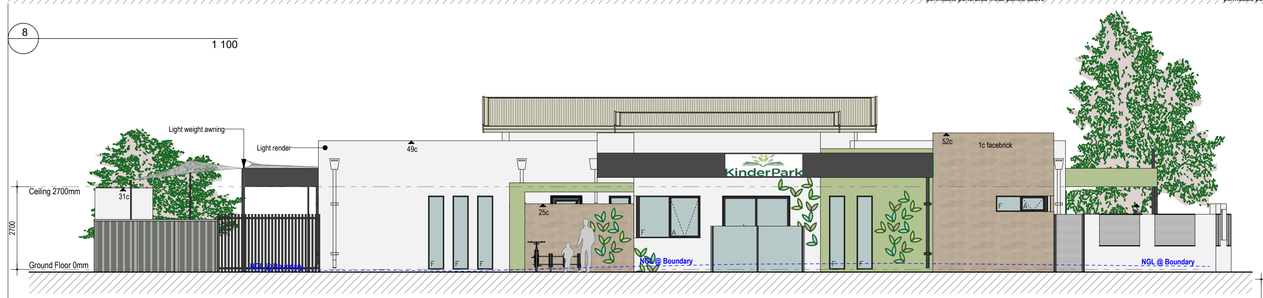

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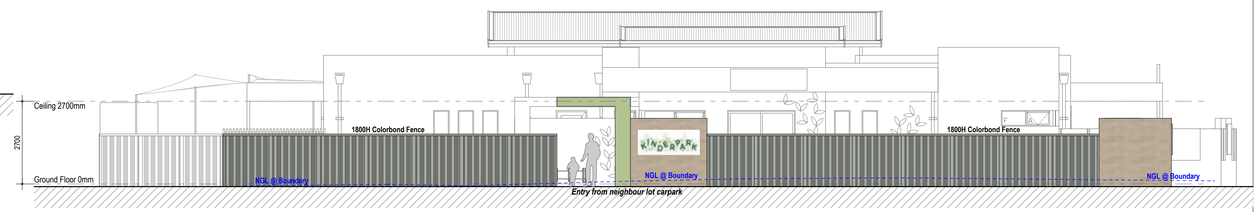

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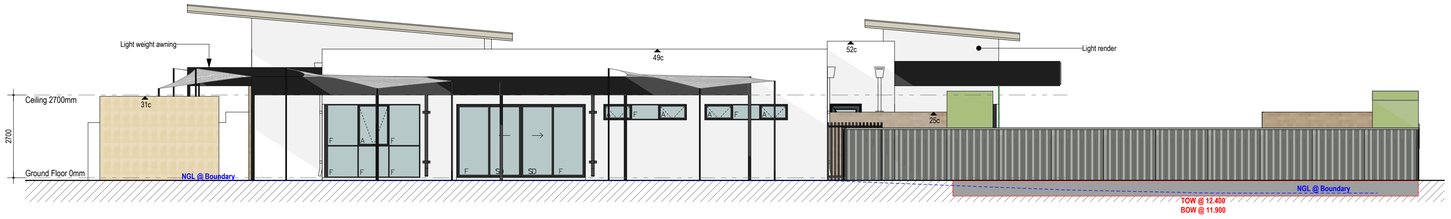

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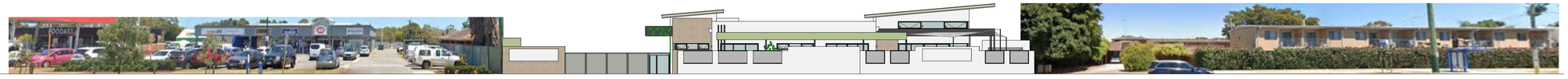

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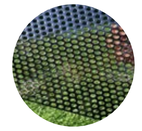
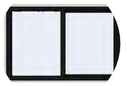
Material & Colour Schedule

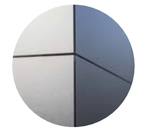


Perforated Screen



Window Frames "Jason Window Charcoal Lustre"

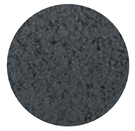
Acrylic Render Dulux "Mt Aspiring"



Alucobond panels on awning

Powdercoated Gate

Facebrick Midland Brick



Bitumen Driveway

Liquid Limestone Path

Revision	Description	Date
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Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Elevations

Scale: 1:100, 1:200 **Sheet Size:** A1

Project No: 23105 **Revision Number:** 8.00

Drawing No.: 13 of 14

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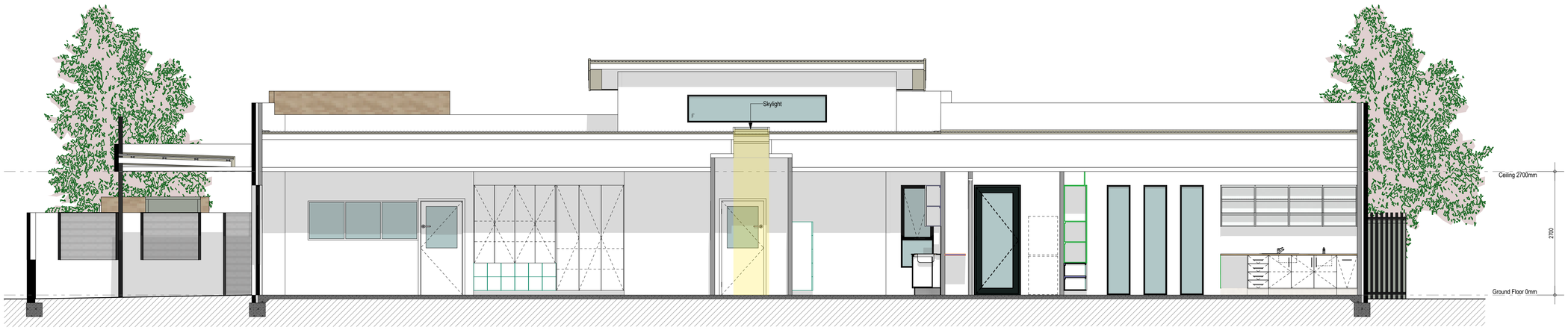

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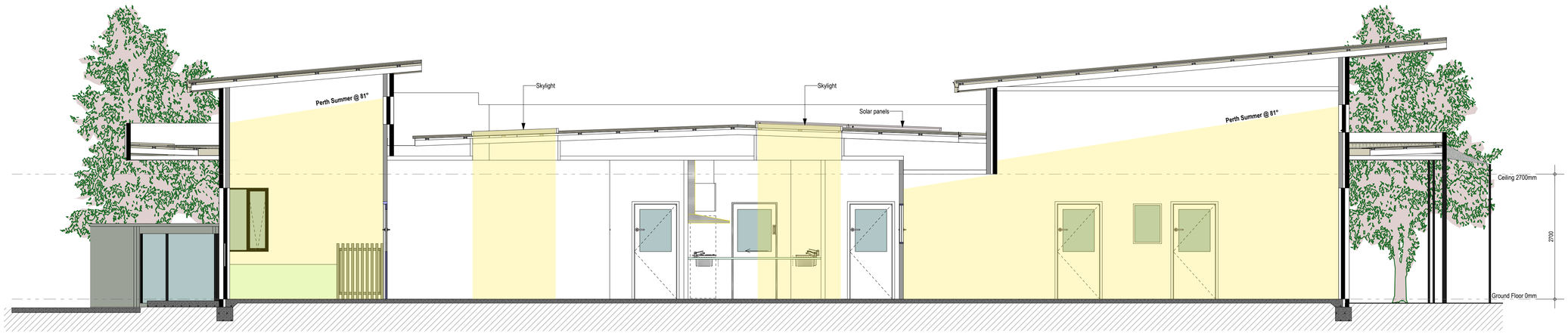

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Revision	**Description**	**Date**

Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
Lot 156 & 157 (#279 & #283) Harborne Street, Glendalough

Drawing Title:
Sections/Solar Study

Scale:	**Sheet Size:**
	A1
Project No:	**Revision Number:**
23105	8.00

Drawing No.:
14 of 14

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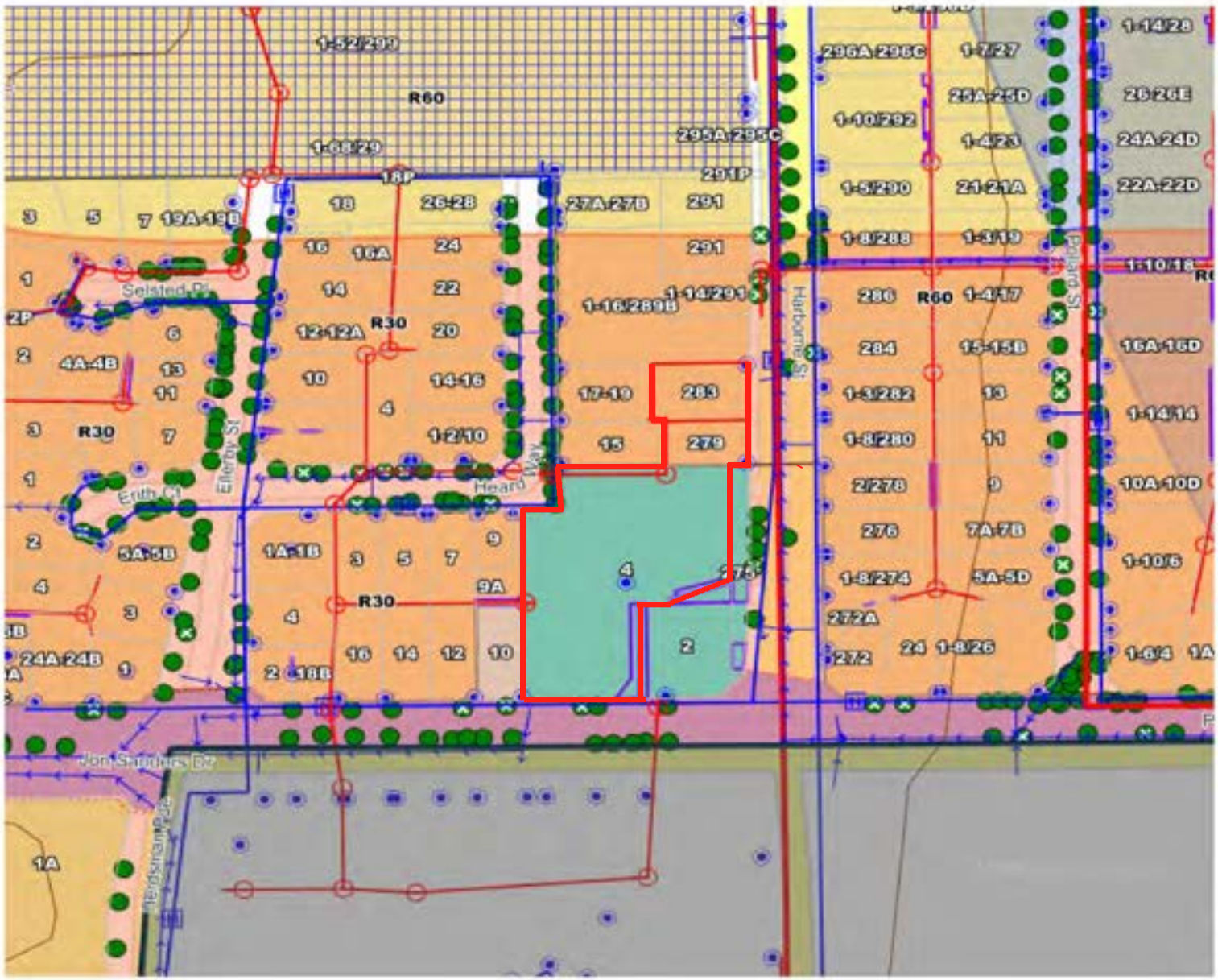
V 1 V 11 07 2024

Attachment 2 - Aerial Location Plan

Attachment 3 - Metropolitan Region Scheme Zoning Map

Attachment 4 - City of Stirling Local Planning Scheme No.3 Zoning Map



Child Care Premises

279 (Lot 156) and 283 (Lot 157) Harborne Street and 4 (Lot 2) Jon Sanders Drive
Glendalough

ROWE GROUP

Document Control

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Version	File Name	Prepared	Approved	Date
1	9705_20240125_R_Stirling_DA_am_v2	Ashleigh Maple	Lidija Langford	15 May 2024

This report has been authorised by;

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Principal Town Planner

Ashleigh Maple
Senior Town Planner

Jamie Baxter
Quality Control

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11062995
V 1 V 11 07 2024

Contents

Figures

Attachments

1. Certificates of Title
2. Development Plans
3. Amenity Impact Statement
4. Landscape Plan
5. Tree Report
6. Emissions Report
7. Transport Noise Management Plan
8. Environmnetal Acoustic Assessment
9. Transport Impact Assessment
10. Waste Management Plan

1. Introduction

Rowe Group acts on behalf of the landowner of 279 (Lot 156) and 283 (Lot 157) Harborne Street and 4 (Lot 2) Jon Sanders Drive Glendalough (the 'subject site'). This report has been prepared in support of a Development Application ('Application') for a Child Care Premises development at the subject site.

This report includes a description of the following matters.

- The location of the subject site;
- A description of the existing site characteristics;
- A detailed explanation of the proposed development;
- An overview of the relevant planning issues; and
- Justification of the proposed development.

This application has been prepared with detailed technical input from a consultant team comprising of:

- Germano Designs - Project Architects;
- Rowe Group – Town Planning;
- EAQ Consulting – Emissions Assessment
- Transcore - Traffic and Parking
- Herring Storer - Acoustics
- Talis Consultants - Waste Management
- Jonathen Epps – Arboriculture Assessment
- TDL – Landscape Design

This application is made under the Planning and Development (Development Assessment Panels) Regulations 2015 ('DAP Regulations'). The development has an estimated construction value exceeding $2 million, and therefore meets the criteria to nominate the Application be determined by the Metro Inner Development Assessment Panel ('DAP').

2. Description of Site

2.1 Location

The subject site is located in the Municipality of the City of Stirling, approximately 2.5 kilometres north-west of the Perth Central Area.

Refer **Figure 1 – Regional Location**.

The subject site is situated in Glendalough and bound by existing residential development to the north and west, Harborne Street to the east and the commercial uses to the south.

The subject site is located directly abutting the Glendalough Village Shopping Centre and adjacent to medium density residential development. The subject site has direct access via Harborne Street

Refer **Figure 2 – Local Location**.

2.2 Cadastral Information

The subject site comprises three land parcels, being:

- Lot 156 on Certificate of Title Volume 2593 Folio 989.
- Lot 157 on Certificate of Title Volume 2593 Folio 988.
- Lot 2 on Certificate of Title Volume 1900 Folio 356.

The proposed Child Care Premises will be located on Lots 156 and 157, has a combined land area and frontage of 1,513m^2 and 43.4 metres, respectively.

Refer **Figure 3 – Site Plan**.

Refer **Attachment 1 – Certificates of Title**.

2.3 Existing Improvements

The subject site is occupied by two single storey dwellings (one on each lot). Historically, each of the dwellings have been occupied for residential purposes. The site contains existing residential gardens, vehicle access through three existing crossovers, Colorbond fencing to the street frontage, and associated outbuildings and pergolas. The site is relatively flat and sits at approximately 12m-13m AHD. A sewer connection is provided through the rear of the site.

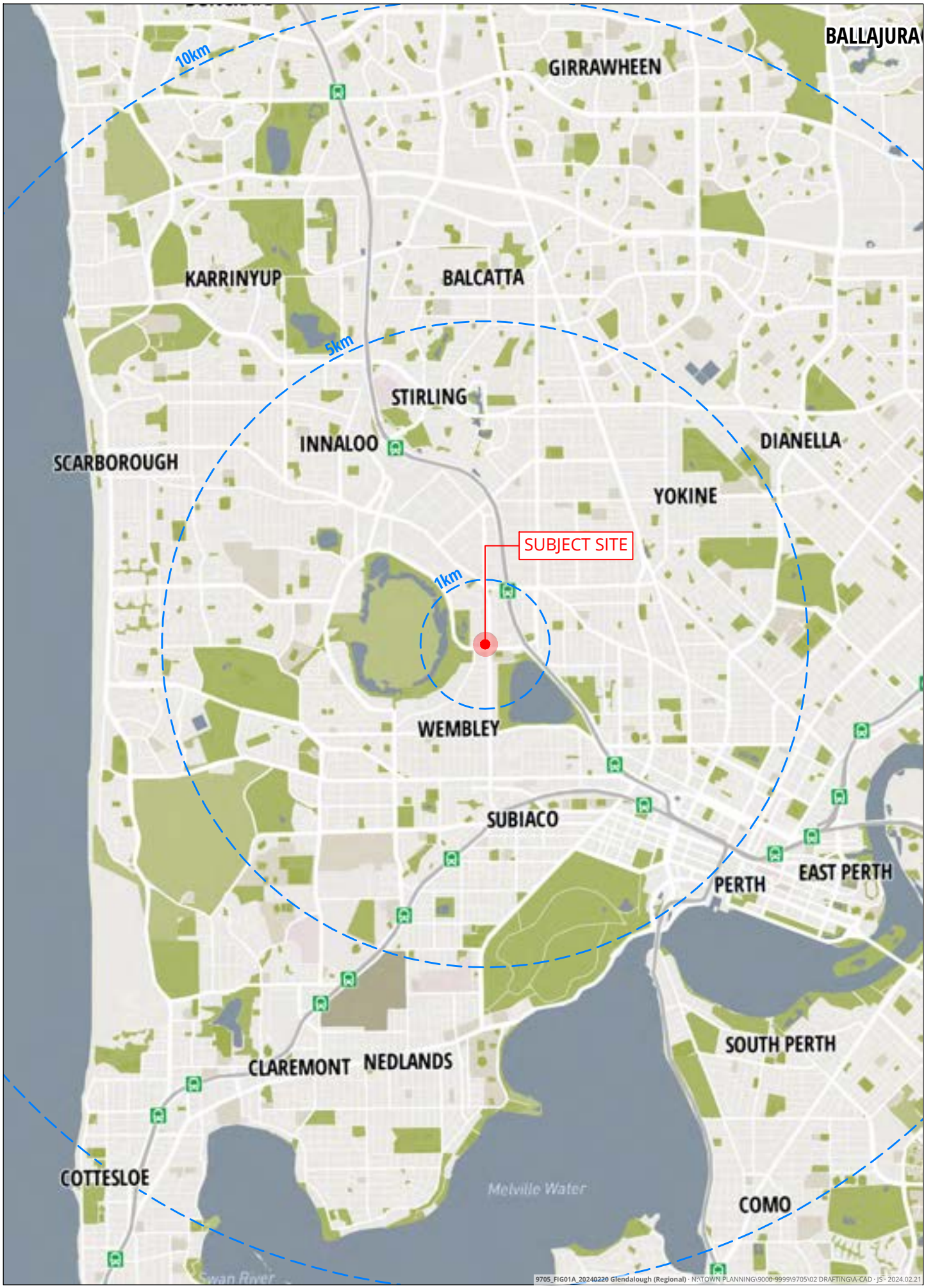

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FIGURE 1

REGIONAL LOCATION

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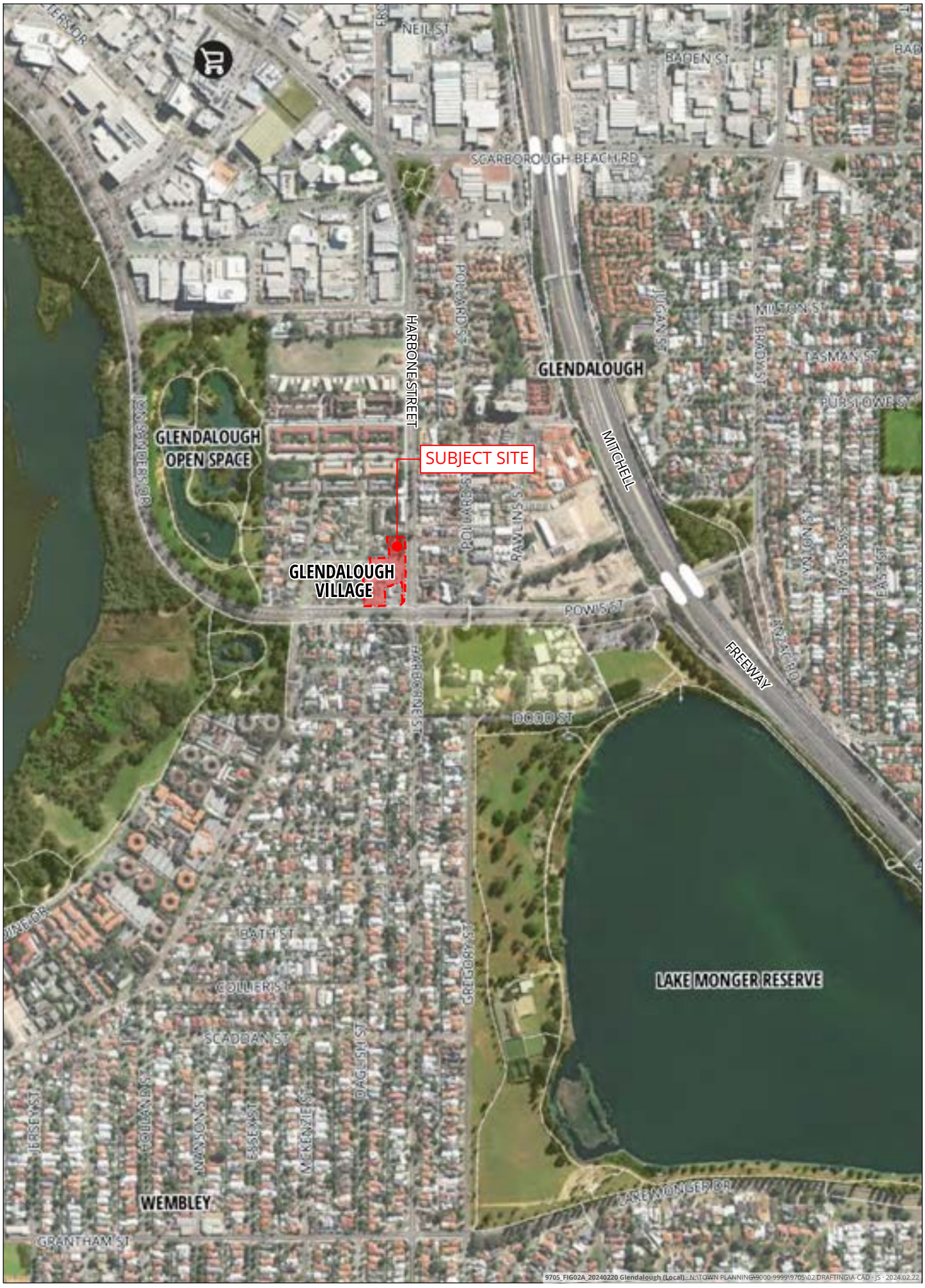

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FIGURE 2

LOCAL CONTEXT

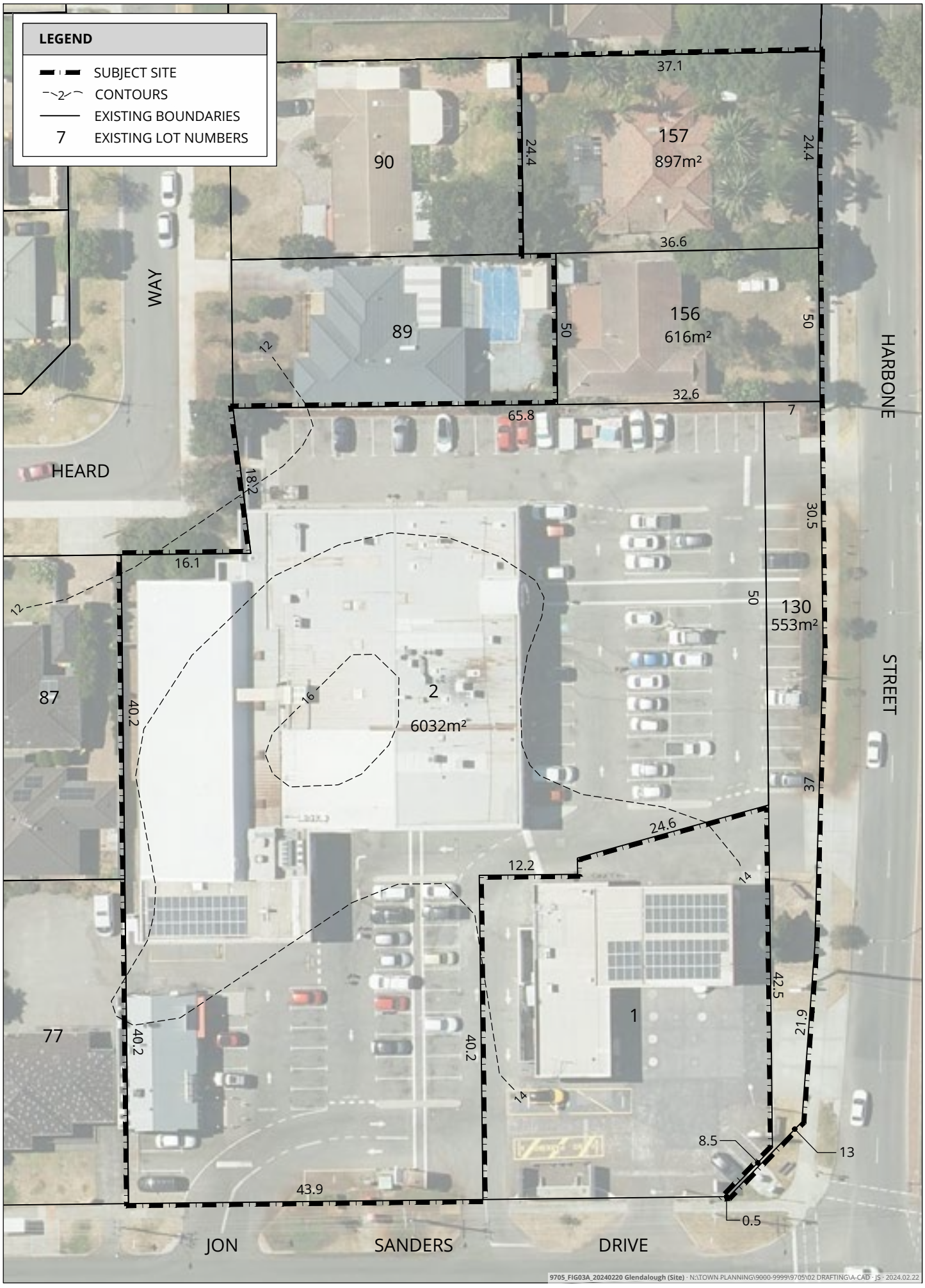

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FIGURE 3

SITE PLAN

3. Description of Proposal

This Application seeks Development Approval for the construction of a single storey Child Care Premises at the subject site.

The proposed development will involve the demolition of all improvements over the subject site and consolidation of access to one crossover from Harborne Street providing two-way access into the subject site.

More specifically, the development will comprise the following:

- A 470m^2 single level child care centre, accommodating staff facilities, a laundry and amenities, a kitchen, storage areas, foyer, and four activity rooms;
- A 6m wide crossover, providing left-in/left-out access to the site and removal of the redundant crossovers;
- 12 car parking bays, including one (1) ACROD bay, reversing space and use of shared parking with the Glendalough Village Shopping Centre;
- 507m^2 of outdoor play areas.

Extensive landscaping is proposed across the site, including 201m^2 of deep soil area for tree planting within the outdoor play area (making up 13.3% of the sit area), street tree planting and shade tree planting within the car park.

The Child Care Premises is proposed to facilitate:

- A maximum of 72 children, which would likely include a combination of 12 babies (aged zero (0) to 12 months), 12 toddlers (aged 1 to 2 years), 20 children aged 2 to 3 years and 28 children aged 3+ years;
- A total of 13 staff on site at any one time; and
- Operate between the hours of 7am and 6.30pm Monday to Friday.

Refer **Attachment 2 – Development Plans.**

4. Pre-Lodgement Engagement

4.1 Design Review Panel

On 28 March 2024, the Project Team presented to the City of Stirling Design Review Panel ('DRP'), to assess and provide comments on the proposed development against the City's Local Planning Framework and State Planning Policy 7.0 – Design of the Built Environment.

The key feedback received from meeting is summarised in the table below, together with our responses:

DRP Recommendations		Applicant Response
Principle 1: Context and Character		
1a.	Further dialogue was requested by the Panel around the existing and future character of the surrounding area and how this impacts the design. The proposal does not currently speak to its location or use.	Further site imagery has been provided to identify the context of the site and surrounds.
1b.	It was noted the illustrations do not accurately represent the current context. The Applicant is strongly encouraged to demonstrate what is happening on the neighbouring sites to further understand the context of the location.	Further site imagery has been provided to identify the context of the site and surrounds. Additional wayfinding, crosswalk, and structure added to highlight connectivity of the site to its surrounds.
1c.	Please provide plans with north up the page wherever possible.	All plans submitted with the Application include a north point.
Principle 2: Landscape Quality		
2b.	The Panel stressed it is critical in this harsh environment that all efforts should be made to protect tree canopy. Where this is not possible, efforts should be made to replace and enhance the tree canopy being removed. Whilst noting that the applicant is providing extra trees, it is recommended that they provide a strategy on how canopy replacement is being accomplished including timeframes for full recovery of existing tree canopy and species selection to shorten timeframes for mature growth.	The landscape plans have been amended to accommodate two large tree varieties planted within the outdoor play area, providing a total of six large trees. The two tree varieties, Tristaniopsis 'Luscious' and Gleditsia 'Shademaster' grow to 7-12m high and 5m wide and 15m high and 10m wide, respectively. The Gleditsia 'Shademaster' is a fast-growing tree, with both trees to be provided at 90L pot sizes. This will create an expected canopy of greater than 50m^2 at maturity. The larger trees will be planted alongside two smaller tree species, being Lagerstroemia 'Natchez' and Lagerstroemia 'Tuscarora', both of which reach 7m in height and 5m wide at maturity. The combination of large and medium tree species and low-level planting will ensure the existing canopy to be removed will be replaced with an improved landscaped environment, utilising a fast-growing species, which provide an attractive setting to the Child Care Premises.
2c.	The Panel has concerns about the delivery of appropriate landscaping which is such a key component of an Early Learning Centre. The Applicant advised that the owner will be designing their own play spaces (presumably including landscaping) post approval but have provided Landscape plans to demonstrate how they might be achieved to satisfy the requirements of the City. The Panel suggested that the selection of plant species is	The landscape plans have been amended to include detail on species, quantity and pot sizes and the locations provided on the plans, demonstrating the space around the building can accommodate large tree planting and lower-level planting suitable to a child care environment. The plant species selected for the outdoor play area include a mix of large and medium trees, including fast growing species. Further, it is common for development approval to include a condition requiring a detailed

DRP Recommendations		Applicant Response
	very important to the outcome of the landscape quality and there was concern expressed around the species being changed / decided at a later stage. The Panel encouraged the client to explore landscape further asking them to address this design principle with more rigor.	landscape plan to be provided for approval, prior to be installed. Refer to **Attachment 4 – Landscape Plan**.
2d.	It is desirable to see shade structures and play equipment included on the plans as they can have a significant impact on Landscape and Aesthetics.	The development plans and landscape plans have been updated to show details of shade sails within the outdoor play area to the west and east of the building.
2e.	The Panel commented there is an opportunity to plant additional trees in the car park and create some tree canopy by planting larger trees. The tree in the carpark currently is exposed and very small and offers inadequate shading.	The Landscape Plan now shows where trees are to be provided, including additional trees within the car parking area.
2f.	It was stated by the Panel that permeable paving should be considered.	This was explored through the design process and is not suitable for ongoing maintenance (high traffic) and can be a trip hazard.
2h.	The paving edge around the building would benefit from being better integrated into the landscape design generally, rather than a simple hard edge. Using section drawings will help to design and describe the quality of these spaces.	Additional paving has been added under the awning and detail of the material has been shown on the plans.
2i.	The Applicant is strongly encouraged to use the services of a Landscape Architect for the finalisation of the Landscape Design.	A qualified Landscape Architect has been used to prepare the Landscape Plan accompanying this Application.
Principle 3: Built Form and Scale		
3d.	There were also concerns about the general quality and legibility of the entry area. The Panel believes that a reconsideration of this area is recommended which might tie together the quality of the fence at the entry, the column elements, the connection to the pedestrian movement system, and an opportunity to integrate some space for community interaction.	The entrance has been reconfigured considering pram/bike storage, communal gathering, and general legibility
3f.	The Panel supported the skillion roof to the north, but recommends shading studies be undertaken to inform how to adequately shade west and east elevations.	Additional shade structures have been included on the revised development plans, increasing the ability to shade the east and west elevations of the building, adding to the existing verandahs.
3g.	The Panel recommends that the shopping centre bin store be relocated to provide a safer car park interface with the street.	The City's planning framework specifically advises that a bin store should not be located against a residential boundary. In doing what has been suggested, it will push it to within 10m of a neighbour's living room. The bin setback to the bin store has been increased by 0.75m to ensure sightlines for vehicles exiting the site can be maintained.
Principle 4: Functionality and Build Quality		
4a.	Comment was made that the fence around the entry is mean and is not welcoming and creates a barrier. Create more generosity of space here and perhaps	The development plans have been updated to improve the entry to include landscaping, a larger area for pram parking and a more open and inviting entry space.

DRP Recommendations		Applicant Response
	utilise face brickwork as an element to tie in with aesthetically with the building.	
4b.	The Panel expressed concern around the acoustics from Harborne Street and how this noise from heavy traffic may affect the children. An acoustics report would be beneficial to provide an understanding and clarity.	An acoustic consultant has been engaged and has addressed noise from street traffic and identified this as not being a concern. Refer to **Attachment 7 – Transport Noise Management Plan**.
4c.	Comment was made around the number of locked gates included in the proposal. It was suggested this many gates may not be required.	Internal access control restrictions have been reassessed with the tenant for operational requirements. Minor changes have been made, which include removing the gates adjacent to the car parking bays toward the rear of the building and replacing this with landscaping.
Principle 5: Sustainability		
5a.	The Panel was generally disappointed with the lack of commitment to providing any valuable sustainability outcomes. The Applicant was encouraged to explore sustainability initiatives and make a commitment to appropriately address this design principle.	Solar panels are being used to reduce the buildings' reliance on external energy. Substantial roof overhands and verandahs to all facades will help reduce heat loads into the building, whilst also providing safe play spaces for the children. Through numerous deep soil areas to support tree canopies, and the tenants' aspirations of planting 7-10 medium to large trees, the landscaping of the development site will provide additional shading whilst contributing to the wellbeing of the occupants. Setbacks within the building design will maximise natural light access and ventilation to the development, whilst contributing to both internal and external privacy.
5b.	The Applicant was encouraged by the Panel to explore better passive solar design. Some moves have been made to enable possible winter sunlight into spaces and achieve cross ventilation, but additional work can be done to mitigate summer heat gain and to introduce light into internal dark spaces in the centre of the plan. An operable skylight could be integrated to bring light into the corridor.	An amended roof design now allows for openable sky lights. The entrance has had an additional ceiling detail with high level window to add additional light.
5c.	It was suggested there could be ideas around sustainability education and introducing it into the architecture and landscape.	The educational curriculum is not relevant to the consideration of the development application and built form and landscaping outcome.
Principle 6: Amenity		
6b.	The Panel expressed concern around the complex not including bike racks or sufficient space for prams around the entry. These should be included in the design to improve amenity.	Bike racks and pram parking have been included on the plans.
6c.	Comment was made by the Panel fencing design in general could be improved to provide a good balance between transparency, material character, acoustic control, road grime management and attractiveness.	Perforated sheeting has been included.
6d.	It was mentioned by the Panel there is scope for the architecture to provide additional shade, which is currently lacking.	Deeper verandahs and alfresco areas have been added (significantly) and indicative shade structure locations shown on the development plans.

DRP Recommendations		Applicant Response
6f.	Comment was made by the Panel there is opportunity for one of the cot rooms to have an openable window to purge overnight and enable natural light penetration.	Cot rooms now have openable windows.
6g.	It was mentioned by the Panel internal spaces including the corridor having limited light penetration and could benefit from skylights or highlight windows between roof planes.	Skylights and high level windows have been added.
Principle 7: Legibility		
7a.	Comment was made by the Panel the entry area is not well defined and only identifiable from the carpark. The entry would benefit from being emphasized from the street.	Amended plans have been prepared to ensure connectivity is now well defined.
7b.	There were comments from the Panel around the entry from the adjacent site. There could be an opportunity to relocate the walkway and disabled bay to match up with the main entry. It was suggested a crossing point could be integrated and one option was by adding a change in the paving.	Amended plans have been prepared to ensure connectivity is now well defined.
Principle 8: Safety		
8a.	It was suggested by the Panel the bin store should be relocated to the rear of the development out of sight. The bin store is not supported at the front of the complex and is a sight line and safety concern. It was recommended the rubbish collection time could be managed.	The City's planning framework specifically advises that a bin store should not be located against a residential boundary. In doing what has been suggested, it will push it to within 10m of a neighbour's living room. Bin store has been pulled back by 0.75m.
8b.	The permeability of the fence could pose a safety concern and the Panel urged the Applicant to continue to manage this.	The front fencing has been modified to accommodate a perforated metal sheet above a 1.2m brick wall.
8c.	It was recommended to think about the angles of the column facia detail as these could pose a safety issue with people hitting their heads.	Columns have been removed.
Principle 9: Community		
9a.	Comment was made by the Panel there is opportunity to introduce more amenity for the community between the entry and the street including seating and a place to gather and sit.	The plans have been amended to include a communal gathering area to the front entrance.
9b.	The Panel support the coffee and breakfast bar for parents and commented it is a great idea although there could be opportunity to open this up and introduce some natural light.	The plans have been amended to include increased accessibility to natural light through skylights and high-level windows.
9c.	The location of an early learning centre in close proximity to the adjacent shopping centre, with a physical pedestrian connection, is supported.	The connection to the shopping centre has been enhanced with a feature entry.
9d.	The Panel encouraged the applicant to consider public art to be included in the proposal.	Kinder Park signage and more decorative elements have been included in amended plans for a more 'artistic' feel.
Principle 10: Aesthetics		

DRP Recommendations		Applicant Response
10a.	The Panel suggested that some playfulness could be introduced to the design. The current proposal does not create a distinct sense of place for its use or location. Care should be taken to find a visual balance between a residential facility and a commercial facility.	Kinder Park signage and more decorative elements have been included in amended plan for a more 'artistic' feel.
10b.	The Panel commented the metal fence detracts from the aesthetics. It is important to determine how the design of the fence may contribute to and how it relates back and supports the building elevation. The updated renders which show a masonry / metal fence are heading in the right direction but could benefit from additional design work.	Amended plans have been provided to provide a mesh like product for the front fence. This is required to be somewhat open for ventilation/natural air flow and breeze, while also being secure and providing separation from the street and footpath.
10e.	There were concerns raised around the detailing and realism of the proposed clad column / fascia element. The Panel recommends considering architectural details and the impact they will have on appearance.	The facade of the building has been improved.

Table 1: Design Review Panel Feedback & Applicant Responses

4.2 City of Stirling

In August 2023 Rowe Group undertook pre-lodgement consultation with the City's then Manager Development Services (Now Director Planning and Development), Amanda Sheers and Senior Planning Officer, Dean Williams. During this consultation, the City indicated it was supportive of the notion of reciprocal parking and the dual use nature of the Centre and proposed Child Care Premises.

The City also highlighted the need to provide information addressing the separation distances between the proposed land use and the 24-hour convenience store located at the corner of Jon Sanders Drive and Harborne Street. In this regard and in response to the requirements of the Environmental Protection Authority Guidance for the Assessment of Environmental Factors (in accordance with the *Environmental Protection Act 1986*), EAQ Consulting has prepared an Emissions Report where the implications of the above is considered.

Refer **Attachment 5 – Emissions Report.**

The EAQ concludes that the pollutant emissions predicted at the proposed Child Care Premises are less than the exposure limits in ambient air. Further, the Centre already satisfies the WA EPA Guidance separation distance of 50m from the nearest refuelling location, and given the Centre's limited operational hours, the risk of exposure at this sensitive receptor location is low.

5. Strategic Planning Considerations

5.1 State Planning Policy 4.2 – Activity Centres

State Planning Policy 4.2 – Activity Centres (SPP 4.2) provides a hierarchy and network of activity centres that meets the needs of the community, and provides economic and environmental benefits, enables the distribution of goods and services, and facilitates retail, commercial and mixed use developments. SPP 4.2 applies to the proposed development as the subject site includes the Glendalough Village Shopping Centre.

Of relevance to the proposed development, the roles and characteristics of a Neighbourhood Centre are as follows:

> *Neighbourhood centres are important local focal points that provide for daily to weekly household shopping needs, community facilities and a small range of other convenience services. They are also a focus for medium density housing. These centres plan an important role in providing walkable access to services and facilities for local communities.*

In this regard, the proposal for a Child Care Premises is considered to be consistent with the 'Neighbourhood Centre' objectives for the following reasons:

- The proposed Child Care Premisses will provide an essential service for its local community;
- The proposed development is appropriately located adjacent to a Neighbourhood Centre, providing a suitable interface between commercial and residential land uses;
- The location of the Child Care Premises outside, but adjacent to the Neighbourhood Centre ensure the development does not detract from the centre, but is a supporting land use that allows for multi-purpose trips.

5.2 State Planning Policy 5.4 – Road and Rail Noise

State Planning Policy 5.4 – Road and Rail Noise ('SPP 5.4') applies where a noise sensitive land use is proposed within proximity to major transport and freight corridors. Under SPP 5.4, a child care centre is considered a sensitive land use and is within the trigger distance of Jon Sanders Drive, an 'other significant freight/traffic route'.

Herring Storer have prepared a Noise Management Plan in support of the proposal. The Noise Management Plan indicates that the results of the noise received at the development from future traffic do not exceed external noise level criteria and therefore no further noise amelioration is required, and the outdoor play areas do not need to be considered under SPP 5.4 requirements.

Refer **Attachment 7 – Transport Noise Management Plan.**

5.3 State Planning Policy 7.0 – Design of the Built Environment

State Planning Policy 7.0 – Design of the Built Environment ('SPP 7.0') provides the broad framework for the design of the built environment across Western Australia. The design has considered and responded to the ten (10) design principles, demonstrated below.

Design Principle	Design Response
Context and Character	• The site is located abutting the Glendalough Village shopping centre, on the corner of two significant roads (Harborne Street, Jon Sanders Drive and Powis Street).

Design Principle	Design Response
	• Development adjacent ranges in nature, from medium density residential (to the north and west of the site and on the opposite side of Harborne Street) to commercial at the centre and accommodating educational and community uses on the opposite side of Powis Street. • The proposed development provides an appropriate land use buffer and sympathetic transition to the existing urban scale and comprises a land use that will not affect the amenity of the neighbouring residential area.
Landscape Quality	• The landscape design of the Child Care Premises provides a safe and comfortable outdoor space for the children and provides an attractive visual setting to the adjoining public spaces. • The external play space surrounding the building is planted with medium to large trees and shrubs to provide shade to the outdoor space and to the building. • The proposed development includes landscaped areas along the front, side, and rear boundaries where it abuts existing residential uses, which will aid to soften the impact of the proposed development, providing an attractive landscaped outlook. Further, car parking will be provided with shade tree planting between every two car parking bays, providing an attractive interface to the development from all fronts.
Built form and Scale	• The proposed development has been designed to ensure that the massing and height of the development is appropriate to it setting along Harborne Street and to successfully negotiate between the existing built forms and the intended future character of the local area. • The Harborne Street elevation have been set back approximately 5m in order to provide an attractive landscaped area to the Harborne Street frontage, whilst also allowing opportunities to maximise access to natural light. • The single level design reduces any impact of the bulk of the building on the surrounding area, together with an interesting façade treatment to the pedestrian and public road frontage, providing a visual connection to the streetscape for its occupants while activating the building the building for those on the street. • The overall development has been designed to minimise the amenity impacts to neighbouring properties and the streetscape with large setbacks to side and rear boundaries, where it abuts existing residential uses. The addition of the masonry boundary wall assists in ensuring any acoustic impacts are minimised. Further, the extent of glazing to all facades provides a high level of interaction between indoor and outdoor areas, as well as providing surveillance over the street.
Functionality and Build Quality	• The proposed development meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefits over the life cycle. • Build quality will be achieved through the specification of durable materials, finishes, elements and systems that are easy to maintain and weather well over time.
Sustainability	• The proposed development incorporates several sustainability initiatives within the built environment in order to deliver positive environmental, social, and economic outcomes. • Solar panels have been included to help reduce the buildings' reliance on external energy. • Substantial roof overhangs and verandas to all facades will help reduce the heat loads into the child care premises whilst also providing safe play spaces for the children. • Through numerous deep soil areas to support tree canopies, landscaping of the development site will provide natural shading whilst contributing to the wellbeing of all occupants.

Design Principle	Design Response
	• Setbacks within the building design will maximise natural light access and ventilation to the development, whilst contributing to both internal and external privacy.
Amenity	• The proposed development provides a desirable transitional land use between commercial and residential developments, that work together to create a viable environment that responds to the diversity of the local community. • The proposed development provides an attractive landscaped setting with large areas of landscaping around the building.
Legibility	• The proposed development has been designed with clear connections and easily identifiable elements to assist in legibility and help people find their way. • The entry to the centre is provided through both pedestrian access from Harborne Street and pedestrian access from the shopping centre site to assist families utilising the shopping centre's car parking. Further, the entry point is distinguished through awnings that are distinct in both size and materiality.
Safety	• The proposed development has been designed to adhere to the strict guidelines that govern childcare facilities. • Fencing is provided to the street frontage, which includes mesh like panels, allowing for passive surveillance over the public realm, while adhering to safety requirements for child care premises. • The proposed development incorporates a deliberate gated 'second line of defence' at the entry. • Pedestrian access is provided through the car parking area, connecting through to the shopping centre car park.
Community	• The proposed development responds to local community needs as well as the wider social context, providing an environment that supports a diverse range of people and facilitates social interactions. • The street façade and fencing will provide a clear visual connection, maximising opportunities for passive surveillance whilst allowing community engagement for the children and vice versa. • The landscaping has been designed to provide tree canopies and shrubs which will be visible along Harborne Street, as well as throughout so as both the community and occupants can benefit.
Aesthetics	• The proposed development is a product of a judicious design process and has resulted in an attractive and inviting building that engages the senses and benefits the wider community. • The design challenges the current built environment along Harborne Street and proposes a benchmark for future developments. • The arrangement of built form and spaces addresses scale and articulation with sensitivity towards it neighbours and community.

Table 2: State Planning Policy 7.0 – Design of the Built Environment Assessment.

6. Statutory Planning Considerations

6.1 Zoning and Land Use Permissibility

6.1.1 Metropolitan Region Scheme

Under the provisions of the Metropolitan Region Scheme ('MRS'), the subject site is zoned 'Urban'. The proposed development of a Child Care Premises is consistent with the 'Urban' zone.

Refer **Figure 4 – Metropolitan Region Scheme Zoning**

6.1.2 City of Stirling Local Planning Scheme No.3

Under the provisions of City of Stirling Local Planning Scheme No. 3 (LPS 3), the subject is zoned 'Residential'.

The objectives of the 'Residential' zone, as detailed within Clause 4.2.12 of LPS 3, are:

> *"a) to provide for residential development at a range of densities with a variety of housing type and size, to meet the current and future needs of the community.*
>
> *b) to provide for a range of non-residential uses, which are compatible with and complementary to residential development."*

Consideration of these objectives is provided below.

Refer **Figure 5 – City of Stirling Local Planning Scheme No. 3 Zoning**

6.1.3 Land Use Permissibility

The proposed Child Care Premises is consistent with the following land use, as defined in Schedule 2 of LPS 3:

> *(a) "An Education and care service as defined in the Education and Care Services National Law (Western Australia) Act 2012 section 5(1), other than a family day care services as defined in that section, is provided; or*
>
> *(b) A child care service as defined in the Child Care Services Act 2007 section 4 is provided."*

A Child Care Premises is an 'A' use within the Residential zone, meaning that the use is not permitted unless the Council has exercised its discretion by granting planning approval after advertising the proposal for public comment.

In accordance with Regulation 67 in Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* (**'**Regulations'), the permissibility of the proposed 'Child Care Premises' land use is to be considered on the basis of the 'Residential' zone objectives, its ability to comply with development standards and its surrounding context.

In this regard, the proposed development is considered to be consistent with objectives of the 'Residential' zone and therefore capable of approval, for the following reasons:

- The proposed Child Care Premises will provide an essential service for local residents during daytime hours;
- The proposed Child Care Premises is compatible and complimentary to the surrounding residential land uses;
- The development provides an appropriate interface to the Glendalough Neighbourhood Centre and appropriate land use buffer between residential and commercial land uses.

- The proposed development is of high quality and achieves good design outcomes for the site.

Further justification on compliance with development standards and suitability within the surrounding context is provided throughout this report.

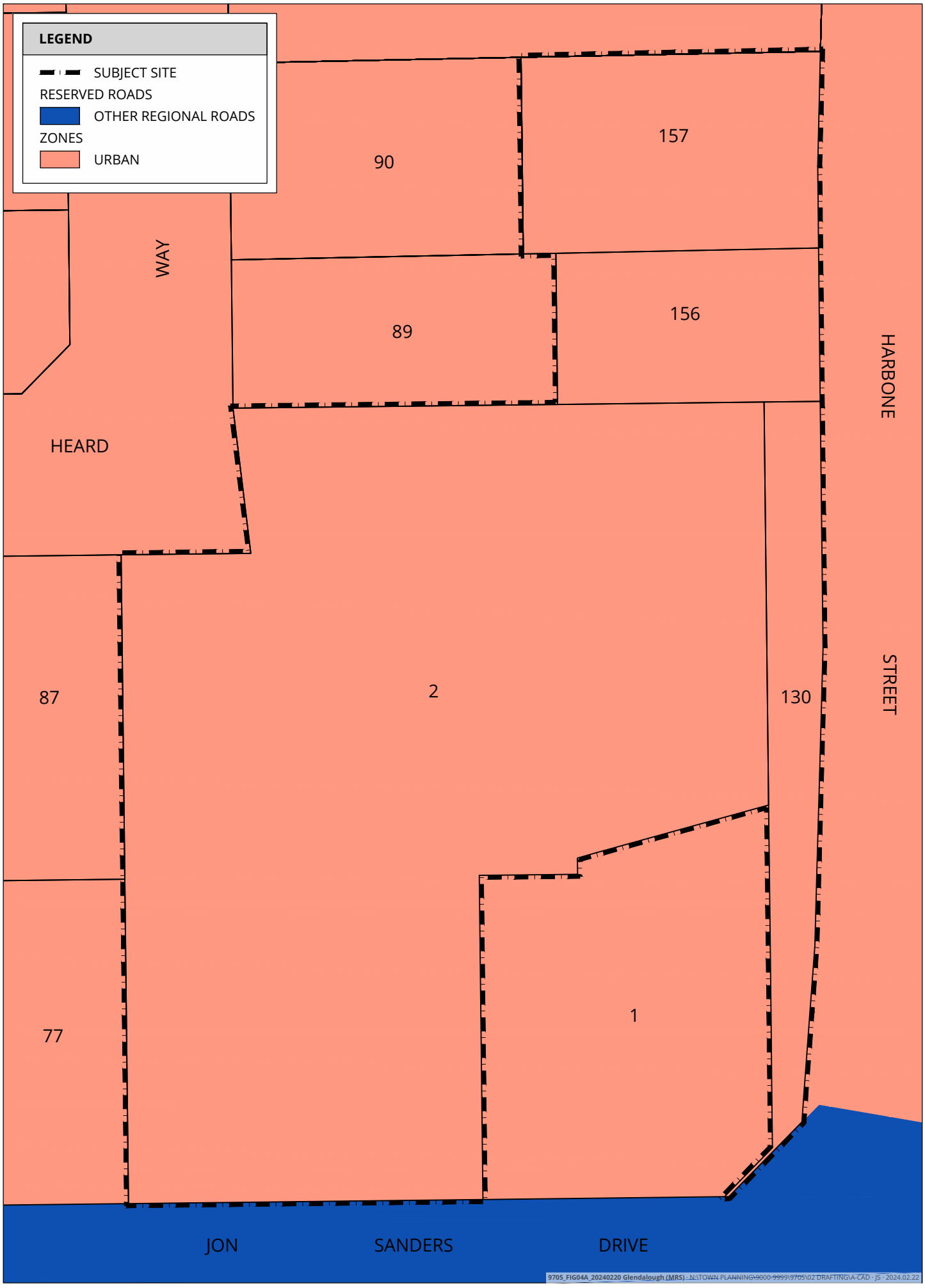

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FIGURE 4

METROPOLITAN REGION SCHEME ZONING

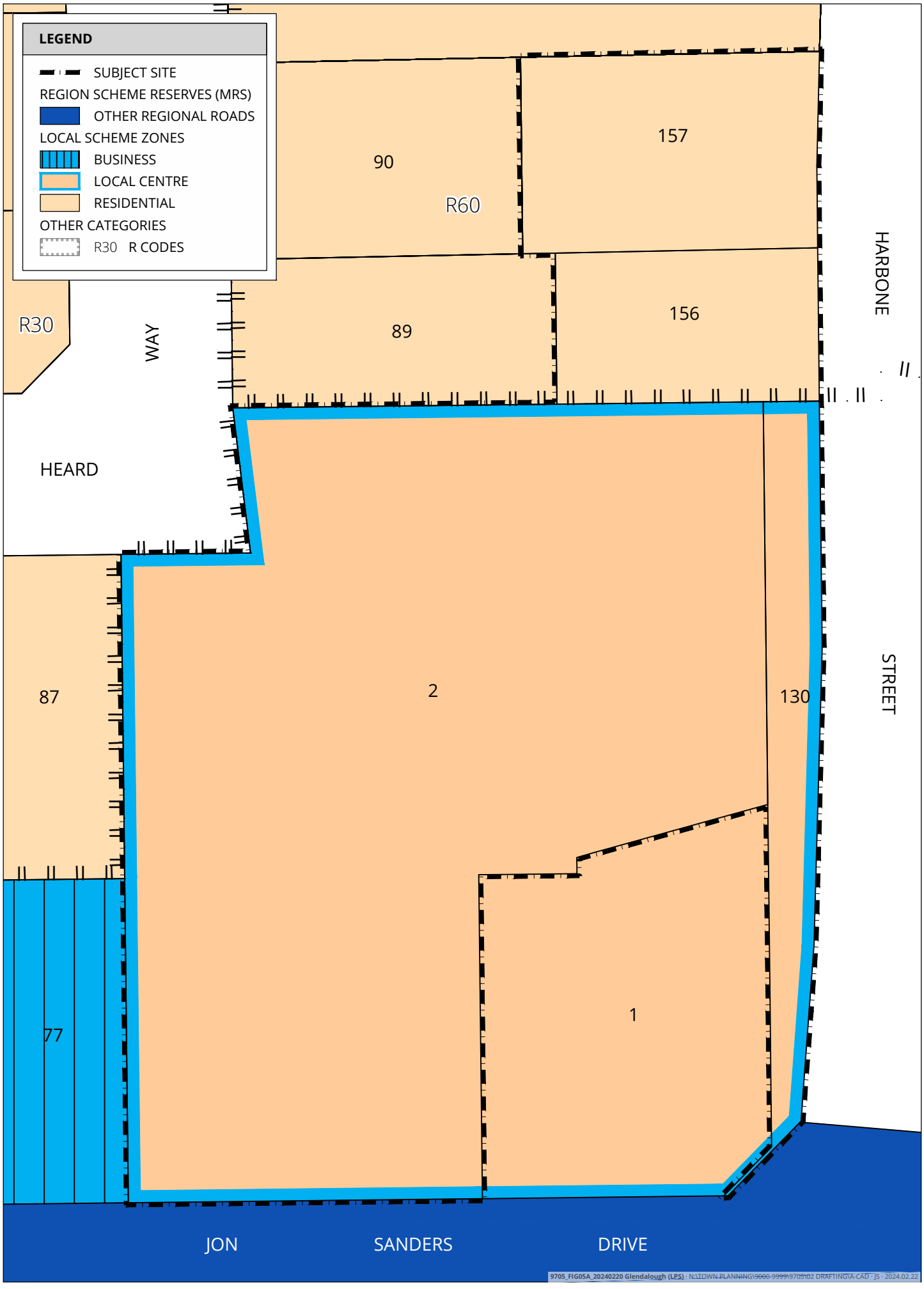

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FIGURE 5

CITY OF STIRLING LOCAL PLANNING SCHEME No.3 ZONING

6.2 Local Planning Policies

6.2.1 Local Planning Policy 6.4 – Child Care Premises

The City's Local Planning Policy 6.4 – Child Care Premises ('LPP 6.4') provides assessment criteria to guide consideration of child care premises within the municipality. The proposal is consistent with LPP 6.4, as follows.

General Provisions	Response
Amenity Impact Statement All proposals for Child Care Premises must include a written and illustrated amenity impact statement which demonstrates how the proposal preserves the existing and future amenity of the area.	An Amenity Impact Statement has been prepared in response to this application. Refer to **Attachment 3 - Amenity Impact Statement**.
Operation a) The hours of operation are to be between: i. 7am to 6.30pm on weekdays; ii. and 8am to 6pm on weekends.	The Child Care Premises is proposed to operate between 7am to 6.30pm weekdays.
Fencing a) Front fences to be visually permeable above 1.2m above natural ground level, subject to the need for noise mitigation and security.	The development includes 1.2m high brick fence with visually permeable perforated metal panels above, with brick piers to 1.8m in height.
Landscaping a) Outdoor Play areas should provide shade in the form of trees or shade structures to provide protection from natural elements. b) Play spaces are not to be included as part of the landscaping calculation. c) Artificial/synthetic turf doesn't contribute towards the required landscape area. d) A 2m landscaping buffer is to be provided within the street setback area to allow for the planting of mature trees. e) Shade trees to be planted and maintained in open car parking areas at the rate of one tree for every four (4) car parking bays.	The outdoor play areas accommodate 12 new 90L trees in addition to shade structures providing protection from the elements. Landscaping has been discussed in greater detail within section 6.2.2 of this report.
Parking and Access a) Car Parking areas are designed and landscaped to mitigate visual impacts when viewed from the street. b) Car parking bays should be easily accessed by customers, and the least visible or accessible bays should be allocated for staff use. c) Crossover widths are to be a maximum of 6m. d) The use of the verge for parking is not permitted.	Parking has been provided in accordance with these provisions and is discussed in greater detail within section 6.7 of this report.
Waste Facilities a) Bin storage areas are to be located behind the building setback line and are to be screened from view from the street or adjacent property.	The development accommodates a bin store that is screened from view of the street, located within a masonry enclosure accommodating the child care providers signage. The enclosure is strategically located

General Provisions	Response
b) Bin storage areas are not permitted abutting a residential property. c) Adequate space is to be provided to ensure a bulk refuse truck can access	and designed to provide an entry feature to the development site, while providing functionality to accommodate the bin storage away from neighbouring residential properties.
Preferred Locations a) Child Care Premises are to be located: i. On a private or public school site; ii. Within 100m of a Centre identified in the Local Planning Strategy; or iii. Fronting a Corridor Class 1, Class 2 and Class 3 road as identified in the Local Planning Strategy; b) Child Care Premises are not to be located in the following locations/types of sites: i. Sites on cul-de-sacs; ii. Sites with sole or vehicular access from an undedicated or predominantly residential right of way, or laneway; To prevent conflict with residential amenity, traffic and access, and where located on Corridors to orientate and activate the corridor.	The subject site is part of the Glendalough Neighbourhood Centre and fronts Harborne Street, a Class 2 road.
Within and/or Abutting Residential Zones a) Having a minimum site area of 1,000m^2. b) Development is to comply with the development provisions applicable to the residential density coding of the site for building height, open space, lot boundary setbacks, visual privacy and overshadowing. c) Boundary fencing is to be constructed of masonry materials to minimise noise impacts to the residential neighbours. d) Buildings set back from the street boundary are to correspond to the average of the setback of existing dwellings on each adjacent property fronting the same street or minimum as per R-Codes, whichever is greater. e) Buildings must address the street with a clearly defined entry point visible and accessible from the street. f) Where abutting a residential boundary a minimum of 1.5m landscaping buffer is required.	The development complies with the provisions for child care premises being located within a residential zone, as follows: • The development site is 1,513m$^{2.}$ • The development complies with the development provisions applicable to the R60 coding, as the development is single storey, has a maximum wall height of 5.34m and skillion roof height of 5.58m, provides 67% open space, includes a 4.9m front setbacks and 5.24m minimum side setback. Further, the development will not cause overlooking given the building is single storey and the site is flat. No overshadowing will occur to any abutting residential property as the land to the south is zoned for commercial purposes and is occupied by a shopping centre. • Boundary fencing can be addressed as a condition of development approval. • The setback is compliant with the R-Codes requirements. • The building addresses the street, with pedestrian access provided directly from the street to the entry. • The landscaping plans identifies a minimum 3.147m wide landscaping area is provided to abutting residential zoned land to the north and west.

Table 3: Local Planning Policy 6.4 – Child Care Premises Assessment

6.2.2 Local Planning Policy 6.6 – Landscaping

The City's Local Planning Policy 6.6 – Landscaping ('LPP 6.6') applies to all non-residential development within the municipality. LPP 6.6 requires that all applications for development approval be supported by a Landscape Plan in accordance with a range of provisions. Accordingly, a Landscape Plan has been prepared by TDL in support the development, proposing a mix of hard and soft landscaping treatments within both the outdoor play areas and car parking areas.

The landscaping design incorporates the following attributes to achieve a good design outcome:

- Functional, safe and comfortable outdoor play spaces provided for the children;
- Landscaping to the street setback area and within the car park provides visual amenity to the car parking and public spaces;
- The external play space surrounding the building is planted with large trees and shrubs to provide shade to the outdoor space and also to the building itself;
- A predominantly native and water wise planting palette has been used where possible, in consideration of its form and function, to support local ecosystems and minimise the need of maintenance;
- Six (6) mature 90L trees have been nominated on the development and landscape plans to soften the parking area in addition to the six (6) 90L size trees nominated in the outdoor play area to provide new shade and ameliorate the loss of the existing tree canopy;
- A variety of place spaces allow children to make their own choices and play as they favour.

The Landscape Plan is consistent with the requirements of LPP 6.6.

Refer **Attachment 4 – Landscape Plan**

6.2.3 Local Planning Policy 6.7 – Parking and Access

The City's Local Planning Policy 6.7 – Parking and Access ('LPP 6.7') sets out the parking requirements applicable to development on the subject site. Table 2 – Land Use Car Parking Ratios sets out the requirements for 'Child Care Premises' as 1 bay per staff member in attendance and 1 bay per 7 children in attendance. Accordingly, the proposal generates a base requirement of 24 car parking bays.

Table 3 – Car Parking Reductions sets out the performance criteria for achieving a car parking reduction. Accordingly, the car parking requirement is reduced by 10% given the site's location as part of a Neighbourhood Centre, being the Glendalough Village (identified as N6 within the City's Local Planning Strategy). As such, the requirement for 24 car parking bays is reduced by 10% to a requirement to provide 22 car parking bays.

The development provides 12 car parking bays, including one universal access parking bay, representing a lower parking supply than what is required by LPP 6.7. In this regard, the Application provides for the pedestrian access through to the Glendalough Village Shopping Centre, allowing for visitors to the Child Care Premises to utilise parking at the shopping centre site. In this regard, the following is noted:

- It is expected that people accessing the Child Care Premises will make a multi-purpose trip, utilising the shopping centre and child care premises and therefore reducing the demand on parking;
- Parking surveys undertaken at the Centre indicate that parking is underutilised and a significant number of car parking bays remain available for use during the peak periods of the proposed Child Care Premises; and

- The Child Care Premises and shopping centre have different peak periods and therefore no overlap with peak periods for parking demand will occur, ensuring parking is available to both uses at all times.

Access to the development site is provided through a 6m wide crossover to Harborne Street allowing for two-way access and for vehicles to enter the street in forward gear. Access to the site is discussed in further detail within Section 7.2.

6.2.4 Local Planning Policy 6.11 – Trees and Development

The City's Local Planning Policy 6.11 – Trees and Development ('LPP6.11') applies to all development on zoned land within the municipality. LPP 6.11 requires existing significant trees to be retained on the development site and its verge. LPP 6.11 also provides for instances where removal of existing trees cannot be avoided, requiring planting of advanced trees on the development site.

In this regard, an independent Consulting Arboriculturist was engaged to inspect the structural integrity and general health of existing mature trees on site and provide recommendations on their suitability for retention within a proposed Child Care Premises.

A Tree Report was prepared following a site visit, which provided recommendations indicating that most of the trees are not suitable for retention on site for reasons relating to their health or structural integrity. Some trees that were healthy and suitable for retention were noted to produce small fruits, or have sharp and spiny fronds that may be unsafe for young children. In this regard, and in accordance with LPP 6.11, the site is proposed to be landscaped to accommodate various deep soil areas to accommodate tree planting, as well as shade tree planting within the proposed car parking area. Both the development plans and the landscape plans provide for the installation of 12 advanced 90L trees both within the car parking area and the outdoor play area, in addition to other lower level landscaping.

Refer **Attachment 5 – Tree Report.**

7. Other Considerations

7.1 Emissions

The Environmental Protection Authority's ('EPA') Guidance Statement No. 3 – Separation Distances Between Industrial and Sensitive Land Uses ('GS 3') provides recommended buffer distances for Service Stations (and other uses) to sensitive receptors. A Service Station that operates 24 hours per day is located on the adjoining Lot 1, approximately 60m to the boundary of Lot 156 where the proposed Child Care Premises will be built. The GS 3 requires a 200m separation to such uses and in instances where the separation distance is not met, requires further assessment of applicable emissions to be able to support an application with a reduced separation. In this regard, an Environmental Emissions Assessment has been undertaken by EAQ Consulting. Refer to **Attachment 6 – Emissions Report.**

The Emissions Report concludes that the predicted pollutant emissions experienced at the proposed child care premises are less than the exposure limits in ambient air. Additionally, the child care premises already satisfies the GS 3 separation distance of 50m from the nearest refuelling location and given this and the proposed operating hours of the child care premises being during day time hours, the risk of exposure at this sensitive receptor location is low.

Further to this, the building is oriented such that is provides further separation from the convenience store, with parking and the building mass providing a further buffer and separation.

7.2 Noise

An Environmental Acoustic Assessment ('EAA') has been prepared by Herring Storer Acoustics in support of the proposed development. The EAA demonstrates that the proposed development can achieve compliance with the *Environmental Protection (Noise) Regulations 1997* ('Noise Regulations'), subject to complying with the recommendations contained within the EAA.

Refer **Attachment 8 – Environmental Acoustic Assessment.**

7.3 Traffic and Access

Harborne Street is classified as a 'District Distributor A' road under the Main Roads Functional Road Hierarchy. The subject site has left-in/left-out access only to Harborne Street, due to the existence of central median islands located within Harborne Street which restrict right-turn vehicle movements.

A Transport Impact Assessment ('TIA') has been prepared by Transcore in support of this Application. The TIA has been prepared to address the requirements of the Western Australian Planning Commission's ('WAPC') Transport Impact Assessment Guidelines.

A summary of the TIA is as follows:

- Using standard trip generation rates, the proposed development is predicted to generate approximately 252 vehicle trips per day including 54 trips (28 in and 26 out) during the AM Peak hour and 43 trips (24 in and 19 out) during the PM peak hour;
- The peak hour traffic generation is expected to be well below 100 vehicles and so the development traffic is considered to have a low to moderate impact and can be accommodated within the existing capacity of the road network;

- The site provides 12 car parking bays with the balance of parking demand to be satisfied within the shopping centre site. This represents a 10 bay car parking shortfall.
- The following usage characteristics are relevant to understand demand for parking and in this instance the shortfall is considered to be reasonable and justifiable based on:
  - Turn-over of parking bays for drop-off and pick-up activities do not require bays to be occupied for long periods;
  - The likelihood of some of the child care centre patrons making multi-purpose trips and park at the shopping centre to drop off or pick up children and shop at the centre, sharing the parking demand between the uses;
  - Some patrons of the child care centre are likely to live locally and therefore walk children to the centre, reducing the demand for parking;
  - Some staff will utilise public transport to access the centre, utilise ride share or be dropped off.
- The existing public transport services are expected to be adequate to meet the likely demand;
- The existing path network is well established and is considered to be adequate to allow for the safe movement of pedestrians and cyclists to and from the site; and
- The provision of bicycle parking satisfies the requirements of LPP 6.7.

Refer **Attachment 9 - Traffic Impact Assessment**

7.4 Waste Management

Talis Consultants have prepared a Waste Management Plan ('WMP'), which addresses the storage and collection of waste generated by the proposed development. The WMP has been designed to maximise recycling and waste diversion from landfill and proposes the following:

- Waste generations rates of 350L/100m^2/week for refuse generation and 350L/100m^2/week for recyclables have been applied;
- This equates to the development generating 837L of refuse and 837L of recyclables each week;
- Waste materials generated by the proposal will be collected from internal refuse and recycling bins, with cleaners/staff transferring waste and recycling to the bin storage area;
- Four 240L bins for refuse and four 240L bins for recyclables will be utilised;
- Bins will be stored within the bin storage area that is constructed to a suitable standard to ensure appropriate ventilation is provided, cleaning can occur and the bins are secured from theft or vandalism.

Waste collections will be undertaken on street by either the City or by a private waste contractor. Bins will be presented to the street by a caretaker or suitably qualified staff for collection and then returned to the enclosure following collection.

Refer **Attachment 10 - Waste Management Plan**.

8. Conclusion

This Application seeks Development Approval for a Child Care Premises at 279 (Lot 156) and 283 (Lot 157) Harborne Street Glendalough.

The proposed development is considered consistent with the State and local planning framework and should be supported by the Metro Inner DAP for the following reasons:

- The proposed development will provide new employment opportunities;
- The proposed child care premises will provide an essential service for local residents;
- The proposed development is well located on an Urban Corridor and adjacent to an activity centre;
- The proposed development is of high quality providing an enhanced amenity outcome for the locality.
- The proposed development has addressed the 10 design principles set out in SPP 7.0 and has incorporated design review feedback;
- The proposed size of the childcare centre is suitable for the subject site and in accordance with the recommendations of LPP 6.4 and the National Regulations;
- The Application is supported by an Acoustic Assessment that demonstrates compliance with the Noise Regulations and SPP 5.4; and
- The Application is supported by a TIA which demonstrates the proposed development will not have an adverse impact on the adjoining roads and surrounding road network and it is supported by sufficient parking, including a shared parking arrangement with the adjoining commercial site.

The development is consistent with the principles of orderly and proper planning and represents an important community service to be provided to the City. Based on the above, the proposed development should be supported and approved by the Metro Inner DAP.

Attachment 6 – City of Stirling Objectives Assessment

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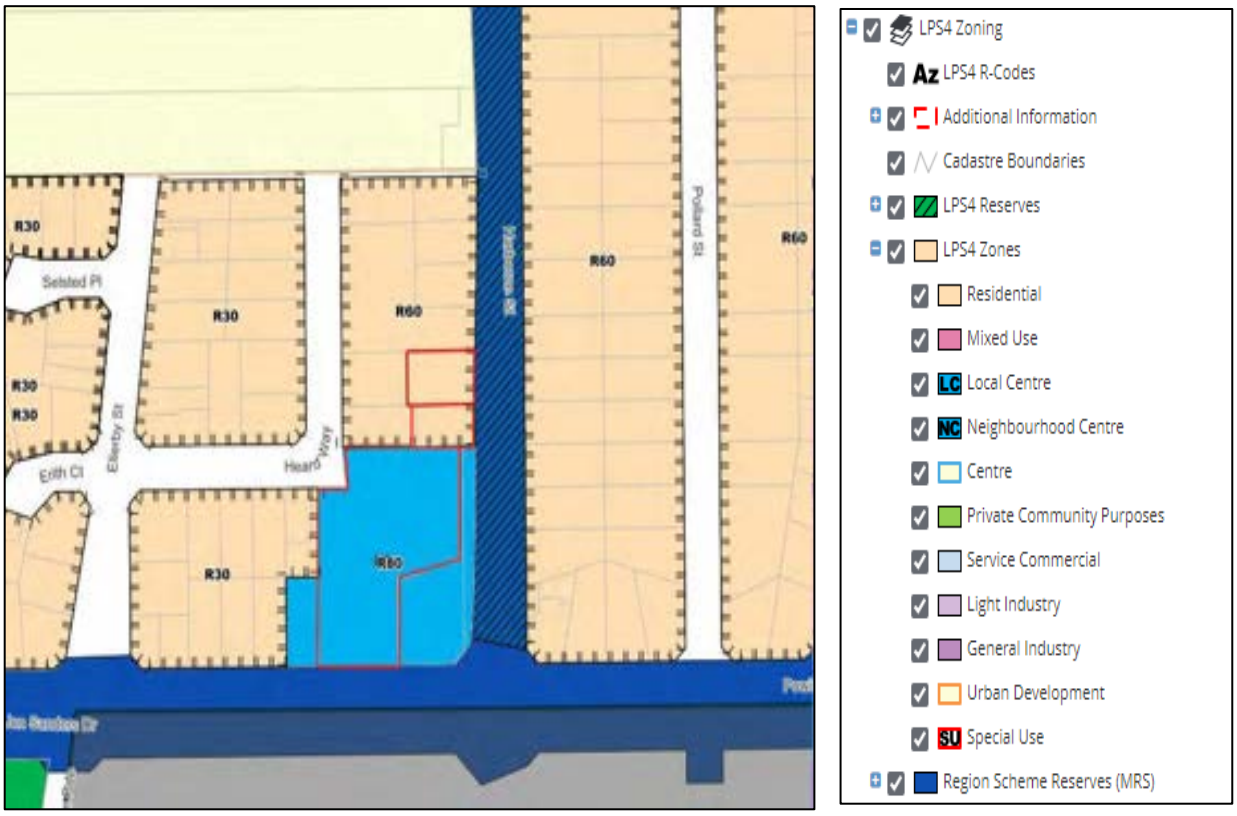

Figure 1 Annotated draft LPS4 Zoning showing development site

Noise and Acoustics

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Environmental (Noise) Regulations 1997

PP5 4

Areas of Discretion Sought

Residential Design Codes Volume 1 – Part C (R-Codes)

P

3 3

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P 3 3

P3.3.1 Buildings set back from street boundaries an appropriate distance to ensure they:

i. are consistent with the existing or future streetscape and local character;
j. provide sufficient space for tree planting and other landscaping, as well as community interaction;
k. provide adequate privacy to the dwellings;
l. accommodate site planning requirements such as parking and utilities; and
m. allow safety clearances for easements for essential service corridors and sightlines.

P3.3.2 Buildings mass and form that:

i. uses design features to affect the size and scale of the building;
ii. provide the opportunity for building articulation, such as well-defined entries, varying setbacks across the building width, verandahs, porches and balconies;
iii. uses appropriate minor projections that do not detract from the character of the streetscape;
iv. minimises the proportion of the façade at ground level taken up by building services, vehicle entries, parking supply, blank walls, servicing infrastructure access, meters and the like; and
v. positively contributes to the prevailing or future development context and streetscape as outlined in the local planning framework.

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Local Planning Policy 6.1 Advertising Signs (LPP 6.1)

PP 6 1

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PP 6 1

PP 6 1

Local Planning Policy 6.1 – Advertising Signs	
Objective	**Officer Comment**
To ensure advertising signs do not pose a safety threat and do not prevent passive surveillance;	80 P
To ensure businesses can display advertising signs without, in certain circumstances, the need to obtain development approval;	N
To ensure that the display of advertising signs does not adversely impact on the amenity of surrounding land and streetscapes;	P
To ensure advertising signs are appropriately scaled for their setting;	

Local Planning Policy 6.1 – Advertising Signs	
Objective	**Officer Comment**
To avoid the proliferation of advertising signs on individual sites and buildings to minimise visual clutter;	
To encourage the incorporation of advertising signs into the design consideration of buildings and avoid obscuring or detracting from prominent architectural features;	P
To ensure advertising signs only relate to services and products available on the site; and	
To ensure the content of advertising signs meets community expectations and is not discriminatory or offensive.	

PP6 1

Local Planning Policy 6.3 Bin Storage

PP 6 3

- P 2 2 5
- P

PP 6 3

PP 6 3

Local Planning Policy 6.3 – Bin Storage	
Objective	**Officer Comment**
To provide sufficient space for the storage of bulk refuse bins; and	
To ensure that bin areas are screened from the street and are in harmony with the materials and finishes of the building.	P

PP 6 3

Local Planning Policy 6.6 Landscaping

PP 6 6

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PP 6 6

Local Planning Policy 6.6 – Landscaping	
Objective	**Officer Comment**
	10 22 336 P
	P 336 22

PP 6 6

State Planning Policy 7.0 – Design of the Built Environment (SPP7.0)

PP 7 0 PP 7 0

PP7 0

SPP7.0 Design of the Built Environment	
Design Principle	**Officer Comment**
1	P
2	22 336 ^{2} 10 152 P
3 *Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.*	
4 *Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life cycle.*	P P

SPP7.0 Design of the Built Environment	
Design Principle	**Officer Comment**
5 *Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.*	N
6 *Good design provides successful places that offer a variety of uses and activities while optimising internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.*	P N P PP 6 4 *Environmental Protection (Noise) Regulations 1997*
7 *Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.*	P

SPP7.0 Design of the Built Environment	
Design Principle	**Officer Comment**
8 *Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.*	V
9 *Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.*	
10 *Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.*	

Planning and Development (Local Planning Schemes) Regulations 2015

67 2 P *Planning and Development (Local Planning Schemes) Regulations 2015*

Deemed Provisions Clause 67 – Consideration of application by local government	
Provision	**Officer Comment**
(a) the aims and provisions of this Scheme and Scheme and any other local planning scheme operating within the Scheme area;	P P 3
(b) the requirements of orderly and proper planning including scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or any other proposed planning instrument that the local government is seriously considering adopting or approving;	P 3

	P 4 P 4 P 4
(c) any approved State planning policy;	P P
(g) any local planning policy for the Scheme area;	
(m) the compatibility of the development with its setting, including – *(i) the compatibility of the development with the desired future character of its setting; and* *(ii) the relationship of the development to development on adjoining land or on other land in the locality including, but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the development.*	
(n) the amenity of the locality including the following – *(i) environmental impacts of the development;* *(ii) the character of the locality;* *(iii) social impacts of the development;*	10 22 P

(p) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;	336 22 P P 6 6 P P 6 11
(s) the adequacy of – *(i) the proposed means of access to and egress from the site; and* *(ii) arrangements for the loading, unloading, manoeuvring and parking of vehicles;*	12 102 P P 6 7 P
(t) the amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety;	
(u) the availability and adequacy for the development of the following – *(i) public transport services;* *(ii) public utility services;* *(iii) storage, management and collection of waste;* *(iv) access for pedestrians and cyclists (including end of trip* *(v) access by older people and people with disability;*	800 P P PP 6 7

(y) any submissions received on the application;	64 3 6 *the Planning and Development (Local Planning Schemes) Regulations 2015*
(za) the comments or submissions received from any authority consulted under clause 66;	

ROWE GROUP

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Job Ref: 9705
11 September 2024

City of Stirling
25 Cedric Street
STIRLING WA 6021

Attention: Michael Italiano

Dear Michael

Development Application – Lots 156 and 157 (No.'s 279 and 283) Harborne Street and Lot 2 (No. 4) Jon Sanders Drive, Glendalough – Child Care Premises

We refer to your request for further information in relation to the Development Application at the above property (City's Ref: DA24/00665) and provide responses to the feedback received from the City of Stirling within Attachment 1 to this letter.

Department of Health Feedback

In addition to the above, the Department of Health provided comments on the proposal with point 4 of that advice stating as follows:

> *The proposed childcare facility is in close proximity to a 24-hour petrol station. Following a review of available evidence, the DoH has published a position statement advising on the separation of service stations and sensitive land uses. The statement can be viewed via the following link:*
>
> *https://www.health.wa.gov.au/Articles/N_R/Planning-considerations-for-sensitiveland-uses*
>
> *The DoH recommends separation distances of at least 100m for all 24-hour stations, measured from 'site boundary to site boundary'.*
>
> *The proponent has prepared an AERMOD air dispersion model for the service station. However, air dispersion modelling has a number of areas of uncertainty that cannot be verified, and steady-state plume models have limitations when used at less than 100 metres. Therefore, dispersion modelling should not be used as a basis for reducing separation distances from sensitive receptors.*

If both VR1 and VR2 technologies are in place, these may be considered as mitigating factors in relation to any application for a reduced separation distance from 100m to 50m for 24-hour service stations.

In response, the following is relevant:

- The child care premises does not operate on a 24-hour basis, and while the service station does, the hours of operation must be considered for the child care premises, not the service station when determining separation distances;
- The separation distance should be taken from emission source to sensitive receptor, not boundary to boundary. In this regard, the child care premises building, and outdoor play areas achieve a separation distance greater than 75m and includes a car park, a building and then the play areas;
- In addition to the separation distance, the sensitive receptors are further shielded by the physical structures on site, including fencing, buildings and landscaping.

In addition, EAQ Consulting have advised:

Aermod considers the minimum distances for volume sources as 1m x volume source initial lateral plume dimension of 2.14, so an exclusion area surrounding the volume source (the fuel Bowsers) is the area that the model can't calculate concentrations. This distance is within metres of the bowsers. VR2 is vapour control at the Bowsers and usually satisfies all new applications for a minimum separation distance of 50m, but we don't think the station has VR2, it would be most unlikely.

Additional information provided by EAQ Consulting in response to the Department of Health comments is included at Attachment 2 for information.

Conclusion

We trust this addresses the City's concerns and request for further information. We therefore respectfully request the favourable consideration of this application. Should you require any further information or clarification in relation to this matter, please contact Ashleigh Maple on 9221 1991.

Yours faithfully,

Ashleigh Maple
Rowe Group

Attachment 1 – Response to City of Stirling Feedback

Attachment 2 – EAQ Consulting Advice

Attachment One

Response to City of Stirling Feedback

City of Stirling Feeback

NO.	COMMENT	RESPONSE
1.	Boundary fencing is to be constructed from masonry materials to minimise noise impacts to the residential neighbours. No masonry boundary fencing has been proposed. Please note the City requests the boundary fencing abutting play areas is to be constructed from masonry materials	We have no objections to providing boundary fencing to be constructed using masonry materials. In this regard, we respectfully request the City impose this requirement as a recommended condition of approval for boundary fencing to be construction to the specifications of the City in the locations shown in the City's letter dated 23 August 2024.
2.	Please provide amended plans providing the allocation of parking bays. Specifically, which bays will be proposed for staff and customers.	See below some general information in relation to how the child care premises is expected to operate and associated implications on parking demand: The child care centre is proposed to accommodate up to 72 children and 13 staff members. • The child care centre will operate weekdays between 7am to 6:30pm. • Children are typically dropped off and picked up anywhere between 7am to 10am and 3pm to 6pm, respectively, however the peak period is typically between 8am to 9am and 3pm to 4pm. • The arrival and departure of staff on the site typically varies throughout the day, noting that staff often work part-time and in shifts. The travel behaviour of staff also varies, with many staff opting to utilise public transport services. • The overall maximum number of staff on the site at any one time coincides with the arrival and departure of children. Limited staff are required to be present at the start and end of the day, with numbers increasing during the peak drop-off period and reaching their maximum after the drop-off period. Similarly, staff numbers decrease over time during the afternoon period. • The anticipated peak parking demand will be 8am to 9am and 3pm to 4pm, coinciding with peak drop-off/pick-up of children and the arrival staff and departure of staff. • The anticipated peak hour traffic generation would be 28 vehicle trips in the AM peak period (8-9am) and 26 vehicles in the PM peak period (3-4pm). • It is estimated (conservatively) that the length of stay for pick-up/drop-off parking is 10 minutes.

		• Based on the estimated length of stay for pick-up/drop off, each parking bay on site can accommodate a turnover of up to 6 vehicles per hour, meaning that at least 5 bays would be required for pick-up/drop-off during peak demand. • Noting that staff parking will typically reach its maximum demand after peak drop-off and pick-up period, it is expected that most of the parking on the site can be used to accommodate staff parking. Nonetheless, it is expected that this would be surplus to requirement noting that a maximum of 13 staff would be on the site and many would opt for alternative modes of transport. The availability of additional parking within the shopping centre site serves as a contingency in the (unlikely) event that parking demand is exceeded. We have provided evidence in the TIS demonstrating that parking at the shopping centre site is heavily underutilised, meaning that any overflow parking can be readily accommodated without unduly restricting the existing or likely future operation of the shopping centre. It is also reasonable to assume that the co-location of the shopping centre and the child care centre will result in multi-use trips, meaning that some drop-off/pick-up trips may opt to park at the shopping centre in any event to buy groceries, etc, before or after they drop-off or pick-up their child. We would not expect this arrangement to be reciprocated as shopping centre customers would not park at the child care centre unless they are also going to the child care centre. The 3-hour parking limit that applies to the shopping centre site is viewed as a non-issue from a planning perspective, and one that can be readily managed by the operator (noting that the site remains within the same ownership). Staff at the shopping centre site currently park at the centre without issue as this is simply managed by the operator. The 3-hour parking limit seeks to deter the car park serving as a 'park and ride' facility for public transport patrons.

		In summary, it would be impractical and overly complicated to designate the allocation of parking on the site, given that parking usage of the child care centre would vary throughout the day. There will clearly be a greater demand for drop-off/pick-up parking in the morning and afternoon peak periods, at a time when staff parking demand has not reached its peak. Similarly, peak staff parking demand will be during a period where there is no or limited demand for drop-off/pick-up parking. Any suggestion to 'allocate' parking bays would be overly prescriptive and ignores the functionality of such a use.
	The City acknowledges a reciprocal parking arrangement between the Child Care Premises and the neighbouring shopping centre forms part of the development application. However, the City requests further information which demonstrates how parking will work should the site change owners or be separated in the future. Please provide further information to demonstrate to the City how future reciprocal parking arrangements would function should the lots be separated. In relation to the requested clarification regarding future reciprocal arrangements, the City has requested this information to ensure the development could function in the event the sites are to operate independently as the Child Care Premises currently has a shortfall of 11 parking bays.	Should the City seek to ensure parking within the shopping centre site remains available for use by patrons of the child care premises, we respectfully request that a condition can be imposed on the approval requiring this be secured through a caveat or memorial on the title.
3.	Developments with a cost of development of $2 million and above (excluding GST) are required to provide public art as part of the development at a rate of 1% of the cost of the development which equates to $22,000. The City requests amended plan and an updated planning report addressing the above to be provided for the City's consideration. Public art is to be shown along with the typology.	We have no objections to fulfilling the public art requirement and respectfully request that a condition be included in the approval to require a cash contribution towards public art in the local area. We believe that a financial contribution would be preferable, as it allows for a coordinated and consolidated approach to public art, rather than addressing it on a site-specific basis.
4.	The bin pad should be relocated further north from the crossover (Refer to Figure 2). The bin pads current location will result in cars having to wait along Harborne Street, resulting in the crossover being blocked. As pickup times are dependent on routes and can vary throughout	We raise no objections to relocating the bin pads further north along the verge and respectfully request this be provided through a condition of approval requiring an amended Waste Management Plan depicting this.

	the day and could occur during peak drop off and pickup times. The bin pad is to be relocated. Amended plans and amended Waste Management Plan addressing the above matter is required for the City's consideration.	
4.	The left in and left out only access will create the following issue; • The proposed crossover is extremely close to the existing right turn pocket into the Shopping Centre's northern access. This will result in vehicles carrying out "U" turns to access the Childcare Care Premises carpark resulting in a conflict with vehicles trying to exit the Shopping Centre carpark access. The City requests an amended Traffic Impact Statement, which includes mitigation measures, addressing the above matter for the City's consideration.	Advice was sought from the project's traffic engineers, Transcore, with the following provided: *As there is a proposed footpath connection between the shopping centre and the proposed child care centre, patrons travelling south who wish to access the child care centre can do so by turning right into the shopping centre northern crossover and access the allocated parking bays within the shopping centre and then access the child care centre via the footpath connection. As such the demand for and the risk of U-turns are not significant. Further, the U-turns can be prohibited at this location by installing a No U-Turn sign at the nip of the median for the southbound traffic.* In the event the Traffic Impact Statement is required to be amended to include the above we respectfully request this be imposed as a condition of approval.

Attachment Two

EAQ Consulting Advice

Ashleigh Maple

Subject: FW: Department of Health Comments - DA24/0665 - 283 Harborne Street GLENDALOUGH - Child Care Premises (JobRef: 9705)

Importance: High

From: John Hurley <jhurley@eaqconsulting.com.au>
Sent: Thursday, 29 August 2024 3:33 PM
To: Ashleigh Maple <Ashleigh.Maple@rowegroup.com.au>; Danielle Davison <danielle@davisonadvisory.com.au>
Cc: Lidija Langford <Lidija.Langford@rowegroup.com.au>
Subject: RE: Department of Health Comments - DA24/0665 - 283 Harborne Street GLENDALOUGH - Child Care Premises (JobRef: 9705)
Importance: High

Afternoon all,

It's also worth noting that following our assessment of your application, we undertook a re-assessment (City of Rockingham) of a mixed commercial precinct with a service station that was adjacent to two (2) childcare centres. The project went through SAT and was peer reviewed etc.

The peer reviewer (SLR out of Melbourne) found that the current WA emissions regulations (same as NSW EPA, 2016) for Benzene are very low (29 ug/m3) and not correct compared to the Vic guidelines which state the benzene exposure of 580 ug/m3.
Extract from SLR's peer review of our Assessment:

The Assessment appropriately identifies typical pollutant emissions (volatile organic compounds; VOCs) from service station operations and nominates appropriate sources of air quality criteria, including fror *"National Environment Protection (Air Toxics) Measure"* (NEPM Air Toxics) (NEPC, 2011), with which to a concentrations against.

The NEPM Air Toxics only lists an annual average criterion for benzene, which due to its relative carcino potential, typically has the most stringent ambient air quality criteria of VOCs. The Assessment appropr sources an additional short term (1-hour average) criterion from the *"Approved Methods for the Modellin Assessment of Air Pollutants in New South Wales"* (NSW EPA, 2016). This document has recently been up (NSW EPA, 2022), however the benzene criterion is unchanged.

SLR notes that NSW EPA (2016) sources this 1-hour average benzene criterion from the now rescinded Vict *"State Environment Protection Policy (Air Quality Management)"* (Victorian Government, 2001). The crit originates from the US Agency for Toxic Substance and Disease Registry (ATSDR) acute minimal risk level (of 0.009 ppm which was derived for acute-duration inhalation exposure periods of less than or equal to 14 (ATSDR, 2007). EPA Victoria now assign this criterion less conservatively to a 24-hour averaging period (E 2022), more in keeping with the intent of the MRL exposure period, and adopt a 1-hour average criterion the Texas Commission on Environmental Quality (TCEQ) Air Monitoring Comparison Values (ACMV) of 18((TCEQ, 2022). It is perhaps worth noting that the AMCVs are based on health effects and *"If predicte measured airborne levels of a constituent do not exceed the comparison level, adverse health or welfare ef would not be expected to result. If ambient levels of constituents in air exceed the comparison levels, it doe necessarily indicate a problem, but rather, triggers a more in-depth review."*

The Assessment adopts a criterion 20 times lower than that now adopted by EPA Victoria and in doing so ca considered to present a highly conservative element of the assessment of predicted short-term impac benzene.

So this means that if we adopted the benzene exposure criterion of 580 ug/m3 (which we do now on all projects), the percentage criterion values in your report would decrease 20x and therefore there is negligible risk of benzene vapours resulting in adverse health or welfare effects, etc.

Regards

John Hurley
(B.Sc [Chemistry/Biotechnology], CAQP)

Environment | Odour | Dust | Toxics

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ATTACHMENT 3

Amenity Impact Statement

Amenity Impact Statement

Child Care Premises - 279 (Lot 156) & 283 (Lot 157) Harborne Street & 4 (Lot 2) Jon Sanders Drive, Glendalough

ROWE GROUP

OUR REF: 9705
11062995
V 1 V 11 07 2024

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a 3/369 Newcastle Street, Northbridge 6003

Contents

1. Introduction

Rowe Group acts on behalf of Mallica Pty Ltd, the owners of Lot 156 (No. 279) and Lot 157 (No. 283) Harborne Street, and Lot 2 (No. 4) Jon Sanders Drive, Glendalough ('subject site').

This Amenity Impact Statement ('AIS') has been prepared in line with the City of Stirling Local Planning Policy 6.4 – Child Care Premises ('LPP 6.4') in support the development application for a proposed Child Care Premises on Lots 156 and 157.

This AIS outlines the relevant site context, amenity considerations, and design measures that address amenity impacts and requirements of the City's LPP 6.4.

2. Site and Context

2.1 Site Description

The proposed Child Care Premises will be located on the following lots:

- Lot 157 (No. 283) Harborne Street, Glendalough
- Lot 156 (No. 279) Harborne Street, Glendalough

Located within the City of Stirling, the subject site currently contains two single detached dwelling on each lot. The existing structures are set back substantially from the front lot boundary and are obscured by deteriorating Colorbond fencing. The fencing has been subject to graffiti at points and limits the engagement of the site with Harborne Street (refer **Figure 2 - Harborne Street Frontage**). Both lots contained within the site are contain established tree canopy that includes non-native trees (refer **Figure 3 Established Trees on Site**).

The adjacent Glendalough Village Shopping Centre, contained on Lot 2 (No. 4) Jon Sanders Drive, Glendalough, is located immediately south of the abovementioned lots and forms part of the Application for the purposes of facilitating a shared parking arrangement.

2.2 Context Description

Upon visiting the subject site three distinct surrounding contexts are evident, as outlined below (See figure 1 – Context map).

2.2.1 Harborne Street Context

The adjacent Harborne Street is dual carriageway, carrying substantial amounts of traffic (22,000 vehicles per day). The streetscape character reflects the function of Harborne Street as a high-volume distributor road. Few buildings address the street in a meaningful manner, with the streetscape characterised by solid front fencing (refer **Figure 4 – Adjacent Street Frontages**) or substantial building setbacks (refer **Figure 5 – Neighbouring Setbacks**).Generally, the former is more common with most of the more recent development having boundary walls separating residential uses from the street. Some multiple dwelling developments abut the street which are typically older stock but provide some streetscape interaction with upper storey windows providing surveillance to the street.

Currently, the site is serviced by three (3) vehicle crossovers connecting to Harborne Street, one of which is redundant. With additional crossovers servicing the neighbouring lot and the shopping centre. The number of crossovers (five (5) in total within 65 meters) servicing this small area reduces the amenity and safety of the streetscape (refer **Figure 2 - Harborne Street Frontage**).

The subject site contains two dwellings (one on each lot), both dwellings are old and poorly maintained, presenting a poor amenity to Harborne Street and the surrounding area, with minimal interaction with the street.

2.2.2 Adjacent Residential

The adjacent residential land uses are of three distinct qualities. The three (3) lots immediately neighbouring the subject site to the west and north contain single storey dwellings. The dwellings on these lots consist of older stock, with substantial setbacks from the lot boundary. These lots evince a suburban character, with the two rear abutting lots each having generous back yards (10-12m rear setbacks). The northern neighbour to the site has a duplex that sits substantially closer to the lot boundary than the other neighbouring lots.

Residential development on the opposite side of Harborne Street substantially deviates in character from that directly abutting the subject site. Largely consisting of grouped dwellings, these developments are oriented towards common private driveways, presenting a differing streetscape with little public/private interaction.

Finally, a two-storey multiple dwelling development is located adjacent to the north-western boundary of the subject site. The character of the building, like the neighbouring single detached dwellings, is that of older stock. Despite being two storeys, as opposed to the predominantly single storey development surrounding the site, the generous setbacks surrounding the building means it does not impose on surrounding lots. Likewise, only two balconies on the south and east facades of the building indirectly address the subject site (Refer **Figure 6 – Multiple Dwelling Setback**).

2.2.3 Centre Context

Directly adjacent to the subject site is Glendalough Village Shopping Centre. The shopping centre contains a several take away food outlets, a supermarket, a bottle shop, and a service station. Most of the site currently serves as parking, and as such is largely hardstand. The shops nearest to the subject site address outwards towards the car park. The site contains very little by way contribution to urban greening.

Several other uses in proximity to the subject site leverage off the centre and contribute to a small cluster of convenience and community-based uses. Namely the adjacent dental clinic to the east (on Harborne Street) as and nearby Lake Monger Primary School.

Figure 1 – Context Map

Figure 2 – Harborne Street Frontage

Figure 3 - Established Trees

Figure 4 – Adjacent Street Frontages

Figure 5 – Neighbouring Setback

Figure 6 – Multiple Dwelling Setback

3. Development Implications and Design Response

3.1 Impact on Site

The most significant impact on the site will be the loss of the existing tree canopy. Due to childcare development regulations, trees that drop or produce fruit and or seeds and/or have sharp fronds and are not allowed on site for health and safety reasons. The resultant loss of amenity from the necessary removal of tree canopy is addressed through the landscape plan that provides for the planting of large (90L) trees that will provide significant canopy. The tree selection provided within the landscape plan includes fast growing species reaching between 12-15m high and 5-10m wide. Further, the landscape plan provides for substantial ground coverage through the use of native ground covering plants and hedges. This low-lying landscaping will soften the edge of the site and improve the interface with the Harborne Street and neighbouring Glendalough Village carpark.

The City of Stirling's Local Planning Scheme No. 3 ('LPS 3') designates the site 'Residential' with an 'R60' density code. The Residential Design Codes ('R-Codes'), provide a minimum requirement of 15% for soft landscaping area, resulting in a requirement of 277m^2 for the subject site. The proposed development delivers much more than this with a deep soil area of 336m^2 within the outdoor play area. This landscaping is provided in a comprehensive and consolidated manner that improves the amenity of the surrounding sites. Under a scenario where the site is developed for residential purposes, a residential development would not be capable of achieving the size and scale of landscaping that can be delivered with this proposal, resulting in the permanent loss of natural amenity.

3.2 Impact on Context

3.2.1 Harborne Street

The proposed built form will have suitable scale and setback to ensure consistency with the existing character of Harborne Street. The building will have a street setback of five (5) meters, providing ample landscaped space that enhances the developments relationship to Harborne Street while allowing space for solar access to the site. The single level design of the building is unobtrusive and minimises building bulk impacts. Additionally, visually permeable fencing allows a connection between the development and Harborne Street which, together with interesting façade treatment, promotes an improved streetscape quality.

The consolidation of the site will allow for rationalisation of crossovers that are connected to the current site. Further, the entry point is distinguished through awnings that are distinct in both size and materiality, assisting with wayfinding. This will improve the legibility of the site in its interactions with Harborne Street, improving amenity for pedestrians and drivers.

3.2.2 Adjacent Residential

The building bulk is minimised in order to be sensitive to neighbouring residential land uses. Additional to building bulk, generous landscaped side and rear setbacks smooth the transition between the change of land uses. Through these elements as well as the improved interface between the proposed development and Glendalough Village, the development will assist with the transition between the commercial and residential land uses.

The ample set back from the rear lot of seven (7) meters, means that the abutting houses which also have substantial rear setbacks have significant separation from the child care use. The bulk of proposed outdoor play area is concentrated at the front and rear of the site, placing the bulk of play area away from the nearest habitable rooms of the neighbouring dwelling along the northern lot boundary (attach ariel context of plan).

Additionally, fencing will assist in ensuring any acoustic impacts are minimised. Finally, use of the outdoor play area is restricted until after 7am to ensure any amenity impacts associated with the outdoor play area will be minimised.

3.2.3 Glendalough Village

The Glendalough Village Centre to the south of the subject site will benefit from the proposed Child Care Premises, through both the pedestrian access connecting the two sites and the shared parking arrangement. This connection provides interaction between the two sites creating a cohesive transition of uses and interface to the Centre. The also provides additional connectivity by way of pedestrian access to Heard Way through the Glendalough village carpark. The coupling of the child care use adjacent to the centre contributes to the cluster of local land uses that service the community. See for example the adjacent dental clinic, supermarket, service station, and nearby primary school.

The grouping of these uses will reduces the need for additional parking spaces (refer to Traffic Impact Assessment prepared in support of the Development Application), minimising the extent of hardstand required, that could produce negative amenity outcomes. Further to this, with the parking provided will accommodate shade tree planting, planted at one every two parking bays.

4. Amenity Impact Assessment

Table 1 below address the amenity impact assessment criteria outlined by the City's LPP 6.4.

Consideration	Response
Access to daylight and ventilation to outdoor areas and major opening to adjoining sites	- Large setbacks have been provided (minimum 4.9m) to allow solar access to the site and neighbours. - Single storey design reduces the impact of building bulk, increasing solar access for adjacent sites.
Effect of noise on outdoor areas and major openings to adjoining sites	- Large setbacks have been provided to maximise buffer between active rooms in the development and adjacent dwellings. - The site is configured to minimise the extent of play area exposed to abutting habitable rooms. - Addition of the fencing to boundaries to mitigate acoustic impacts.
Sense of confinement resulting from culminative building bulk	- The single storey building minimises the impact of building bulk on surrounding development. - Large setbacks further reduce the impact of building bulk.
Location of existing trees and vegetation	- The landscaping plan provides 336m^2 deep soil area. - Large (90L) trees will contribute to a total canopy coverage of at least 50m^2 when mature. - Where grass and green space is being lost it is being replaced with native ground covering and hedges
Articulation of elevations in terms of varied setbacks, design features, building materials and treatments	- The façade of the building offers variation in textural elements between the cladding, rendering and red brick elements. - The verandah that encompasses the building envelope as well as the variations in set backs ensure the building does not present a visually monotonous frontage.
Impact upon streetscape	- The street façade and fencing will provide a clear visual connection, maximising opportunities for passive surveillance whilst allowing community engagement for the children and vice versa. - Permeable fencing uses mesh panels to allow for the visual connection. - The landscape plan includes large tree planting areas adjacent to the Harborne Street frontage, ensuring the tree canopy is visible from the street.
Degree to which development scale reflects existing built form within streetscape	- The reduction in primary street setback reflects the setback provisions of the R60 code for developments along Harborne street.

Consideration	Response
	- The single storey building design and building scale reflects existing built form along Harborne Street.
Amount of open space around building	- The proposal provides for a total of 505m^2 in unencumbered outdoor play area. The required amount based on the number of children expected is 504m^2. The open space is spread generously around the building.
Design and external appearance	- The façade of the building offers variations in textural elements between the cladding, rendering and red brick elements. - The verandah that encompasses the building envelope as well as the variations in setbacks ensure the building does not present a visually monotonous frontage. - Landscaping and signage elements clearly define the site and provide and provide a coherent interface with the street.

Table 1: Amenity Impact Assessment

5. Conclusion

The proposed Child Care Premises will provide a substantial contribution to the overall amenity of its context. The proposed development provides a desirable transitional use between commercial and residential developments, adding to a small cluster of local services that contributes to the community.

The character of the development is sensitive to the surrounding built form context with building bulk in keeping with the area, including generous setbacks to allow for separation of active spaces and a substantial landscaped outdoor play area. The open space around the building serves as a buffer to neighbouring land uses aided by fencing to minimise noise. This open space, guided by the attached landscape plan, offers a comprehensive and consolidated green infrastructure outcome for the site than what might be achieved with an alternative residential development scenario. This proposal provides an opportunity to deliver a substantial positive impact on the local amenity.

ATTACHMENT 9

Transport Impact Assessment

Engineering a better future for over 20 years!

Proposed Childcare Centre

279 & 283 Harborne Street & 4 John Sanders Drive, Glendalough

Traffic Impact Statement

PREPARED FOR:
Davison Advisory Services

April 2024

11062995
V 1 V 11 07 2024

Document history and status

Author	Revision	Approved by	Date approved	Revision type
Roger Bajwa	r01	B Bordbar	15/03/2024	Draft
Roger Bajwa	r01a	B Bordbar	08/04/2024	Final

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Author: Roger Bajwa

Project manager: Behnam Bordbar

Client: Davison Advisory Services

Project: 279 & 283 Harborne Street & 4 John Sanders Drive, Glendalough

Document revision: r01a

Project number: t22.278

TABLE OF CONTENTS

REPORT FIGURES

1 Introduction

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Davison Advisory Services with regard to a proposed childcare centre to be located at 279 & 283 Harborne Street & 4 John Sanders Drive, Glendalough, in the City of Stirling.

The subject site currently entails an existing shopping centre (at 4 John Sanders Drive) and two residential dwellings (at 279 & 283 Harborne Street). The two residential dwellings are proposed to be demolished and replaced by a childcare centre. No redevelopment is currently proposed at the shopping centre as part of this application, however, the parking between the shopping centre and and childcare centre is proposed to be shared.

The proposed childcare centre site is located to the west of Harborne Street approximately 100m north of the Harborne Street/ Powis Street signalised intersection. The subject site is bound by Harborne Street to the east, Jon Sanders Drive to the south, and existing residential developments to the west and north as shown in **Figure 1**.

Figure 1: Location of the subject site

The Transport Impact Assessment Guidelines (WAPC, Vol 4 – Individual Developments, August 2016) states: *"A Transport Impact Statement is required for those developments that would be likely to generate moderate volumes of traffic*[1] *and therefore would have a moderate overall impact on the surrounding land uses and transport networks"*.

Section 6 of Transcore's report provides details of the estimated trip generation for the proposed development. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips, a Transport Impact Statement is deemed appropriate for this development.

Key issues that will be addressed in this report include the traffic generation and distribution of the proposed development, access and egress movement patterns and parking demand and supply.

[1] *Between 10 and 100 vehicular trips per hour*

2 Development Proposal

The subject site currently entails an existing shopping centre and two residential dwellings. The two residential dwellings are proposed to be demolished and replaced by a childcare centre. No redevelopment is currently proposed at the shopping centre site as part of this proposal, however, as the shopping centre and the development sites are owned by the same owner the parking between the shopping centre and and childcare centre is proposed to be shared.

The internal GFA of the childcare building is approximately 240m^2. This childcare centre is proposed to accommodate up to 72 children and 13 staff members.

According to the development plan provided in **Appendix A**, a total of 12 on-site parking bays, including one ACROD bay, are proposed within the proposed childcare centre development area. Moreover, a turnaround bay is also proposed to provide efficient vehicular circulation within the site.

A bin storage area is provided at the southeastern corner of the childcare centre development site carpark.. It is proposed that servicing/ waste collection will be conducted on-street outside the peak operating hours of the childcare centre and the peak hours of the frontage road.

Vehicular access to the childcare centre development site is proposed via a left-in/left-out crossover on Harborne Street. Pedestrian access to the proposed development is available via the existing external footpath network on Harbourne Street and via a pedestrian accessway between the shopping centre and childcare centre site.

3 Vehicle Access and Parking

3.1 Access

The proposed childcare centre development site currently entails three crossovers on Harborne Street. As part of the development proposal, the existing crossovers will be removed and a new, 6.0m wide, left-in/left-out crossover on Harborne Street is proposed to serve the proposed childcare centre. Additionally, a pedestrian accessway is proposed between the shopping centre and childcare centre sites. The proposed access arrangements are illustrated in **Figure 2**.

Figure 2: The childcare centre development site crossovers and the proposed pedestrian accessway

3.2 Parking Demand and Supply

Based on the City of Stirling's Local Planning Scheme No.3, the parking provision applicable to the proposed childcare centre is:

- 1 bay per staff member; plus,
- 1 bay per 7 children.

The proposed childcare centre is proposed to accommodate up to 72 children and 13 staff members. According to the City's policy, the proposed CCC requires a parking provision of 24 (23.3) bays.

The proposed childcare centre development site provides a total of 12 bays (inclusive of one ACROD bay).
However, as the area subject of this application covers both the shopping centre and childcare centre development sites, the 102 bays within the shopping centre site will be available to be used by the childcare centre. Therefore the total 24 parking requirements of the proposed childcare centre in accordance with City's policy, can comfortably be accommodated by the childcare centre site and the shopping centre.

Transcore undertook parking surveys at the parking areas within the shopping centre car park within close walking proximity to the childcare centre site to determine the utilisation of shopping centre parking that will be available for use of the childcare centre. The results of the parking surveys are detailed in **Section 3.4**.

3.3 Estimated Actual Parking Demand Based on Trip Generation

Transcore undertook a parking analysis based on the anticipated peak hour traffic generation of the proposed childcare centre, to estimate the actual peak parking demand of the centre.

Section 6.1 of this report details the anticipated peak hour traffic generation of the proposed childcare centre. It is established that the calculated morning peak hour trip generation of the proposed childcare centre is 28 vehicles in and 26 vehicles out of the car park (PM peak hour is estimated to generate fewer trips).

This represents a potential 28 vehicles using the childcare centre car park during the peak hour.

The NSW *"Guide to Traffic Generating Developments"* section on childcare centres provides commentary on childcare centre mode share, parking utilisation and parking length of stay. It should be noted that the commentary provided in the NSW guide is based on surveys of actual parking activity undertaken in New South Wales. The NSW guide indicates the highest parking demand of 0.23 cars per child (which represents a parking requirement of 19 bays for the proposed childcare centre) and the average recorded length of stay for all surveyed childcare centres of 6.8 minutes.

Conservatively assuming that the length of stay for pick-up/drop-off parking for the proposed childcare centre is 10 minutes, it is calculated that each parking bay can accommodate a turnover of up to 6 vehicles per hour.

It is therefore established that at least 5 bays (i.e. 28/6 = 4.66, rounded up to 5 bays) should be reserved for pick-up and drop-off activities within the childcare centre car park during peak hour periods which results in a minimum actual parking demand of 18 bays (5 bays for drop-off/pick-up + 13 bays for staff).

The proposed childcare centre development provides a total of 12 bays with the balance of the parking demand for the childcare centre to be satisfied within the shopping centre site.

Therefore, it should be noted that:

- Some of the childcare centre patrons may park at the shopping centre to drop off or pick up their children as well as shopping at the shopping centre centre;
- Some patrons of the childcare centre are likely to come from the local residential catchment and as such parents may walk their children to/from the childcare centre reducing the demand for on-site parking;
- Some of the staff of the childcare centre are expected to use public transport, ride share or be dropped off or walk to the centre.

3.4 Parking Surveys

The subject site for this application covers both the childcare centre site and the shopping centre immediately south of the proposed development. The two sites are owned by the same owner. Some of the shopping centre parking will be utilised by the proposed childcare centre.

Accordingly, in order to establish the availability of parking bays within the shopping centre during the peak parking demand of the childcare centre, a parking inventory and utilisation survey was undertaken at the shopping centre. The survey was undertaken at the shopping centre parking areas most likely to be used by the childcare centre patrons. These areas are marked as zones A, B and C as shown in **Figure 3**.

Figure 3. Parking Utilisation Survey Location and Zoning

The parking surveys were undertaken on Wednesday 9 November 2022 between 8:00 – 9:00 AM and 3:00 – 4:00 PM. The survey periods coincide with the anticipated peak parking demand at the childcare centre. The results of the parking surveys are documented in **Tables 1** and **Table 2**.

Table 1. Parking Inventory & Unoccupied Bays

Zone	Unoccupied (Vacant) Bays		
	A (21 bays)	B (14bays)	C (36 bays)
08:00 - 08:15 AM	15	11	29
08:15 - 08:30 AM	17	13	28
08:30 - 08:45 AM	14	10	29
08:45 - 09:00 AM	12	11	27
03:00 - 03:15 PM	11	9	13
03:15 - 03:30 PM	11	8	15
03:30 - 03:45 PM	14	8	16
03:45 - 04:00 PM	12	5	13

Table 2. Percentage Utilisation

Zone	Percentage Utilisation		
	A	B	C
08:00 - 08:15 AM	29%	21%	19%
08:15 - 08:30 AM	19%	7%	22%
08:30 - 08:45 AM	33%	29%	19%
08:45 - 09:00 AM	43%	21%	25%
03:00 - 03:15 PM	48%	36%	64%
03:15 - 03:30 PM	48%	43%	58%
03:30 - 03:45 PM	33%	43%	56%
03:45 - 04:00 PM	43%	64%	64%

The average parking utilisation for the surveyed Zones A, B & C was 38 percent, while the average parking utilisation for Zone A was even lesser 37 percent. Thus, 62 percent of bays were vacant in the surveyed zones during the AM and PM peak hours.

As evident from the parking survey, a significant number of parking bays are available at the shopping centre (particularly within Zone A which is the most convenient location for childcare centre patrons and staff to park) which can be used by the proposed childcare centre development.

4 Provision for Service Vehicles

A bin storage area is located at the southeast corner of the carpark of the childcare centre site as shown in the development plan in **Appendix A**.

It is proposed that waste collection/ servicing for the childcare centre will be conducted on-street outside of the peak operating hours of the proposed childcare centre and outside the peak hours of the frontage road to minimise disruptions to childcare operations and frontage road traffic.

It is expected that the childcare centre will generate a small volume of additional service vehicle traffic primarily associated with the deliveries for the childcare centre. It is recommended that smaller vehicles such as vans should be used for deliveries.

5 Hours of Operation

The proposed childcare centre is proposed to operate during weekdays between 7:00 AM to 6:30 PM Monday to Friday.

6 Daily Traffic Volumes and Vehicle Types

6.1 Proposed Development Trip Generation

In order to establish an accurate traffic generation rate for the proposed childcare centre, traffic count surveys undertaken by Transcore at similar centres in the Perth metropolitan area were sourced.

Discussions with the respective centre managers revealed that the peak drop-offs and pick-ups for each of these centres occur between the hours of 7:00 AM – 10:00 AM and 3:00 PM – 6:00 PM.

From the total number of children at each of the centres on the surveyed days, the following average generation rates were established for the morning and afternoon surveyed periods:

- 7:00 AM–10:00 AM: 1.58 trips per child (52% in / 48% out); and,
- 3:00 PM–6:00 PM: 1.67 trips per child (47% in / 53% out).

From this information, the traffic generation rate for the combined period of 7:00 AM–10:00 AM and 3:00 PM–6:00 PM was calculated as 3.25 trips per child. To convert this figure to a daily generation rate, this figure was increased to 3.5 trips per child to account for any trips outside of the surveyed times. It was assumed that the daily in and out split for vehicle trips was 50/50.

Furthermore, the following peak hour generation rates were established from the surveys for the Childcare Centres:

- AM peak hour: 8:00 AM –9:00 AM: 0.75 trips per child (52% in / 48% out); and,
- PM peak hour: 3:00 PM – 4:00 PM: 0.60 trips per child (55% in/ 45% out).

A comparison of the six-hour generation rates and the peak-hour generation rates confirms that the distribution of traffic from these centres is spread over the peak periods and that a full concentration of traffic does not occur during the peak hour. The AM peak hour represents 47% of the 3-hour AM peak period traffic generation, and the typical school PM and road network PM peak hours represent 36% and 29% of the 3-hour PM peak period traffic generation, respectively. As such, childcare centres operate quite differently from schools as their peak period is spread out.

Accordingly, the following number of trips were estimated for the proposed childcare centre, assuming a maximum scenario of 72 children being present (i.e., centre at full capacity):

- AM peak hour: 54 trips generated (28 in / 26 out); and,

- PM peak hour: 43 trips generated (24 in / 19 out); and,
- Daily traffic generation: 252 trips generated (126 in / 126 out).

6.2 Traffic Flow

Based on the general spatial distribution of existing residential developments in the immediate area and the permeability of the local road network, the childcare centre's traffic distribution adopted for this analysis is as follows:

- 30% to/from the north via Harborne Street; and,
- 70% to/from the south on Harborne Street.

Figure 4 illustrates trip generation and traffic distribution over the local road network for the proposed childcare centre.

Figure 4: Estimated traffic movements for the subject site

6.3 Impact on Surrounding Roads

The WAPC Transport Impact Assessment Guidelines (2016) provides guidance on the assessment of traffic impacts:

"As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road but increases over 10 per cent may. All sections of road with an increase greater than 10 per cent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 per cent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis."

It is clear that the traffic increase from the proposed childcare centre would be significantly less than the critical threshold (100vph per lane). As detailed in **Section 6.2**, the proposed development will not increase traffic on any lanes on the surrounding road network by more than 100vph, therefore the impact of the development traffic on the surrounding road network will not be significant.

7 Traffic Management on the Frontage Streets

Harborne Street, east of the subject site, is constructed as a dual carriageway divided road with approximately 5m solid median as shown in **Figure 5**. Harborne Street is classified as a *Distributor A* in the Main Roads WA *Functional Road Hierarchy* and operates under the posted speed limit of 60km/h.

Traffic count data obtained from Main Roads WA indicates that Harborne Street carries around 22,000 vehicles per day. The morning and afternoon peaks were recorded between 8:00-9:00 AM and 4:00-5:00 PM with traffic volumes of 2,200vph during the respective peak hours respectively.

Figure 5. Westbound view along Harborne Street

8 Public Transport Access

According to the current Transperth bus network map, the closest bus routes are Transperth routes 15, 85 and 95 operating on Harborne Street as shown in **Figure 6**, **Figure 7** and **Figure 8**. The nearest bus stop is located approximately 50m walking distance from the subject site and is accessible via the existing footpath network along Harborne Street. These bus routes provide direct links to Glendalough Train Station and Perth Bus Port.

Figure 6: Public transport services (Transperth Maps – Route 15)

Figure 7: Public transport services (Transperth Maps – Route 85)

Figure 8: Public transport services (Transperth Maps – Route 95)

9 Pedestrian Access

Pedestrian access to the proposed development is available via the existing external footpath network along Harborne Street. Also, a pedestrian accessway is proposed between the childcare centre and shopping centre car parks.

10 Cycle Access

According to the current Department of Transport Bike Maps, "Principal Shared Path" along Mitchell Highway, and "Other Shared Path" along Powis Street are available in the vicinity of the subject site. Cyclists can also share the existing pedestrian footpath along Harbourne Street to access the subject site. The Perth Bicycle Network Map illustrated in **Figure 9** shows the cyclist connectivity in the vicinity of the subject site.

Figure 9: Extract from Perth Bicycle Network (Department of Transport)

11 Site Specific Issues

The subject site for the proposed childcare centre development covers both the childcare centre site and the adjacent shopping centre site. Both sites are owned by the same owner. The childcare centre site provides 12 parking bays. The balance of the childcare centre parking demand is proposed to be satisfied by the shopping centre car park.

12 Safety Issues

No particular safety issues have been identified for the proposed childcare centre.

13 Conclusions

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Davison Advisory Services with regard to a proposed childcare centre to be located at 279 & 283 Harborne Street & 4 John Sanders Drive, Glendalough, in the City of Stirling.

The subject site currently entails an existing shopping centre (at 4 John Sanders Drive) and two residential dwellings (at 279 & 283 Harborne Street). Both sites are owned by the same owner. The two residential dwellings are proposed to be demolished and replaced by a childcare centre. No redevelopment is currently proposed at the shopping centre as part of this application, however, the parking between the shopping centre and and childcare centre is proposed to be shared.

This childcare centre is proposed to accommodate up to 72 children and 13 staff members.

The childcare centre development site currently entails three crossovers on Harborne Street. As part of the development proposal, the existing crossovers will be removed and a new, 6.0m wide, left-in/left-out crossover on Harborne Street is proposed to serve the proposed childcare centre site. Further, a pedestrian accessway is proposed between the childcare centre site and the shopping centre site.

A total of 12 on-site parking bays, including one ACROD bay, are proposed for the childcare centre car park. Moreover, a turnaround bay is also proposed at the end of the car parking area to provide efficient vehicular circulation within the site.

Based on the estimated actual parking demand documented in this report, it is established that at least 5 bays should be reserved for pick-up and drop-off activities and 13 car parking bays should be allocated to staff. The proposed development provides a total of 12 bays and the balance of the parking demand will be satisfied by the shopping centre car park.

As evident from the parking surveys undertaken by Transcore, a significant number of parking bays are available at the shopping centre during the peak parking demand of the childcare centre. 62 percent of bays were vacant in the surveyed zones (parking areas expected to be used by the childcare centre) during the AM and PM peak hours. Thus some of the shopping centre parking (particularly within Zone A which is the most convenient location for childcare centre patrons and staff to park) is expected to be used by the childcare centre.

It is estimated that the proposed development would generate approximately **250** total daily trips with approximately **54** and **43** trips during typical weekday AM and PM peak hours, respectively. These trips include both inbound and outbound trips. Thus, the traffic generation of the proposed development is relatively low and as such

the traffic operations of the road network in the vicinity of the proposed childcare centre would not be adversely impacted by the additional development traffic.

It is proposed that waste collection/ servicing for the proposed childcare centre will be conducted on-street outside of the peak operating hours of the proposed childcare centre and outside the peak hours of the frontage road to minimise disruptions to childcare operations and frontage road traffic.

It is expected that the childcare centre will generate a small volume of additional service vehicle traffic primarily associated with the deliveries for the childcare centre. It is recommended that smaller vehicles such as vans should be used for deliveries.

The site features good connectivity via the existing road network and path network and has convenient access to the public transport service in this area.

No particular transport or safety issues have been identified for the proposed childcare centre development within the scope of this report.

It is concluded that the findings of this Transport Impact Statement are supportive of the proposed childcare centre development.

Appendix A

PROPOSED DEVELOPMENT PLANS

Engineering a better future for over 20 years!

Total development application area

Balance Site
(Shopping Centre)
No Redevelopment Currently Proposed

Harborne St

Subject Site
Proposed Redevelopment

Proposed Childcare Centre
FFL @ 12.000

Legend
Tree to be removed

Concrete

Good

Overall Site Plan

A1

23105

5.00

05 of 09

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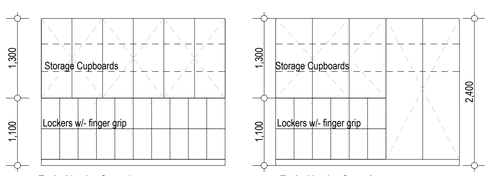
V 1 V 11 07 2024

Child / Room Calculations

Room	Age (Yrs)	Quant.	Size	Staff Req
Activity 1	*0-1*	*12*	*40.23m²*	*3*
Activity 2	*1-2*	*12*	*40.71m²*	*3*
Activity 3	*2-3*	*20*	*65.64m²*	*4*
Activity 4	*3+*	*28*	*91.72m²*	*3*
Total Internal = (Min 3.25m² per child)		**72**	**238.30m²** (Min 234.00m² req)	
Total External Play Area = (Min 7m² per child)		**72**	**505.07m²** (Min 504.00m² req)	



Zone	Area	Perim
Store	7.54	11,760
Bin Store	12.01	14,900
Childcare	470.40	97,560
	489.95 m²	**124,220 mm**

Zoning:	RBD
Policies:	Local Centre
Heritage:	NA
Bushfire:	No
BAL:	No
Acoustic:	TBC
Sewer:	Street
Power:	Above Ground
Coastal:	NA
Water:	RHS
Wind Rating:	TBC

Revision	Description	Date
6.00	DRP Comments	07.05.24
5.00	DRP	07.03.24
4.00	Changes	27.02.24
3.00	Concept	21.02.24
2.00	Concept	02.02.24
1.00	Concept	31.01.24

Project North:

Client
Mallica Pty Ltd

Project Name
Childcare Centre

Project Address
4 Jon Sanders Dr, 279 & 283 Harborne St, Glendalough

Drawing Title:
Ground Floor

Scale:	Sheet Size:
1:100	A1
Project No:	**Revision Number:**
23105	6.00

Drawing No.:
09 of 13

GERMANO DESIGNS
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ATTACHMENT 7

Transport Noise Management Plan

PROPOSED CHILD CARE CENTRE
279-283 HARBORNE STREET
GLENDALOUGH

STATE PLANNING POLICY 5.4
NOISE MANAGEMENT PLAN

MARCH 2024

OUR REFERENCE: 32415-2-23410

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
HERRING STORER ACOUSTICS
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V 1 V 11 07 2024

DOCUMENT CONTROL PAGE

SPP 5.4 – NOISE MANAGEMENT PLAN

CHILD CARE CENTRE – GLENDALOUGH

Job No: 23410

Document Reference: 32415-2-23410

FOR

DAVISON ADVISORY SERVICES

DOCUMENT INFORMATION			
Author:	Geoffrey Harris	**Checked By:**	Tim Reynolds
Date of Issue:	15 March 2024		

REVISION HISTORY

Revision	Description	Date	Author	Checked
1	Minor corrections / clarifications	24/04/24	TR	

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CONTENTS

APPENDICIES

1. INTRODUCTION

Herring Storer Acoustics was commissioned to undertake an acoustic assessment for the proposed child care centre, located on 279-283 Harborne Street, Glendalough, with regards to vehicles travelling along Jon Sanders Drive. The acoustic assessment is to comply with the requirement of State Planning Policy 5.4 *"Road and Rail Transport Noise"* (SPP5.4). As part of this assessment, the following was carried out:

- Determine by modelling, the noise that would be received at child care centre from vehicles travelling on Jon Sanders Drive / Powis Street.
- Assess the predicted noise levels for compliance with the appropriate criteria.
- If exceedances are predicted, comment on possible noise amelioration options for compliance with the appropriate criteria.

For information, plans for the child care centre are attached in Appendix A.

2. SUMMARY

It is noted that the child care centre is only occupied during the day period, thus under State Planning Policy 5.4 *"Road and Rail Transport Noise"* only the criteria for the day period is applicable.

The results of the acoustic assessment indicate that noise received at the development from future traffic, do not exceed external noise level criteria. Therefore, no noise amelioration is required.

3. CRITERIA

Road traffic noise received at a sensitive premise needs to comply with the requirements of State Planning Policy 5.4 "*Road and Rail Transport Noise*". Under this policy, for non-residential noise sensitive premises, internal noise levels should meet the design sound levels as listed in Table 1 of AS/NZ 2107:2000 "Acoustics – Recommended design sound levels and reverberation times for building interiors". Under AS 2017, the internal criteria would:

Sleep Rooms	-	$L_{Aeq(Day)}$ of 35 dB(A).
Play/Group Rooms	-	$L_{Aeq(Day)}$ of 40 dB(A).
Staff Room	-	$L_{Aeq(Day)}$ of 45 dB(A).
Office	-	$L_{Aeq(Day)}$ of 40 dB(A).
Reception	-	$L_{Aeq(Day)}$ of 45 dB(A).
Work areas (eg: Laundry)	-	$L_{Aeq(Day)}$ of 50 dB(A).

We also note that additional to the above, under Section 6.1 of the Policy, "a reasonable degree of acoustic amenity for outdoor living areas on each residential lot." Under the Policy, an outdoor living area is as defined in the State Planning Policy 3.1 Residential Design Codes. The definition for an outdoor living area is as per below:

Outdoor living area

The area external to a **single house**, **grouped** or **multiple dwelling** to be used in conjunction with that **dwelling** such that it is capable of active or passive use and is readily accessible from the dwelling.

However, the Policy also states that "For non-residential noise-sensitive developments, for example schools and child care centres the design of outdoor areas should take into consideration the noise targets."

Finally, it is also noted that under the Policy, "It is recognized that in some instances, it may not be reasonable and/or practicable to meet the outdoor noise targets". Thus, for child care centres, compliance with the "Target" noise levels within the outdoor play areas is not a requirement under the Policy, however, noise received at within the outdoor area still need to be considered.

4. MEASUREMENTS AND OBSERVATIONS

The noise measurements were conducted on 14 March 2024 for Jon Sanders Drive for a short term period during peak hour to determine the L_{A10} noise level. Utilising this measurement, reference to the DEFRA publication has been sought and the difference between the $L_{A10,18hr}$ and the $L_{Aeq,8hr}$ and the $L_{Aeq,16hr}$ has been calculated. The results of the measurement and the determination of the $L_{Aeq(Day)}$ and $L_{Aeq(Night)}$ are shown in Table 3.1.

Noise measurements were conducted with a Larson Davis 831 Sound Level Meter. The Sound Level Meter was calibrated prior to and after use with a Bruel and Kjaer 4230 Calibrator. All equipment used is currently NATA laboratory calibrated. Calibration certificates are available on request.

***T*ABLE 4.1 – MEASURED NOISE LEVELS**

Description	L_{A10} dB	L_{Aeq} dB
Jon Sanders Drive, near Glendalough Village (Approx 10m from Jon Sanders Drive)	69.2	65.4

5. MODELLING

To determine the noise levels from traffic on Jon Sanders Drive / Powis Street acoustic modelling was carried out using Sound Plan, using the Calculation of Road Traffic Noise (CoRTN)[1] algorithms.

The input data for the model included:

- Topographical and cadastral data supplied by client (Shown in Appendix A).
- Traffic data as per Table 5.1 (Based on available information on MRWA Traffic Map, Attached in Appendix B for Jon Sanders Drive. Current traffic for Powis Street was based on the average weekday flows as determined from the traffic counts at Traffic Signal LM00269, being the intersection of Harborne Street and Jon Sanders Drive / Powis Street. For information the data is also attached in Appendix B).
- Adjustments as listed in Table 5.2.

TABLE 5.1 - NOISE MODELLING INPUT DATA

Parameter	Jon Sanders Drive (Current 2018)	Powis St (Current 2023)	Jon Sanders Drive (Future 2044)	Powis (Future 2044)
Traffic Volumes	32,390	36,440	54,030	54,150
Percentage Traffic 0600 – 2400 hours (assumed)	94%	94%	94%	94%
Heavy Vehicles (%)	6.3%	6.3%	6.3%	6.3%
Speed (km/hr)	60 km/hr	60 km/hr	60 km/hr	60 km/hr
Road Surface	Chip Seal	Chip Seal	Dense Graded Asphalt	Dense Graded Asphalt

1 *Calculation of Road Traffic Noise* 1987

TABLE 5.2 – ADJUSTMENTS FOR NOISE MODELLING

Description	Value
Façade Reflection Adjustment	+2.5 dB
Conversion from $L_{A10\ (18\ hour)}$ to $L_{Aeq\ (16\ hour)}$ (Day)	-3.8 dB

The future road traffic volumes were based on information provided by the MRWA traffic maps.

6. TRAFFIC NOISE ASSESSMENT

Using the data contained in Tables 3.1, 4.1 and 4.2 and the adjustments noted above, modelling was carried out under existing conditions for calibration. The Sound Plan model for the site has been set up for the 2044 scenario as defined in Table 4.1.

The results of the acoustic assessment indicate that noise received at the development from future traffic, has a highest level of 50 dB(A) and as a result do not exceed external noise level criteria. Therefore, no noise amelioration is required.

It is noted that these requirements pertain to acoustic requirements only, with regard to *State Planning Policy 5.4,* and may be superseded by other requirements (BAL, Thermal, etc).

7. CONCLUSION

In accordance with the WAPC Planning Policy 5.4, an assessment of the noise that would be received within the development of 279-283 Harborne Street, Glendalough, from vehicles travelling on Jon Sanders Drive / Powis Street has been undertaken.

In accordance with the Policy, the following would be the acoustic criteria applicable to this project:

Internal

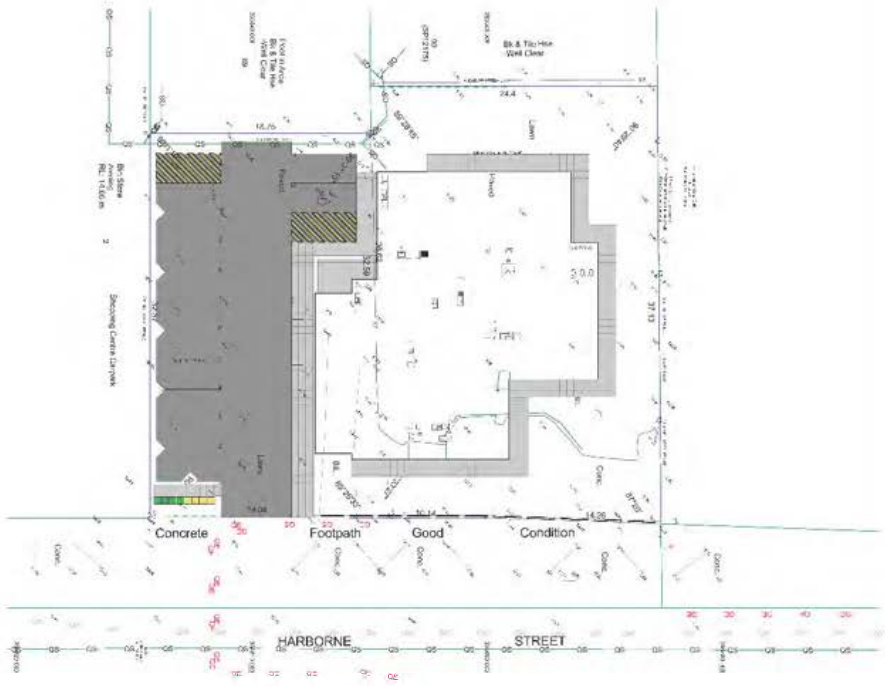
Sleep Rooms	-	$L_{Aeq(Day)}$ of 35 dB(A).
Play/Group Rooms	-	$L_{Aeq(Day)}$ of 40 dB(A).
Staff Room	-	$L_{Aeq(Day)}$ of 45 dB(A).
Office	-	$L_{Aeq(Day)}$ of 40 dB(A).
Reception	-	$L_{Aeq(Day)}$ of 45 dB(A).
Work areas (eg: Laundry)	-	$L_{Aeq(Day)}$ of 50 dB(A).

The results of the acoustic assessment indicate that noise received at the development from future traffic, do not exceed external noise level criteria. Therefore, no noise amelioration is required.

Although under the Policy, there are no requirements with regards to the outdoor play areas, noise received within these areas does need to be considered.

APPENDIX A

PLAN



Client
Mollise Pty Ltd

Project Name
Childcare Centre

Project Address
276-283 Harborne Street, Glendale Qld

Drawing Title
Site Plan

Scale:	Sheet Size:
	A1
Project No:	Revision Number:
23105	4.00

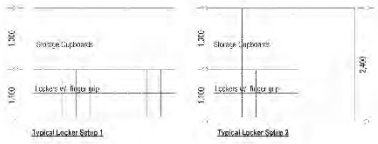
Drawing No:
03 of 04

GERMANO DESIGNS

11062995
V 1 V 11 07 2024

Child / Room Calculations

Room	Age (Yrs)	Quant.	Size	Staff Req
Activity 1	0-1	12	40.92m²	3
Activity 2	1-2	12	40.71m²	3
Activity 3	2-3	20	65.79m²	4
Activity 4	3+	28	91.79m²	3
Total Internal = (Min 3.25m² per child)		**72**	**239.21m²** (Min 234.00m² req)	
Total External Play Area = (Min 7m² per child)		**72**	**505.93m²** (Min 504.00m² req)	



Project Name
Childcare Centre

Project Address
276-283 Hasborne Street, Glendale QLD

Drawing Title
Ground Floor

Scale: A1

Project No: 23105

Revision Number: 4.00

Drawing No: 04 of 04

GERMANO DESIGNS

11062995

V 1 V 11 07 2024

APPENDIX B

MRWA TRAFFIC FLOW DATA

mainroads WESTERN AUSTRALIA

SITE 5161

Hourly Volume

Jon Sanders Dr (1251885)

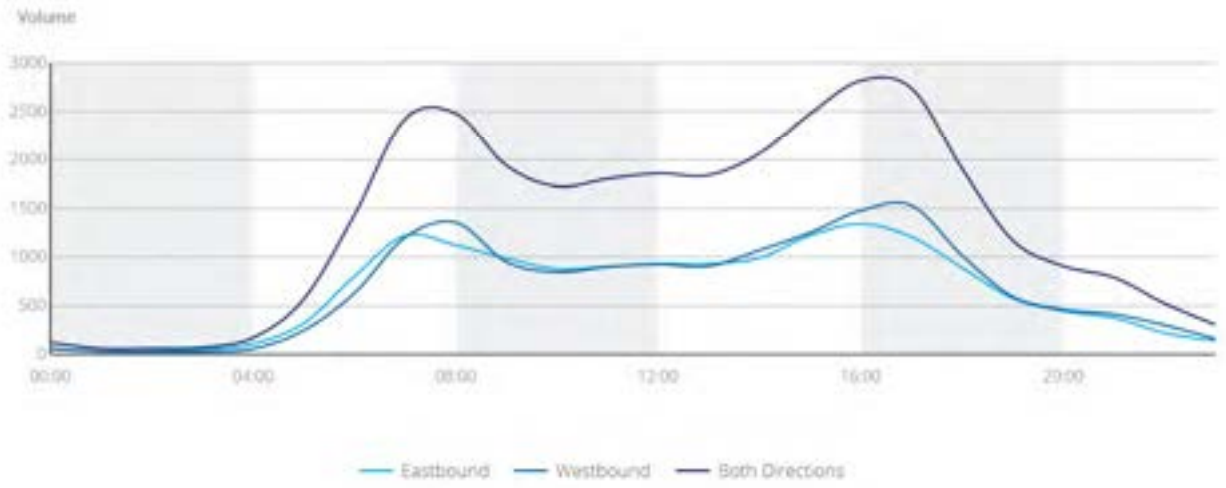
West of Harborne St (SLK 2.81)

2018/19
Monday to Friday

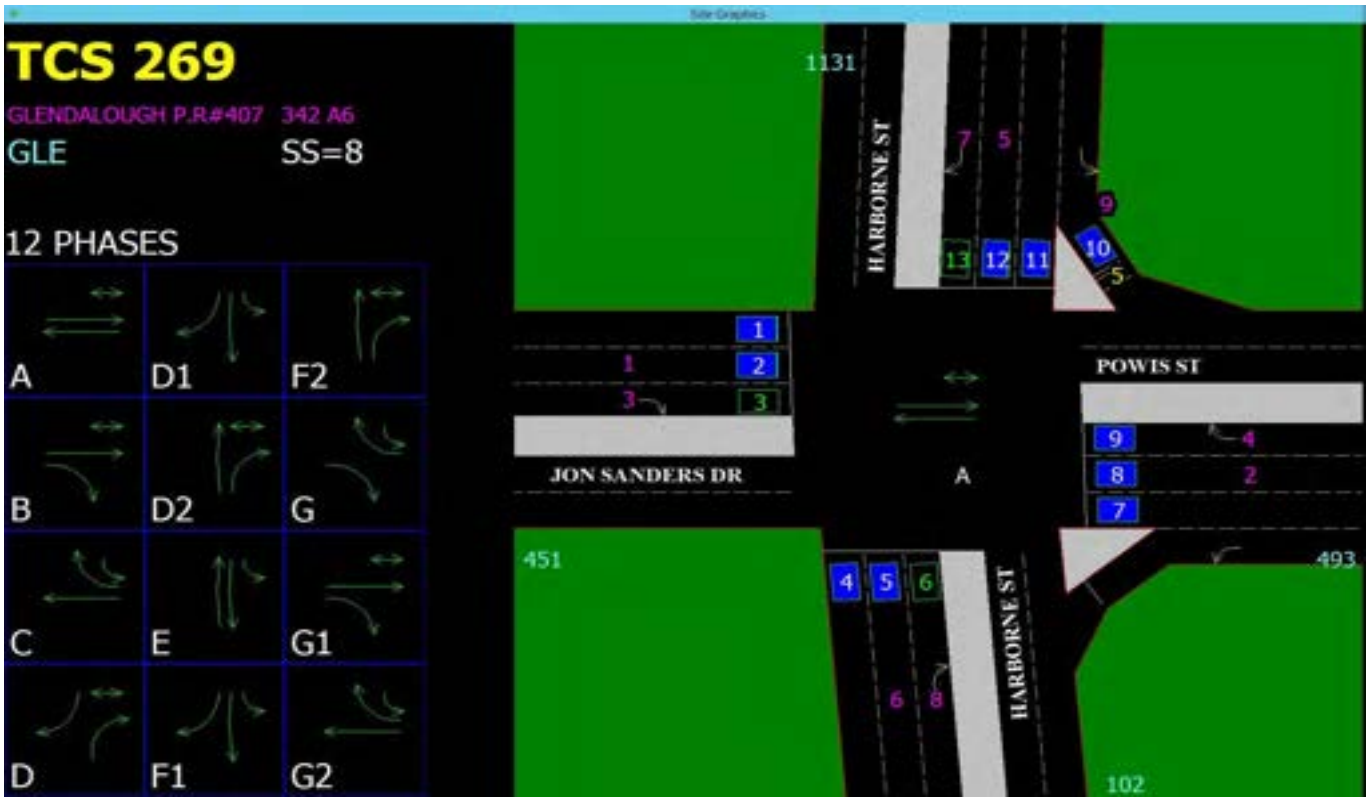
	All Vehicles			Heavy Vehicles			
	EB	WB	Both	EB	WB	Both	%
00:00	59	64	123	5	2	7	5.7
01:00	30	32	62	3	3	6	9.7
02:00	37	27	64	1	2	3	4.7
03:00	47	27	74	3	2	5	6.8
04:00	113	61	174	9	7	16	9.2
05:00	327	249	571	28	20	48	8.4
06:00	805	632	1437	79	58	137	9.5
07:00	1221	1203	2424	90	79	169	7.0
08:00	1123	1356	2479	66	66	132	5.3
09:00	989	951	1940	87	68	155	8.0
10:00	879	847	1726	93	72	165	9.6
11:00	906	899	1805	97	73	170	9.4
12:00	934	926	1860	99	70	169	9.1
13:00	934	908	1842	95	63	158	8.6
14:00	994	1072	2066	97	64	161	7.8
15:00	1224	1254	2478	83	61	144	5.8
16:00	1342	1479	2821	69	49	118	4.2
17:00	1208	1530	2738	54	50	104	3.8
18:00	890	1016	1906	38	32	70	3.7
19:00	577	594	1171	23	15	38	3.2
20:00	445	463	908	14	7	21	2.3
21:00	377	414	791	14	12	26	3.3
22:00	222	302	524	9	7	16	3.1
23:00	142	163	305	6	2	8	2.6
TOTAL	15820	16469	32289	1162	884	2046	6.3

Peak Statistics

AM	TIME	06:45	07:45	07:15	11:45	06:45	06:45
	VOL	1232	1373	2496	101	80	174
PM	TIME	15:30	16:30	16:30	13:45	12:15	12:00
	VOL	1353	1594	2906	101	70	169



Traffic Signal	LM00269
Road	1250061
Road Name	Harborne St
SLK	0.975
Latitude	-31.92272
Longitude	115.820084
Intersection	Harborne St & Powis St & Jon Sanders Dr



Traffic Signal Vehicle Counts

Traffic Signal LM00269
From 19/06/2023
To 25/06/2023

			Detector												
Day	**Date**	**Hour**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Monday	19/06/2023	00:00	16	37	7	5	7	8	33	16	27	0	6	1	6
Monday	19/06/2023	01:00	10	21	1	2	1	9	12	8	11	6	3	0	2
Monday	19/06/2023	02:00	6	32	2	2	3	1	26	5	13	8	2	1	3
Monday	19/06/2023	03:00	10	40	2	8	1	4	16	11	11	7	3	5	0
Monday	19/06/2023	04:00	32	114	4	8	2	6	47	16	26	29	10	4	13
Monday	19/06/2023	05:00	90	221	15	22	15	17	126	80	66	73	11	18	25
Monday	19/06/2023	06:00	256	437	40	54	27	43	276	256	158	180	90	80	70
Monday	19/06/2023	07:00	425	584	58	127	104	103	550	513	328	359	186	215	164
Monday	19/06/2023	08:00	489	545	69	188	167	142	591	552	313	387	255	265	200
Monday	19/06/2023	09:00	345	460	62	174	124	132	385	327	254	328	107	102	109
Monday	19/06/2023	10:00	275	397	69	172	106	137	322	231	200	273	108	88	100

Monday	19/06/2023	11:00	326	419	76	203	146	126	343	278	230	338	84	106	91
Monday	19/06/2023	12:00	335	416	72	214	119	184	310	265	217	348	110	126	83
Monday	19/06/2023	13:00	335	423	78	168	139	171	353	229	215	389	95	98	93
Monday	19/06/2023	14:00	423	497	105	138	140	230	419	328	220	433	115	130	123
Monday	19/06/2023	15:00	516	594	74	225	192	262	546	399	227	494	95	134	152
Monday	19/06/2023	16:00	560	603	68	254	181	344	572	512	168	547	113	150	189
Monday	19/06/2023	17:00	535	594	85	199	153	331	595	539	137	478	98	140	167
Monday	19/06/2023	18:00	325	388	48	121	90	171	341	251	84	198	68	60	86
Monday	19/06/2023	19:00	197	249	29	87	42	103	204	129	69	127	53	55	60
Monday	19/06/2023	20:00	144	207	23	44	42	83	170	89	43	120	29	28	36
Monday	19/06/2023	21:00	120	148	13	38	39	74	167	79	48	87	22	28	51
Monday	19/06/2023	22:00	78	83	5	23	19	42	104	35	33	59	10	11	26
Monday	19/06/2023	23:00	47	63	2	15	15	16	61	16	12	32	5	7	17
Tuesday	20/06/2023	00:00	14	36	6	6	7	14	35	13	15	19	2	1	9
Tuesday	20/06/2023	01:00	5	18	1	2	1	2	19	5	7	15	6	0	7
Tuesday	20/06/2023	02:00	12	23	0	2	4	2	15	2	8	6	1	1	5
Tuesday	20/06/2023	03:00	21	32	1	6	2	4	14	7	9	11	3	5	5
Tuesday	20/06/2023	04:00	28	95	2	8	1	10	40	16	25	22	12	6	8
Tuesday	20/06/2023	05:00	113	238	19	19	18	20	134	93	55	70	26	22	25
Tuesday	20/06/2023	06:00	283	459	42	49	38	36	313	253	149	198	72	90	73
Tuesday	20/06/2023	07:00	450	390	48	122	106	111	491	495	313	289	164	238	148
Tuesday	20/06/2023	08:00	504	303	60	227	189	128	549	532	255	305	239	287	155
Tuesday	20/06/2023	09:00	362	464	65	183	136	129	395	334	263	308	149	158	143
Tuesday	20/06/2023	10:00	337	416	75	182	121	131	361	284	266	258	94	111	86
Tuesday	20/06/2023	11:00	364	419	93	207	143	137	329	261	233	117	115	125	95
Tuesday	20/06/2023	12:00	387	464	88	184	143	144	346	261	248	28	106	132	106
Tuesday	20/06/2023	13:00	377	439	81	195	144	136	355	255	219	30	83	91	99
Tuesday	20/06/2023	14:00	465	512	101	211	161	195	440	328	224	128	114	171	144
Tuesday	20/06/2023	15:00	504	563	62	254	194	294	567	452	215	478	102	165	160
Tuesday	20/06/2023	16:00	551	585	52	235	172	373	607	535	182	386	113	199	186
Tuesday	20/06/2023	17:00	546	558	78	217	182	330	597	531	144	32	111	164	216
Tuesday	20/06/2023	18:00	349	424	52	138	116	230	401	287	112	55	70	75	127
Tuesday	20/06/2023	19:00	192	244	35	102	58	132	231	142	70	47	45	39	80
Tuesday	20/06/2023	20:00	170	204	23	63	35	82	211	105	42	100	29	30	55
Tuesday	20/06/2023	21:00	130	169	15	56	41	102	180	75	57	108	32	28	49
Tuesday	20/06/2023	22:00	83	112	12	30	21	37	107	49	42	50	18	9	28
Tuesday	20/06/2023	23:00	49	71	6	8	7	16	59	20	24	29	3	10	17
Wednesday	21/06/2023	00:00	14	29	3	6	6	11	29	9	9	19	3	1	7
Wednesday	21/06/2023	01:00	11	14	0	5	2	3	16	4	8	14	2	1	11
Wednesday	21/06/2023	02:00	5	17	2	1	2	2	17	4	8	4	1	2	4
Wednesday	21/06/2023	03:00	21	36	3	8	1	2	24	5	18	18	4	5	2
Wednesday	21/06/2023	04:00	33	110	3	9	2	9	40	22	25	22	8	6	12
Wednesday	21/06/2023	05:00	108	212	10	32	23	10	140	84	55	89	23	13	28
Wednesday	21/06/2023	06:00	252	453	40	46	34	42	304	244	152	171	81	102	56
Wednesday	21/06/2023	07:00	483	451	59	125	107	98	523	486	319	353	178	217	154
Wednesday	21/06/2023	08:00	426	384	51	208	151	148	587	527	294	349	231	261	194
Wednesday	21/06/2023	09:00	404	500	81	177	119	155	390	354	278	254	130	129	120

Wednesday	21/06/2023	10:00	325	392	86	179	129	121	371	265	248	197	113	104	72
Wednesday	21/06/2023	11:00	374	429	86	213	136	143	354	267	236	193	114	116	102
Wednesday	21/06/2023	12:00	354	440	91	197	143	173	371	296	240	385	111	119	105
Wednesday	21/06/2023	13:00	383	480	71	180	149	169	380	265	248	400	110	125	108
Wednesday	21/06/2023	14:00	442	518	87	206	162	222	444	354	208	457	115	149	141
Wednesday	21/06/2023	15:00	555	574	76	245	173	298	531	468	213	492	109	131	164
Wednesday	21/06/2023	16:00	577	607	72	236	165	354	613	537	174	525	118	188	204
Wednesday	21/06/2023	17:00	534	581	68	230	188	350	634	549	139	487	138	175	217
Wednesday	21/06/2023	18:00	417	460	62	135	87	212	405	271	102	221	80	80	134
Wednesday	21/06/2023	19:00	260	281	32	76	57	139	250	141	75	116	53	58	94
Wednesday	21/06/2023	20:00	229	241	24	79	52	103	214	129	65	135	43	39	63
Wednesday	21/06/2023	21:00	152	219	17	57	42	85	214	108	52	74	22	22	59
Wednesday	21/06/2023	22:00	91	131	10	27	28	50	141	71	45	52	7	8	25
Wednesday	21/06/2023	23:00	63	86	3	13	13	18	63	32	20	32	6	7	27
Thursday	22/06/2023	00:00	28	47	5	6	7	10	8	42	18	19	6	3	9
Thursday	22/06/2023	01:00	17	23	2	8	4	5	22	6	6	0	1	4	6
Thursday	22/06/2023	02:00	11	23	2	1	4	1	15	9	10	0	6	3	5
Thursday	22/06/2023	03:00	19	34	1	9	2	2	16	5	17	0	2	7	1
Thursday	22/06/2023	04:00	41	99	3	4	3	6	49	21	25	0	9	2	14
Thursday	22/06/2023	05:00	106	218	18	26	16	13	125	89	56	0	24	20	30
Thursday	22/06/2023	06:00	254	445	42	42	33	50	300	231	157	76	74	84	72
Thursday	22/06/2023	07:00	419	553	49	131	102	108	549	523	318	379	196	222	162
Thursday	22/06/2023	08:00	409	505	83	195	151	175	585	525	301	418	222	239	202
Thursday	22/06/2023	09:00	373	471	81	200	129	137	427	345	248	325	100	127	117
Thursday	22/06/2023	10:00	327	397	89	183	123	140	375	280	206	345	80	101	89
Thursday	22/06/2023	11:00	372	450	73	199	117	156	342	275	198	321	125	123	88
Thursday	22/06/2023	12:00	412	471	88	211	148	166	405	336	221	395	109	138	105
Thursday	22/06/2023	13:00	395	492	73	204	140	172	386	315	234	401	101	100	106
Thursday	22/06/2023	14:00	456	534	97	200	156	240	499	396	197	450	103	126	126
Thursday	22/06/2023	15:00	554	569	63	254	221	319	571	474	194	515	102	151	162
Thursday	22/06/2023	16:00	538	568	63	266	188	347	579	534	169	38	116	177	239
Thursday	22/06/2023	17:00	529	525	80	273	202	349	625	554	155	33	133	185	176
Thursday	22/06/2023	18:00	387	462	75	151	108	213	424	305	138	23	66	74	115
Thursday	22/06/2023	19:00	233	333	41	89	63	129	273	165	69	37	49	56	59
Thursday	22/06/2023	20:00	189	242	29	80	54	88	219	145	40	88	33	38	62
Thursday	22/06/2023	21:00	158	219	20	64	62	103	171	92	61	162	28	43	52
Thursday	22/06/2023	22:00	80	103	16	31	35	47	164	67	46	64	10	15	35
Thursday	22/06/2023	23:00	52	74	3	13	9	24	75	21	13	35	10	5	10
Friday	23/06/2023	00:00	34	50	6	7	6	11	39	20	20	15	1	5	4
Friday	23/06/2023	01:00	20	24	0	0	2	3	27	3	9	20	3	1	5
Friday	23/06/2023	02:00	12	32	1	3	2	3	16	3	11	11	2	0	1
Friday	23/06/2023	03:00	13	40	2	7	4	1	13	7	16	15	4	3	2
Friday	23/06/2023	04:00	30	86	3	5	3	6	48	18	24	26	15	4	13
Friday	23/06/2023	05:00	100	204	21	30	15	19	122	92	44	73	15	17	27
Friday	23/06/2023	06:00	235	424	42	57	32	42	294	228	138	117	71	74	72
Friday	23/06/2023	07:00	425	450	77	130	106	99	521	461	304	159	217	224	170
Friday	23/06/2023	08:00	403	463	93	216	170	134	532	471	294	98	254	263	231

Friday	23/06/2023	09:00	411	485	64	161	135	133	401	354	301	90	131	130	114
Friday	23/06/2023	10:00	381	459	72	191	134	141	330	279	252	109	93	109	108
Friday	23/06/2023	11:00	389	470	78	170	141	150	370	284	262	334	97	129	97
Friday	23/06/2023	12:00	403	474	100	197	157	175	358	295	250	294	121	138	118
Friday	23/06/2023	13:00	434	516	95	213	169	177	436	352	221	306	80	112	123
Friday	23/06/2023	14:00	468	516	89	207	166	236	476	369	218	232	93	147	157
Friday	23/06/2023	15:00	535	579	56	225	199	262	555	432	211	156	97	173	163
Friday	23/06/2023	16:00	534	592	63	192	155	327	548	451	196	49	126	160	194
Friday	23/06/2023	17:00	521	568	71	177	136	313	527	412	120	49	103	138	172
Friday	23/06/2023	18:00	393	474	48	139	93	213	411	266	107	181	63	80	108
Friday	23/06/2023	19:00	231	294	38	78	60	156	264	143	66	118	32	50	74
Friday	23/06/2023	20:00	177	227	34	57	58	101	211	119	50	92	23	34	53
Friday	23/06/2023	21:00	167	218	24	59	52	96	221	99	50	104	40	36	56
Friday	23/06/2023	22:00	126	195	20	41	38	60	189	86	39	96	25	17	46
Friday	23/06/2023	23:00	91	136	11	23	19	44	146	62	36	52	11	10	19

ATTACHMENT 8

Environmental Acoustic Assessment

PROPOSED CHILD CARE CENTRE
279-283 HARBORNE STREET
GLENDALOUGH

ENVIRONMENTAL ACOUSTIC ASSESSMENT

MARCH 2024

OUR REFERENCE: 32409-4-23410

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
HERRING STORER ACOUSTICS
P.O. Box 219, Como, W.A. 6952
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hsa@hsacoustics.com.au

11062995
V 1 V 11 07 2024

DOCUMENT CONTROL PAGE

ENVIRONMENTAL ACOUSTIC ASSESSMENT

PROPOSED CHILD CARE CENTRE
GLENDALOUGH

Job No: 23410

Document Reference: 32409-4-23410

FOR

DAVISON ADVISORY SERVICES

DOCUMENT INFORMATION			
Author:	Geoff Harris	**Checked By:**	Tim Reynolds
Date of Issue:	15 March 2024		

REVISION HISTORY

Revision	Description	Date	Author	Checked
1	Comment on noise received from Harborne Street	16/04/2024	TR	N/A
2	Clarification for SPP 5.4	29/04/2024	TR	N/A
3	Clarification on Influencing Factor	03/05/2024	GH	TR

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1	3	Davison Advisory Services Attn: Danielle Davison Email: danielle@davisonadvisory.com.au		✓
1	4	Davison Advisory Services Attn: Danielle Davison Email: danielle@davisonadvisory.com.au		✓

CONTENTS

APPENDICIES

1. INTRODUCTION

Herring Storer Acoustics were commissioned by Davison Advisory Services to undertake an acoustic assessment of noise emissions associated with the proposed child care centre to be located at 279-283 Harbone Street, Glendalough.

The report considers noise received at the neighbouring premises from the proposed development for compliance with the requirements of the *Environmental Protection (Noise) Regulations 1997.* This report considers noise emissions from:

- Children playing within the outside play areas of the centre; and
- Mechanical services.

We note that from information received from DWER, the bitumised area would be considered as a road, thus noise relating to motor vehicles is exempt from the *Environmental Protection (Noise) Regulations 1997*. We note that these noise sources are rarely critical in the determination of compliance. However, as requested by council and for completeness, they have been included in the assessment, for information purposes only.

For information, a plan of the proposed development is attached in Appendix A.

2. SUMMARY

Noise received at the neighbouring residences from the outdoor play areas would comply with the requirements of the *Environmental Protections (Noise) Regulations 1997*, provided outdoor play is limited to the day period (ie after 7am).

Noise from the mechanical services has also been assessed to comply with the relevant criteria. However, as the design of the mechanical services has not been undertaken at this stage of the project, it is recommended that the mechanical services design be reviewed for compliance with the Regulatory requirements.

It is noted that noise associated with cars movements and cars starting are exempt from complying with the Regulations. However, noise emissions from car doors is not strictly exempt from the Regulations. Noise received at the existing neighbouring residences from these noise sources would comply with the Regulatory requirements, at all times.

Thus, noise emissions from the proposed development, would be deemed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* for the proposed hours of operation, with the inclusion of the following:

1 Although the proposed facility would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am. Thus, noise received at the neighbouring existing residences from the outdoor play area needs to comply with the assigned day period noise level.

2 We note mechanical plant is to be placed into the drying/staff court as specified on plans.

3 We note that a 2.0m boundary fence to the west is required and a 1.8m boundary fence to the north and south is also required.

4 We note that for this centre there are NO parking restrictions.

3. CRITERIA

The allowable noise level at the surrounding locales is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 & 8 stipulate maximum allowable external noise levels. For highly sensitive area of a noise sensitive premises this is determined by the calculation of an influencing factor, which is then added to the base levels shown below in Table 3.1. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern. For other areas within a noise sensitive premises, the assigned noise levels are fixed throughout the day, as listed in Table 3.1.

TABLE 3.1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF
Commercial Premises	All Hours	60	75	80
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.
IF is the influencing factor.

Under the Regulations, a highly sensitive area means that area (if any) of noise sensitive premises comprising –

(a) A building, or a part of a building, on the premises that is used for a noise sensitive purpose; and

(b) Any other part of the premises within 15 m of that building or that part of the building.

It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

"impulsiveness" means a variation in the emission of a noise where the difference between L_{Apeak} and $L_{Amax(Slow)}$ is more than 15 dB when determined for a single representative event;

"modulation" means a variation in the emission of noise that –

(a) is more than 3 dB L_{AFast} or is more than 3 dB L_{AFast} in any one-third octave band;

(b) is present for more at least 10% of the representative assessment period; and

(c) is regular, cyclic and audible;

"tonality" means the presence in the noise emission of tonal characteristics where the difference between –

(a) the A-wWeighted sound pressure level in any one-third octave band; and

(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as L_{ASlow} levels.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 3.2 below.

TABLE 3.2 - ADJUSTMENTS TO MEASURED LEVELS

Where **tonality** is present	Where **modulation** is present	Where **impulsiveness** is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

Note: These adjustments are cumulative to a maximum of 15 dB.

The neighbouring locations have been identified as the residential premises to the west – R1, the residential premises to the north – R2, and the residential premises to the east – R3 shown and the commercial premises to the south – R4 in Figure 1.

FIGURE 1 – NEIGHBOURING PREMISES

For these premises, zoning from City of Stirling Intramaps has been utilised to determine the influencing factor, with 25% of the land in the inner circle and 5% of the land in the outer circle would be considered commercial. Similarly, both Jon Sanders Drive and the Mitchell Freeway Road Reserves are within 450m of all the residential locations, resulting in a +6 dB influencing factor. Thus, the assigned noise levels would be as listed in Table 3.3.

TABLE 3.3 - ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
R1, R2, R3	0700 - 1900 hours Monday to Saturday (Day)	51	61	71
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	46	56	71
	1900 - 2200 hours all days (Evening)	46	56	61
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	41	51	61
R4	All Hours	60	75	80

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

4. PROPOSAL

From information supplied, we understand that the child care centre normal hours of operations would likely between 0630 and 1800 hours, Monday to Friday (closed on public holidays). It is understood that the proposed childcare centre will cater for approximately 72 children.

It is noted that although the proposed child care centre would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am.

It is noted that the development is located on Harborne Street. However, with regards to noise received within the development from Harborne Street, we note that State Planning Policy 5.4 is quite specific as to which roads are to be assessed. Harborne Street falls outside the criteria and is not an assessable road.

Under the policy, assessable roads are shown on the map within the PlanWA web site, as per Figure 2, below.

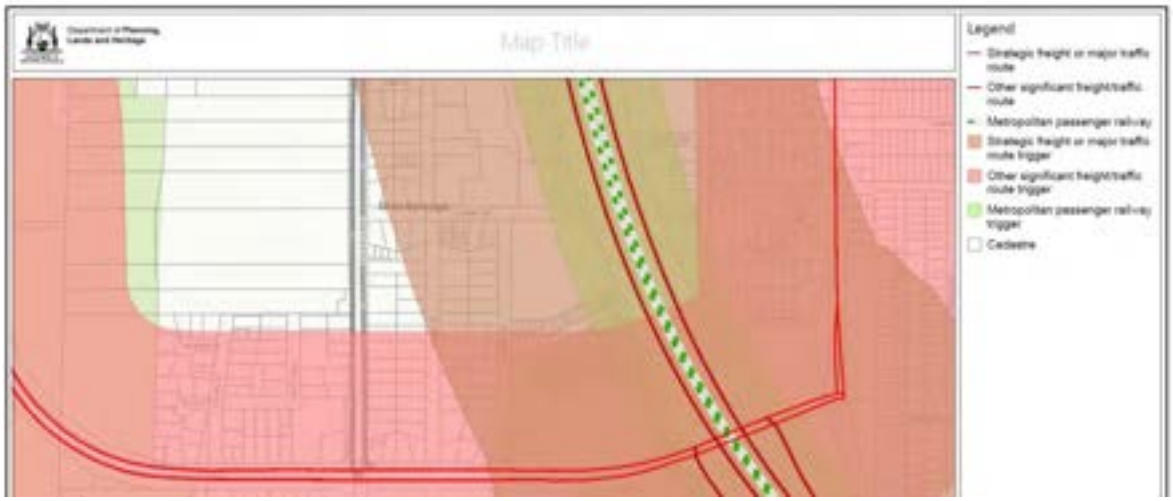

FIGURE 2 – SPP 5.4 ASSESSABLE ROADS / TRIGGER DISTANCES

Additionally, SPP 5.4 the roads that need to be assessed, as per table 1 from the policy. Shown below for information :

Table 1: Transport corridor classification and trigger distances

Transport corridor classification	Trigger distance
Roads	
Strategic freight and major traffic routes Roads as defined by Perth and Peel Planning Frameworks and/or roads with either 500 or more Class 7 to 12 Austroads vehicles per day, and/or 50,000 per day traffic volume	300 metres
Other significant freight/traffic routes These are generally any State administered road and/or local government road identified as being a future State administered road (red road) and other roads that meets the criteria of either >= 100 Class 7 to 12 Austroads vehicles daily or >= 23,000 daily traffic count (averaged equivalent to 25,000 vehicles passenger car units under region schemes).	200 metres

We understand that Harborne carries less than 23000vpd and less than 100 Class 7 to 12.

Thus, an assessment is not required and noise from Harborne Street would be deemed to be acceptable. However, an assessment under State Planning Policy 5.4 (SPP 5.4) for Jon Sanders Drive / Powis Street has been undertaken. This assessment has been provided in a separate report (HSA Reference : 32415-1-23410).

5. MODELLING

To assess the noise received at the neighbouring premises from the proposed development, noise modelling was undertaken using the noise modelling program SoundPlan.

Calculations were carried out using the DWER's weather conditions, which relate to worst case noise propagation, as stated in the Department of Environment Regulation *"Draft Guidance on Environmental Noise for Prescribed Premises"*. These conditions include winds blowing from sources to the receiver(s).

Calculations were based on the sound power levels used in the calculations are listed in Table 5.1, as well as plans and contours provide by the client.

TABLE 5.1 – SOUND POWER LEVELS

Item	Sound Power Level, dB(A)
Children Playing	<24 months 78 (per 10 children) >24 months 83 (per 10 children)
Car Moving in Car Park	79
Car Starting	85
Door Closing	87
Air conditioning condensing Unit	4 of 71

Notes:

1 Acoustic modelling of outdoor play noise was made, based on 72 children within the outdoor play area (ie worst case scenario), broken down as follows:

0-2 years – 24 places
2-3 years – 40 places
3+ years – 40 places

2 The noise level for the mechanical plant has been based on the sound power levels used for previous assessment of child care centres. From other studies, we understand that the noise associated with the condensing units would be conservative.

3 For this child care centre, the mechanical plant units have been considered placed in the Drying/Staff Courtyard as noted on plans.

4 A 2.0m Boundary Fence to the west, and a 1.8m boundary fence to the north and south, shown in Appendix A.

5 To determine the restriction to the parking, a point noise source was located in each car bay.

6 Modelling shows that noise received at the neighbouring residences from car doors closing would comply with the assigned noise level for both day and night period.

7 With only staff arriving before 07:00 am, there would be no car starts before 7am.

8 Calculations were undertaken for the receivers at 1.5 metres above the ground level.

9 Noise modelling was undertaken to a number of different receiver locations for each of the neighbouring residences. However, to simplify the assessment, only the noise level in the worst case location (ie highest noise level), have been listed.

6. ASSESSMENT

The tables below show the assessment of noise emissions of concern from the operation. Standard building construction will be sufficient to ensure that noise from inside the building will meet the regulations.

The resultant noise levels at the neighbouring residence from children playing outdoors and the mechanical services are tabulated in Table 6.1.

From previous measurements, noise emissions from children playing does not contain any annoying characteristics. Noise emissions from the mechanical services could be tonal and a +5 dB(A) penalty would be applicable, as shown in Table 6.1. Noise emissions from both outdoor play and the mechanical services needs to comply with the assigned L_{A10} noise levels.

**TABLE 6.1 - ACOUSTIC MODELLING RESULTS FOR L_{A10} CRITERIA
OUTDOOR PLAY AREAS AND MECHANICAL PLANT**

Neighbouring Premises	Calculated Noise Level (dB(A))	
	Children Playing	Mechanical Plant
R1 Residential	46	30 (35)
R2 Residential	48	14 (19)
R3 Residential	48	12 (17)
R4 Commercial	35	27 (32)

( ) Includes +5 dB(A) penalty for tonality

With regards to noise associated with cars within the parking area, resultant noise levels are tabulated in Tables 6.2 and 6.3. It is noted that noise emissions from a moving car being an L_{A1} noise level, with noise emissions from cars starting and doors closing being an L_{Amax} noise level. Based on the definitions of tonality, noise emissions from car movements and car starts, being an L_{A1} and L_{AMax} respectively, being present for less than 10% of the time, would not be considered tonal. Thus, no penalties would be applicable, and the assessment would be as listed in Table 6.2 (Car Moving) and Table 6.3 (Car Starting). However, noise emissions from car doors closing could be impulsive, hence the +10dB penalty has been included in the assessment.

**TABLE 6.2 - ACOUSTIC MODELLING RESULTS L_{A1} CRITERIA
CAR MOVING**

Neighbouring Premises	Calculated Noise Level (dB(A))
R1 Residential	40
R2 Residential	24
R3 Residential	43
R4 Commercial	37

**TABLE 6.3 - ACOUSTIC MODELLING RESULTS L_{Amax} CRITERIA
CAR STARTING / DOOR CLOSING**

Neighbouring Premises	Calculated Noise Level (dB(A))			
	Car Start		Car Door	
	Day Period	Night Period	Day Period	Night Period
R1 Residential	40	N/A	41 [51]	41 [51]
R2 Residential	19	N/A	16 [26]	16 [26]
R3 Residential	45	N/A	42 [52]	42 [52]
R4 Commercial	37	N/A	36 [46]	36 [46]

[ ] Includes +10 dB(A) penalty for impulsiveness.

Tables 6.4 to 6.9 summarise the applicable Assigned Noise Levels, and assessable noise level emissions for each identified noise.

**TABLE 6.4 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS
OUTDOOR PLAY (DAY PERIOD)**

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	46	51	Complies
R2 Residential	48	51	Complies
R3 Residential	48	51	Complies
R4 Commercial	35	60	Complies

TABLE 6.5 – ASSESSMENT OF L_{A10} NIGHT PERIOD NOISE LEVEL EMISSIONS
MECHANICAL PLANT

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	35	41	Complies
R2 Residential	19	41	Complies
R3 Residential	17	41	Complies
R4 Commercial	32	60	Complies

TABLE 6.6 – ASSESSMENT OF L_{A1} NIGHT PERIOD NOISE LEVEL EMISSIONS
CAR MOVEMENTS

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	40	51	Complies
R2 Residential	24	51	Complies
R3 Residential	43	51	Complies
R4 Commercial	37	75	Complies

TABLE 6.7 – ASSESSMENT OF L_{Amax} DAY PERIOD NOISE LEVEL EMISSIONS
CAR STARTING

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	40	71	Complies
R2 Residential	19	71	Complies
R3 Residential	45	71	Complies
R4 Commercial	37	80	Complies

TABLE 6.8 – ASSESSMENT OF L_{Amax} DAY PERIOD NOISE LEVEL EMISSIONS
CAR DOOR

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	51	71	Complies
R2 Residential	26	71	Complies
R3 Residential	52	71	Complies
R4 Commercial	46	80	Complies

TABLE 6.9 – ASSESSMENT OF L_{Amax} NIGHT PERIOD NOISE LEVEL EMISSIONS
CAR DOOR

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	51	61	Complies
R2 Residential	26	61	Complies
R3 Residential	52	61	Complies
R4 Commercial	46	80	Complies

7. CONCLUSION

Noise received at the neighbouring residences from the outdoor play area would comply with day period assigned noise level.

The mechanical plant units have also been assessed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* at all times. Note that it is recommended that an updated assessment on mechanical plant be undertaken once selection has been made.

It is noted that noise associated with cars movements and cars starting are exempt from complying with the Regulations. However, noise emissions from car doors are not strictly exempt from the Regulations. Noise received at the neighbouring residences from these noise sources would comply with the Regulatory requirements, at all times.

Thus, noise emissions from the proposed development, would be deemed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* for the proposed hours of operation, with the inclusion of the following:

1 Although the proposed facility would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am. Thus, noise received at the neighbouring existing residences from the outdoor play area needs to comply with the assigned day period noise level.

2 We note mechanical plant is to be placed into the drying/staff courts as specified on plans.

3 We note that a 2.0m boundary fence to the west is required and a 1.8m boundary fence to the north and south is also required.

4 We note that for this centre there are NO parking restrictions.

5 Finally, it is recommended to adopt best practices in managing a child care centre to reduce noise, including but not limited to no amplified music to be played outside, and favouring soft finishes in the outdoor play area.

APPENDIX A

PLANS

Child / Room Calculations

Room	Age (Yrs)	Quant.	Size	Staff Req
Activity 1	*0-1*	*12*	*40.92m²*	*3*
Activity 2	*1-2*	*12*	*40.71m²*	*3*
Activity 3	*2-3*	*20*	*65.79m²*	*4*
Activity 4	*3+*	*28*	*91.79m²*	*3*
Total Internal = (Min 3.25m² per child)		**72**	**239.21m²** (Min 234.00m² req)	
Total External Play Area = (Min 7m² per child)		**72**	**505.93m²** (Min 504.00m² req)	

Wallace Pty Ltd

Childcare Centre

Ground Floor

A1

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ATTACHMENT 5

Tree Report

TREE REPORT

Client – Davison Advisory Services
Contact – Emily Woods – Senior Development Manager
Site – 279 & 283 Harborne St - Glendalough
Prepared by: Jonathan Epps - IACA
Consulting Arboriculturist
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INSTITUTE OF AUSTRALIAN CONSULTING ARBORICULTURISTS
IACA
ACCREDITED MEMBER™

27 January 2024
Revised 27 March 2024

INTRODUCTION

Emily Woods contacted Jonathan Epps to arrange a site visit to inspect the mature trees in the front gardens of 279 & 283 Harborne Street, Glendalough. The inspection was to review the structural integrity and general health of the trees. In addition to make comment on their suitability to be retained in a proposed child care centre. Set back distances were also required to help give protection to the retained trees during the proposed construction process.

TREE INSPECTION

This took place on Thursday 25th January 2024. The weather was warm, sunny and clear. The air temperature was around 30°C. Observations were taken from ground level. Digital images were taken of the subject trees.

SUBJECT TREES

279 Harborne Street

- **Tree No 1, 2 & 3 – Cotton Palm – *Washingtonia sp***
- **Tree No 1A – Chinese Tallow – *Triadica sebifera***
- **Tree No 4 – Bottlebrush – *Callistemon sp***

283 Harborne Street

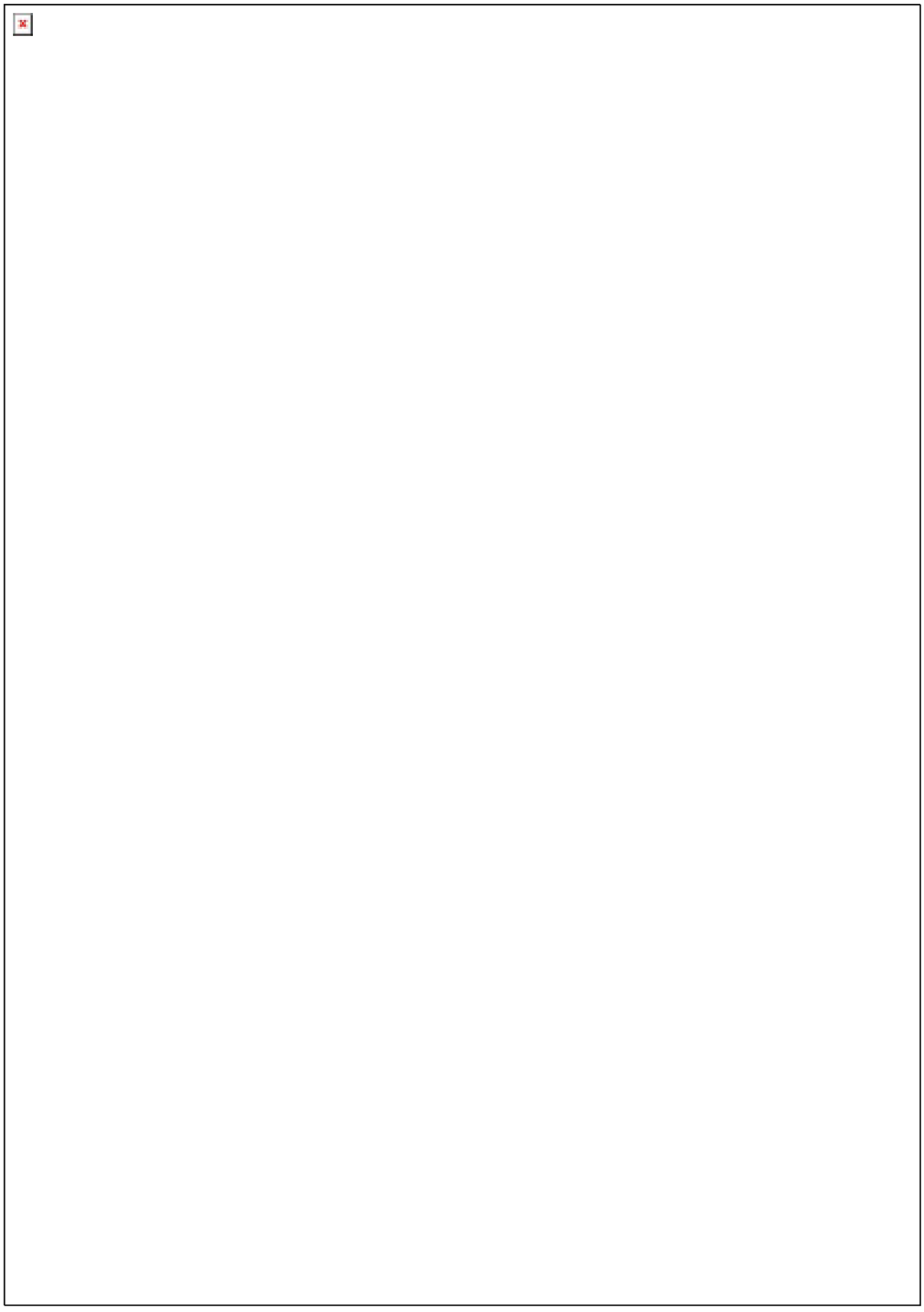
- **Tree No 1 – Pt Jackson Fig – *Ficus rubiginosa***
- **Tree No 2 – Flame Tree – *Brachychiton sp***
- **Tree Nos 3 & 4 – Lilly Pilly – *Syzigium sp***
- **Tree No 4A – Unknown shrubby tree**
- **Tree Nos 5 & 6 – Cocos palm – *Cocos nucifera***
- **Tree Nos 7 & 8 – Date Palm – *Phoenix sp***


279 Harborne Street
Tree No 2
Tree No 3
Tree No 4


283 Harborne St
Glendalough
Tree No 3
Tree No 2
Tree No 1


283 Harborne Street
Tree No 5
Tree No 6
Tree No 7
Tree No 8


Tree No 4A
283 Harborne St



METHODOLOGY

The subject trees were inspected from ground level for the following examples of biotic and abiotic signs and symptoms -

Root plate heave and/or disturbance
Exposed roots – lowering of soil level/grade – trip hazard
Infill at base of stems – raised soil levels – collar rot
Girdling roots – roots encircling the stem may cause 'ring barking' – bark necrosis
Basal cavities – hollows, fungal brackets/fruiting bodies
Crown galls
Termite activity
Climbing plants
Proximity of underground/overground services
Proximity of aboveground structures, eg houses, retaining walls, etc
Bark tears, lesions, splits and cracks
Oedema – and other unnatural swollen & cracked areas in bark tissue
Physical abnormalities, eg lightning strikes, bridge grafts, etc
Unnatural change in bark colour, texture and form
Compression folds in bark
Decay pockets in stem
Excessive gum, sap, kino exudation and/or weeping
Borer, cossid moth and other insect activity
Included bark at major stem and branch unions
Evidence of tree surgery and infrastructure, eg cabling, Cobra/Yale Bracing, signs and other abiotic tree attachments
Branch attachments
Evidence of topping, lopping and/or pollarding history
Flush cuts – removal of branch collar
Branch sockets – areas where branches have been torn out and away from union
Branches of uneven taper
Crossing, broken and hung-up branches – branch stubs
Die-back symptoms – stag heading and reduction in foliage density
Major dead wood – over 10mm in diameter
Minor dead wood – under 10mm in diameter
Mycoplasma attack
Foliage – change in lamina colour, size, shape and thickness variation
Epicormic growth
Growth habit of tree – leaning, crooked or asymmetrical growth

INSPECTION DETAILS - 279 Harborne Street

This property lies between No 283 Harborne Street and the car park at the IGA complex.

Please see mud map on page 4 for subject tree locations – all measurements are estimated.

Tree No 1 – Cotton Palm

This specimen stands in the front garden in the centre of the dividing fence between 279 and 283 Harborne street.

The tree is around 8m tall with a crown spread of around 4m. The DBH – diameter at breast height, usually taken at 1.4m above ground level (agl) is 350mm. The diameter above the root flare is 420mm.

The 'risk factor' on this tree is LOW – see explanation below.

The 'setback' protection zone for this tree is 2.3m on one side of the tree only. The actual TPZ distance is 5m.

This Palm appears to be sound and healthy. It has the same maintenance requirements as the Cocos palm mentioned on page 8. Cotton Palms are not considered 'attractive' specimens. Their fronds have sharp spines on them and would be unsuitable for retention in a proposed childcare centre.

Tree No 1A – Chinese Tallow

This specimen stands in the front garden on the eastern frontage with Harborne Street. The tree is behind the vehicle entrance gate.

The tree is around 4.5m tall with a crown spread of around 8m+. The DBH – diameter at breast height, usually taken at 1.4m above ground level (agl) varies as it is a multi-stemmed specimen. The diameter above the root flare is unknown.

The 'risk factor' on this tree is LOW – see explanation below.

The 'setback' protection zone for this tree wound be around 2m on one side of the tree only. The actual TPZ distance is likely to be around 4m.

The small shrubby specimen has a history of poor pruning practices. It looks healthy and sound but is not a typical specimen of the type. The tree is currently producing berries/small fruits.

Tree Nos 2 & 3 – Cotton Palms

Both of these specimens are located on the south side of the property adjacent to the dividing fence next to the car park at the IGA complex.

The size of these two trees are similar to Tree No 1. The same factors apply to this tree as for Tree No 1.

Tree No 4 – Bottlebrush

This specimen is located in the centre of the front garden.

The tree is around 4.5m tall with a crown spread of some 10m. The DBH is unknown due to the location of the tree behind the fence.

The 'risk factor' on this tree is LOW – see explanation below.

The setback distances are unknown.

The specimen has a history of poor pruning. The foliage density is not consistent with patches of dead branches. The tree is not typical of its type with a poor form and uncertain crown health. It is not recommended for retention on this project.

INSPECTION DETAILS - 283 Harborne Street

Please see mud map for subject tree locations – all measurements are estimated.

Tree No 1 – Port Jackson Fig

This specimen stands in the north east corner of the front garden adjacent to the dividing fence to the public footpath and the neighbouring property on the north side. It forms part of a linear tree group that includes Tree Nos 1-4 inclusive.

The tree is around 10m tall with a crown spread of around 10m. The DBH – diameter at breast height, usually taken at 1.4m above ground level (agl) is 550mm. The diameter above the root flare is 600mm.

The tree has a history of lopping where the natural or true form of the tree no longer exists. It is a dense bushy specimen with an asymmetrical form.

The 'risk factor' on this tree is LOW – see explanation below.

The 'setback' protection zone for this tree is 2.7m on one side of the tree only. The actual TPZ distance is 6.6m.

Although the tree appears to be sound and healthy, I would not recommend its retention due to its poor unnatural form and its production of multiple small fruits that may be ingested by small children.

Tree No 2 – Flame Tree

This specimen is sited adjacent to Tree No 1.

The tree is around 8m tall with a crown spread of 6m. The DBH is 350mm. **The diameter above the root flare is 380mm.**

The tree is a poorly supressed specimen not showing its true form.

The 'risk factor' on this tree is LOW – see explanation below.

The 'setback' protection zone for this tree is 3.4m on one side of the tree only. The actual TPZ distance is 4.2m.

Although the tree appears to be sound and healthy. I would not recommend its retention due to its poor unnatural form.
Tree No 3 – Lilly Pilly

This specimen is the tallest tree in this linear group.

The tree is in excess of 10m tall with a crown spread of around 6m. The DBH – diameter at breast height, usually taken at 1.4m above ground level (agl) is 480mm. The diameter above the root flare is 520mm.

The 'risk factor' on this tree is LOW – see explanation below.

The 'setback' protection zone for this tree is 2.5m on one side of the tree only. The actual TPZ distance is 5.75m.

The tree is a good specimen of its type. It has a good form and appears to be healthy and sound. It would make a good specimen tree for the new project. Thought however should be given to its production of small edible fruit although harmless in small quantities they may produce a chocking issue to unsupervised children if eaten to excess.

Tree No 4 – Lilly Pilly

This tree is a smaller specimen then Tree No 3. Tree No 4 appears to have been reduced in height at some stage and may well have been taller than Tree No 3. Tree No 4 has a larger DBH at 580mm and a diameter above the root flare of 620mm.

The tree is around 6m tall with a crown spread of 8m.

The 'risk factor' on this tree is LOW – see explanation below.

The 'setback' protection zone for this tree is 2.7m on one side of the tree only. The actual TPZ distance is 7m.

The tree remains a good specimen despite its poor pruning history. It also would make a good specimen for this project, however the it has the same fruit issues as for Tree No 3 above.

Tree No 4A – Small shrubby flowering specimen – species unknown

The tree is sited at the side of the house on the north side. It is a small specimen around 4.5m tall with a crown spread of around 5.5m. It was not possible to get closer to the tree due to late contact between the agent and the tenants. There is another small tree at the rear of the property. This specimen could not be seen from the inspection vantage point.

The 'risk factor' on this tree would appear to be LOW – see explanation below.

The 'setback' protection zone for this tree would be around 2m on one side of the tree only. The TPZ distance is likely to be around 4m.

Tree Nos 5 & 6 – Cocos Palms

Both of these specimens are located at the front of the property just behind the dividing fence between the property and the public footpath.

Both trees are tall slender specimens typical of their type. Tree No 5 is around 8m tall with a 'crown spread' of 4m. Its DBH is around 370mm. The diameter above the root flare is 400mm.

Tree No 6 is slightly taller at 10m. Its 'crown spread' is 4m. Its DBH is around 380mm. The diameter above the root flare is 420mm.

The 'risk factor' for both trees is LOW.

The 'setback' protection zone for both trees is 2.3m on one side of the tree only. The actual TPZ distance is 4.5m.

These species of palm tree are the most common palm planted in the Perth suburbs. They are generally not a desirable tree mostly due to the fact that they require at least annual maintenance that includes removal of all dead fronds, fruit masses, and old flower woody coverings. It is not recommended that they both be retained for this project.

Tree Nos 7 & 8 – Date Palms

Both of these specimens are located at the front of the property just behind Tree Nos 5 & 6.

Both tree specimens typical of their type. Tree Nos 7 and 8 are around 10m tall with 'crown spreads' each of 4m.

The DBH of both trees is around 480mm. The diameter above the root flare for both trees is around 550mm.

The 'risk factor' for both trees is LOW.

The 'setback' protection zone for both trees is 2.6m on one side of the tree only. The actual TPZ distance is 5.75m.

Date palms are probably one of the most desirable Palms in Perth. They are stately trees with a good form and well-established crown habit of stiff erect fronds. They do not require as much maintenance as the Cocos palms do, however they do require maintenance on a regular basis. Both the subject trees have recently been 'cleaned' and their upper stems have been 'snake-skinned' – removal of old palm frond stubs from just beneath the crown areas.

They are both worthy of retention and should not give major issues to children staying in a childcare centre environment.

A NOTE ON TREE RISK ASSESSMENT

The tree risk rating has been based on the ISA – International Society of Arboriculture – TRAQ – Tree Risk Assessment Qualification method – 2019. The grades or levels of risk using this method are – Low – Moderate – High – Extreme. The method used is a qualitative one that considers not only the tree's structure but also its surrounds. The elements surrounding the trees are referred to as 'Targets'. These 'targets' may be structural and therefore stationary, such as buildings, or mobile such as cars or pedestrians. 'Tree Risk' evaluation is a method of determining which subject trees are likely to fail and damage these potential 'Targets'. The final risk rating evaluation matrix determines the consequences of failure. 'Occupancy rates' are also an important factor in the 'risk rating' determination. The site managers will know how often the areas beneath the subject trees are occupied and can evaluate this input.

TRAQ refers to the likelihood of sudden limb and/or whole stem failure. This is from a ground-based inspection only. Where a tree may appear to have a possible defect at height following a ground-based inspection then the inspector will request an aerial inspection. This is usually from an aerial platform if the area is accessible. If not then a climbing tree surgeon/arborist is hired to carry out the inspection under the guidance of Mr Epps. Trees do and can however drop limbs suddenly without warning. This condition is known as 'Sudden branch drop' –

The failure and collapse of live, usually horizontal branches, seemingly without any noticeable cause in calm hot, dry weather conditions generally after rain. Theorised to be caused by altered moisture content in the branch disturbing the longitudinal prestressing of the wood that normally helps support the load as formed by reaction wood in branches tending to horizontal (Lonsdale 1999, p. 30), or incipient failure from the lengthening of existing internal cracks as the wood cools (Shigo 1986, p. 248), or influenced by branch creep under its own weight and by wind (Mattheck & Breloer 1994, p. 126), or fractures to vascular rays if pulled at right angles to their longitudinal orientation forming from subsidence cracks (Mattheck & Breloer 1994, p. 169), or a combination of these factors. Such branch breakages usually occur at some distance from the branch collar leaving a stub.
Dictionary for Managing Trees in Urban Environments – Draper & Richards – 2009 – p. 149

The risk of tree failure causing serious injury or death is rare – see paper – 'Tree Risk Assessment – Arborist News – 2011 – Smiley, Mathena & Lilly.

All trees carry a certain amount of risk, which must be determined by the arboriculturist contracted by the tree owner.

TREE PROTECTION ON DEVELOPMENT SITES

In 2009 an Australian Standard was released to give advice to those professionals concerned with retaining mature trees on development sites. This document AS 4970 – 2009 Protection of Trees on Development Sites, provides guidelines on how close proposed structures both above and below ground can be placed without causing structural damage and possible long term health issues to the tree.

These guidelines inform the reader of those distances required for creating a **TPZ – Tree Protection Zone that protects both the tree crown and root area.** The TPZ distances are usually out beyond the drip line (edge of canopy) of the tree. **The TPZ is said to be set at a distance of 12 x DBH** - diameter at breast height of tree usually taken at 1400mm agl.

In more practical circumstances, where the proposed development encroaches into the TPZ, a second more critical measurement is calculated. This is called the SRZ – Structural Root Zone. Under normal circumstances the TPZ can only be intruded by up to 10%. This depends on the tree species, age, and health status at the time of the initial site survey and other factors that must be considered by an experienced arboriculturist. It is important that absolutely no ground intrusion take place vertically downwards into the soil profile within the SRZ unless under the guidance of an arboriculturist.

The SRZ distance usually is at a distance from the main stem where the main lateral roots begin their 'Zone of Rapid Taper', ie that point on the main lateral roots where the diameter diminishes rapidly - *Dictionary for Managing Trees in Urban Environments – Draper & Richards 2009 pp 178.* The SRZ should protect the structural/main lateral roots from severance, which may cause disturbance to the structural integrity of the tree. The main lateral/structural roots arise at the base of the stem (aka root crown) and travel outwards a certain distance depending on the age and species of tree.

The SRZ – Structural Root Zone radius calculation is (D x 50)$^{0.42}$ x 0.64 where D is the diameter of the lower stem taken just above the basal flare. At the base of the stem of most trees, the stem naturally expands – if this flare is not seen then this is an indication that infill may have occurred around the base of the tree.

By calculating the SRZ distance the arboriculturist has some guidance on how far form the stem ground intrusion can occur. Arising from these lateral roots are other roots called 'sinkers' or 'droppers'. This type of root travels vertically from the lateral root down into the soil profile. These 'dropper' and 'sinker' roots are responsible for keeping the tree vertical. This activity is generally confined to the SRZ however most urban tree roots are asymmetrical in form and location and may in fact be in position in greater numbers and varying widths in different areas of the root plate zone.

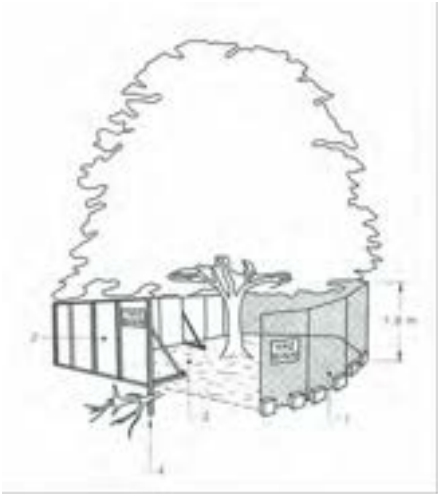
The roots beyond the SRZ are not generally responsible for retaining the tree in an upright position. Woody roots transport water and nutrients, which are taken up by the tertiary or non-woody, more fibrous roots. These fibrous roots and their association with mycorrhizal fungi are extremely important for the ongoing health of the tree. Young trees, species dependant, may tolerate such root disturbance, as they are more vigorous and able to reproduce root systems more readily. Older more established trees, especially those with a health issue, may not tolerate root severance and may become structurally unsound. Their health may decline at a later date, sometimes many years following the event. It is important

under normal site conditions that the TPZ is free from vertical intrusion and compaction, which together may affect the long-term health of the tree.

Physical tree protection of those trees to be retained is mentioned on page 19 of AS 4970 – 2009 – Protection of Trees on Development Sites. This document recommends erecting a heavy-duty fence made out of scaffold poles and planks. In the Perth metropolitan area most TPZ areas are protected by simple wooden post and wire fences. They are much cheaper to erect and serve the same purpose. Such a TPZ fence was erected by BCL for tree protection at the Lathlain Oval.

An example of tree protection fencing, from AS 4970 Protection of trees on development sites:

LEGEND: 1 Welded mesh panels with signage and shade cloth attached (if required) held in place with concrete feet.
2 Alternative Plywood panels with signage and bracing.
3 Mulch across surface of protected area. (recommendation – not requirement)
4 Non ground penetrating bracing can be installed within protected area.



Other Tree protection measures to consider

It is essential to protect the TPZ areas and the following activities must not be carried out inside the TPZ:

- No mixing of building materials, such as concrete
- No storage or travel of heavy plant/trucks
- Absolutely no ground intrusion into the soil profile – unless directed by site arborist
- No storage of ANY heavy materials such as concrete blocks
- Storage of lighter material in containers on blocks is permissible for the short term

The TPZ areas should be protected by erecting fencing, that surrounds it. Signs indicating the TPZ should be erected on these fences for exclusion of the public and all contractors unless accompanied by an arboriculturist.

Subject tree stems must be protected using cladding and or paling materials as mentioned in AS 4970, where necessary. All TPZ fencing and stem/low branch cladding must be completed prior to the commencement of ground works.

RECOMMENDATIONS

279 Harborne Street

It is not recommended to retain any of the mature trees located in the front garden of this site. There are three mature Cotton Palms that are unsuitable for retention in a childcare centre due to their spiny fronds. The other shrubs may be retained at the discretion of the project Landscape architect depending on the proposed building envelope and their relation to future plantings.

283 Harborne Street

It is recommended to retain the two Lilly Pilly trees – Tree Nos 3 & 4. They should provide good site amenity and shade in the coming years. They do not require any tree works at the present time but do require a setback distance of at least 2.5m on one side of both trees and at least 6m on the remaining sides of the trees.

The two Date Palm should also be retained on site. They are both good examples of their type and should provide good amenity for the future years. They both require setback distances of 2.6m. palms generally do not have large spreading structural roots like most mature trees.

CONCLUSIONS

The subject trees all have a 'risk rating' of LOW. There are no subject trees with major pest or disease issues.

Many of the subject trees have small ornamental fruits and should not be in a location where small children have access to them. In addition, the Cotton Palms and the Date Palms have vicious spiny outgrowths on the base of their palm fronds. Not ideal in a proposed child care Centre.

The retention of the subject trees mentioned above in 'Recommendations' is subject to the proposed new building envelope and other factors such as underground services and so on.

There are no trees on site that are considered to be highly significant.

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Qualified Professional Tree Inspector UK 2008
Qualified Tree Risk Assessor ISA 2019
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DISCLAIMER STATEMENT

Jonathan Epps is an independent arboricultural consultant. He is professionally qualified and a founding member of the Institute of Australian Consulting Arboriculturists. Tree examinations, for various outcomes, including structural defects and health analysis, are a large part of his practice. General advice is given for all urban trees. These examinations (Visual Tree Assessments - VTA) are carried out from ground level. Great care is undertaken during tree examinations but it is impossible to detect every condition, which could possibly lead to be structural failure of a tree. Trees may fail for an unspecified reason that is not fully understood by the profession. The problem(s) may be underground or hidden inside the tree. For this reason, VTA's are not guaranteed under all circumstances or for a specified period of time. In addition, recommended treatment cannot be guaranteed including those treatments carried out which are not recommended by Mr Epps.The content of this report and associated documents may be reproduced for clients use. Redistribution of report Methodology and SIMS© - Epps 2008 remain the intellectual property of Jonathan Epps

ATTACHMENT 6

Emissions Report

EAQ Consulting

EMISSIONS IMPACT ASSESSMENT OF ADJACENT SERVICE STATION TO PROPOSED GLENDALOUGH CHILD CARE CENTRE

HARBORNE STREET, GLENDALOUGH, WESTERN AUSTRALIA

11062995
V 1 V 11 07 2024

Emissions Impact Assessment of Adjacent Service Station to Proposed Glendalough Child Care Centre

Harborne Street, Glendalough, Western Australia

Prepared for: Davison Advisory

Project Ref: EAQ-23031

September 2023

Environment | Air Quality

11062995

V 1 V 11 07 2024

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Approved for Release		
Name	**Position**	**File Reference**
John Hurley	Principal Consultant	EAQ23031-GlendaloughChildCare+SStation+EIA-Final

Signature

This document presents the outcomes of a Desktop Emissions Modelling Assessment. All emissions inputs into the model were sourced from previous site-specific measurements, from peer reviewed public domain data and/or industry specific emissions' factor publications except where detailed otherwise herein. EAQ has not attempted to verify externally sourced data beyond its use herein. The modelling assessment has been prepared using the best available information provided by the Client and in conjunction with regulatory guidance from the appropriate regulatory jurisdiction(s), either State-wide or Nationally. EAQ has exercised its diligence and due-care in delivering the outcomes of the assessment according to accepted assessment practices and techniques. EAQ disclaims any and all liability and responsibilities for damages of any nature, to any party, which may be caused from misapplication or misinterpretation by third parties of this assessment

11062995
V 1 V 11 07 2024

Contents

Figures

Tables

Executive Summary

Environmental and Air Quality Consulting Pty Ltd undertook an Air Emissions Assessment of an existing Service Station located at the corner of Harborne Street and John Sanders Drive, Glendalough Western Australia (the Site).

The site-specific scientific study addressed the health risks associated with vapour emissions from the Site for the purposes of determining the risk of emissions' impacts at an adjacently proposed Child Care Centre.

The proposed Child Care Centre will satisfy the guideline separation distance of 50 metres from the nearest refuelling location at the Site, however; for the purposes of proper and orderly planning, the Assessment has been undertaken to demonstrate the low risk of vapour emissions exposure on human receptors at the Child Care Centre.

The Site is within an urban developed area with residential properties surrounding and operates 24-hours daily.

The Child Care Centre however is proposed to operate between 0700 – 1800 hrs on weekdays only and therefore those hours of operation were assessed for vapour exposure at the Child Care Centre.

The Assessment utilised accepted standards for estimating pollutant emission rates of primary airborne pollutants from fuel storage and refuelling activities at the service station and assessed these pollutant emission rates utilising conventional dispersion modelling methods to predict the concentration of primary pollutants at the nearest sensitive receiver within the locality.

The outcomes of the Assessment found that the primary pollutants of Benzene, Toluene, Ethyl benzene, Xylenes, Cyclohexane, *n*-Hexane and Styrene were predicted to have ground level concentrations lower than acceptable exposure limits set by the National Environment Protection (Air Toxics) Measure and the Western Australian Department of Water and Environmental Regulation for assessing air emissions.

The predicted concentrations of these primary pollutants demonstrated that the service station emissions are unlikely to have any unreasonable impact on both the short, and long-term future health of those attending the Child Care Centre.

1 Background & Scope

Environmental & Air Quality Consulting Pty Ltd (EAQ) was engaged by Davison Advisory Services (Davison), to undertake an Air Emissions' Impact Assessment (the Assessment) of an existing Service Station (the Site) located at the corner of Harborne Street and John Sanders Drive, Glendalough Western Australia.

The Assessment was commissioned to determine the risk of vapour impacts from refuelling activities at the Site, on a proposed Child Care Centre (the Centre) to be located to the north of the Site at a receptor distance of approximately 80 metres from the nearest fuel bowser.

The Centre is proposed to be built within an established residential area where sensitive receptors are already established with respect to the Site and its existing vapour emissions.

The Centre will operate Monday to Friday between maximal hours of 0700 hrs – 1800 hrs.

The Assessment addressed toxic emissions of principal chemical compounds in petrols by undertaking a desktop scientific Assessment into the short and long-term health risks associated with vapour emissions from the Site.

Assessed vapour emission rates were developed from:

- NPI Emission Estimation Technique Manual (NPI, 1999) for Aggregated Emissions from Service Stations (Environment Australia);
- Air Toxics "Hot Spots" Program: Gasoline Service Stations Industry wide Assessment Guidelines – Toxics Committee of the California Air Pollution Control Officers Association (CAPCOA, 1997); and
- Brisbane City Council methodology for service stations (BCC, 2017).

The BCC, 2017 methodology was utilised to represent hourly throughput rates for service stations based on normal and peak traffic flows.

1.1 Assessment Scope

The Assessment was undertaken to determine the extent of offsite pollutant impacts beyond the boundary of the Site and subsequently determine the risk of health and amenity impacts for the proposed Centre which is categorised as a future sensitive receiver and/or sensitive land use (receptor).

The Assessment predicted ground level concentrations (GLCs) of various pollutants from vapour losses using regulatory standard dispersion modelling techniques.

The predicted GLCs were compared to the regulatory criteria for each pollutant assessed to determine if those GLCs would cause a health or amenity impact at the nearest receptor.

The model of choice was Aermod and its supporting pre- and post- processors.

1.1.1 Legislative Context

The existing Site is not a Prescribed Premise with regard to the WA Department of Water and Environmental Regulation (DWER).

The Western Australia (WA) Environmental Protection Authority (EPA) 2005 Guidance for the Assessment of Environmental Factors document, *Separation Distances between Industrial and Sensitive Land Uses* recommends a buffer separation distance for Service Stations and the nearest sensitive receptor is as follows:

Table 1-1: WA EPA Guidance for Separation Distances – Service Station

50 m	Operating during normal business hours of Monday – Saturday from 0700 – 1900 hours
100 m	Freeway service stations
200 m	Service stations in operations for 24 hours daily

The EPA recommended buffers imply that where the separation distance is not met, a further assessment of applicable emissions should be undertaken to support the application and thus inform the risk of health and amenity impacts at the nearest receptor.

"Sensitive land uses include residential development, hospitals, hotels, motels, hostels, caravan parks, schools, nursing homes, child care facilities, shopping centres, playgrounds and some public buildings. Some commercial, institutional and industrial land uses which require high levels of amenity or are sensitive to particular emissions may also be considered "sensitive land uses". Examples include some retail outlets, offices and training centres, and some types of storage and manufacturing."

Importantly, there have been sweeping changes to the operational hours of service stations and retail businesses in Western Australia i.e., deregulation of hours.

Notwithstanding:

- The Site is a 24-hour operation, however;
    - The Centre is not a 24-hour operation, and therefore;
        - The operational hours of the Centre represent the timeframe when emissions may impact the Centre.
- Given the hours of operations for the Centre, the 50 m separation distance is applicable.

1.1.2 Adjacent Land Uses

The immediate proximity to the Site is mixed-use (commercial/retail).

Beyond this:

- The land use is urban within the immediate vicinity to the Site;
- A primary school's oval is within 140 m from the nearest fuel bowser at the Site;

- The nearest residential dwelling is less than 50 m from the nearest re-fueling bowser at the Site; and
- The proposed Centre's closest sensitive receptors (front-door access and outdoor playground) will achieve the minimum 50 m separation distance from the nearest refueling bowser.

1.1.3 Assessment Substances

Principal chemical compounds (pollutants) typically emitted from service station activities are listed below. These compounds are part of the Total VOCs emitted; which are assessed in the first instance, and those individual pollutant contributions are then derived based on the percentage contribution of those pollutants within the Total VOC emissions.

Table 1-2: Assessment Substances (pollutants)

Pollutant	
Benzene	Cyclohexane
Toluene	*n*-Hexane
Ethyl benzene	Styrene
Xylenes	

1.2 Guidance for Assessing Impacts

The DWER prescribes maximum ambient concentrations of an array of pollutants and toxic substances. In prescribing these maximum concentrations, the DWER has referred to (among others); The National Environment Protection (Air Toxics) Measure (NEPM). These DWER, NEPM, and other jurisdictional recommendations as per DWER's guidance have been adopted for this Assessment. These maximum ambient concentration exposure limits are listed in **Table 1-3**.

Table 1-3: Assessment Criteria for Toxic Substances

Substance	Averaging Period	DWER Pollutant References	Maximum (ambient) concentration	
			ppm	µg/m³ at 25°C
Benzene	Annual	NEPM 2011	0.003	9.6
Toluene	24 hour	NEPM 2011	1	3,770
	Annual		0.1	377
Ethyl benzene	1 hour	EPA NSW 2022	1.8	8,000
	Annual	Toxicos 2011	-	270
Xylenes	24 hours	NEPM 2011	0.25	1,080
	Annual		0.2	870
Cyclohexane	1 hour	EPA NSW 2022	5	190
***n*-Hexane**			0.9	3,200
Styrene	1 hour	Dept. of Health WA	70	64

1.3 The Site

The emission sources at the Site comprise the natural ventilation of the sub-terrain fuel storage tanks during re-filling and under normal gas expansion conditions (i.e., temperature dependent), the refueling locations (8 of), and a natural gas bowser (not vapour). Incidental spills can also be a source of vapour release, albeit minor. Emission sources are primarily passive vapour losses from refilling (storage tanks) and bowser refuelling processes.

The Site comprises the following main features:

- 4 petrol bowser ranks 'two-sided' comprising a total of 8 bowser outlets at any one time;
- Foodary/Convenience store;
- The types of fuels dispensed are;
    - Diesels,
    - Unleaded Petrol (ULP),
    - Premium Unleaded Fuels,
    - Octane Fuels, and
    - Autogas.

1.3.1 Emissions Assumptions

EAQ has estimated fuel throughputs based on the following assumptions:

- Bulk refueling events take place twice (x2) weekly;
    - Bulk Storage Volume refilling rate of 40,000 Litres per hour.
- Child Care Centre operational hours are maximally 0700 – 1800 hrs weekdays only;
    - Average vehicle refueling volume per day when Centre is open and operational, approximately 14,962 Litres between the hours of 0700 – 1800 hrs, and
    - Average vehicle refueling volume per day (24-hour), approximately 23,415 Litres.
- The peak flow of vehicles for an averaged fuel volume of 30 L is 48 per hour (8 refuelling at once) based on peak hourly volume of 1,440 L.

The Locality of the Site and Centre are illustrated in **Figure 1-1**.

Figure 1-2 depicts the modelled layout of the service station Site and its emissions sources.

The Centre concept designs are illustrated in Appendix C.

Figure 1-1: Glendalough Locality, Existing Service Station Site & Proposed Child Care Centre

Figure 1-2: Existing Service Station Site Modelled Layout & Proposed Child Care Centre

2 Service Station Emissions Estimation

Activities at the Site that will produce emissions are related to losses of fuel vapours to atmosphere, or spillage and subsequent vapourisation of the spill(s). These specific activities comprise:

- Submerged filling of underground storage tanks;
- Underground tank breathing losses;
- Vehicle refuelling;
- "Whoosh" emissions from removal of vehicle fuel cap; and
- Fuel spills, typically at the bowser.

The Site throughputs are estimated based on like-for-like 4-bowser service stations' average throughput. Precise hourly throughputs are however unknown but would be comparable to typical service stations within residential areas.

There is a dearth of information within other Australian jurisdictions for estimating hourly throughputs based on typical traffic flows at metropolitan service stations, as a result the widely referenced 2017 Brisbane City Council (BCC) methodology for service stations has been used to estimate hourly emissions at the Site.

Emission estimates based on specific emission compounds **(refer Table 1-2)** were derived using the NPI, 1999 and CAPCOA, 1997 guidelines for emission estimation factors.

Vapour recovery (VR) at the Site is in place for submerged underground storage tank(s) referred to as VR1.

- Vapour recovery at the bowsers (VR2) is unknown and therefore assumed to be absent from the Site.

2.1 Site Operations and Emissions

The maximum volume of fuel that can be dispensed into the storage tanks at the Site is estimated at 40,000 L/hour based on the bulk tanker delivery rate.

The estimated total daily sales of fuels are 23,415 L over 24 hours.

- **NOTE:** The total fuel sales between the Child Care Centre's operational hours of 0700 – 1800 hrs is approximately 14,962 L.

The Site bulk fuel deliveries schedule will shift based on fuel volumes dispensed. To account for variability in daily hours where deliveries are made, and assuming deliveries are over 5-days to represent the Centre's operational hours; the delivery of bulk fuels is modelled 1-hourly, for each day and successive hour during those delivery times.

Table 2-1 lists an example of the delivery schedule and subsequent hourly emissions trend for bulk fuel deliveries over a 5-day week.

Table 2-1: Example of Bulk Fuel Delivery Schedule (L/hr)

Time (24 hrs)	Monday	Tuesday	Wednesday	Thursday	Friday
0700	40,000				
0800		40,000			
0900			40,000		
1000				40,000	
1100					40,000
1200	40,000				
1300		40,000			
1400			40,000		
1500				40,000	
1600					40,000
1700	40,000				

2.2 VOC Emissions

Of the fuel types proposed ULP contains the higher volatile fraction compared to diesel, as such all emissions in this Assessment have been assumed as ULP. This approach is conservative. There are no Ethanol blend fuels e.g., E5, E10. The vapour composition of VOCs in petroleum fuel (NPI, 1999), are listed in **Table 2-2**.

The vapour composition of Benzene has been revised in accordance with the Australian Government's Federal Register of Legislation, specifically the current Fuel Quality Standards (Petrol) Determination 2019, which limits the volume of Benzene in petrol to 1% v/v maximum. Assuming a Benzene density value of 0.8765, the petrol vapour Benzene composition (% weight) is listed in **Table 2-3**.

Table 2-2: Composition of Petrol (NPI, 1999)

Species	Petrol Liquid (% weight)	Petrol Vapour (% weight)
Cyclohexane	0.2	0.06370
Ethylbenzene	2.0	0.07910
n-Hexane	3.5	1.730
Styrene	0.1	0.00282
Toluene	10.4	1.080
Xylenes	12.2	0.433

Table 2-3: Composition of Petrol (Fuel Standards, 2019)

Species	Petrol Liquid (% weight)	Petrol Vapour (% weight)
Benzene	1.0	0.374

The composition percentages of the compounds listed in **Table 2-2** and **Table 2-3** were applied to the modelling outcomes of the final time-averaged emission rate GLC estimates (vapour and spill vapour losses) to derive individual pollutant contributions to airborne vapour impacts at the nearest receptor.

2.3 Site Operational Data Estimates

Table 2-4: Site Service Station Operating Detail

Parameter	Operational Data
Operating hours	24-hour
Child Care Centre Operating hours	***0700 – 1800 hrs / 5 days per week***
Tanker delivery (20,000L – 45,000L volume)	40,000 L/hour - VR1 Vapour Recovery
Vent stack	1.0 m high (above main building)
Filling Stations/Bowsers	4 x Bowsers = 8 x filling points each side of Bowser
Fuel Storage	Diesel & ULP

2.4 Derived Emission Factors

Emissions generated from activities at the Site have been derived based on those vapour losses published by the NPI and CAPCOA guidance. **Table 2-5** lists those emission factors that apply to those processes where vapour losses occur.

Table 2-5: Emissions Factors for Service Stations

Emission Source	NPI, 1999 Mg / L throughput	CAPCOA, 1997 Lbs / 1000 Gallons throughput
Underground Tank Filling	-	-
Submerged Filling	880	8.4
Splash Filling	1380	-
Submerged filling with vapour balance	40	**0.42**
Underground tank breathing losses	**120**	0.84
Vehicle Refuelling	-	-
Displacement Losses (uncontrolled)	1320	**8.4**
Displacement Losses (90% controlled e.g., VR 2)	132	0.74
Spillages	-	-
Uncontrolled	80	0.61
Controlled	-	**0.41**
"Whoosh" Emissions (fuel cap removal)	-	**0.26 - 0.66**

The refuelling activities are characterised as volume emission sources. These have been assessed utilising the CAPCOA, 1997 emission factors. Vent emissions from storage tank filling has been assessed using the NPI, 1999 emission factors.

2.4.1 Fuel Throughput Trends

To determine the hourly throughputs of fuel dispensing for service stations in accordance with the BCC, 2017 recommendations, the hourly profile of fuel sales daily is derived using the BCC, 2017 published profiles as listed in **Table 2-6**.

Table 2-6: Representative Service Station Fuel Throughputs (BCC, 2017)

Hour	Hourly Profile (%)
1	1.2
2	0.8
3	0.6
4	0.8
5	1.9
6	4.6
7	5.5
8	5.7
9	5.5
10	5.7
11	6.0
12	6.0
13	5.7
14	5.6
15	5.9
16	**6.2**
17	**6.2**
18	5.8
19	5.1
20	4.0
21	3.5
22	3.4
23	2.6
24	1.8

In **Table 2-6** the peak throughput hour begins at 4-5pm (1600 - 1700 hrs).

Applying the Average Daily Refuelling Volume of 23,415 L, the emission factors in **Table 2-5**, and deriving hourly volumes based on **Table 2-6**, the hourly Total VOC mass emission rates in grams per second (g/s) are developed.

These mass emission rates represent the combined (ALL) number of filling points (8) at any one time, and single bowser (SINGLE) operations, and are listed in **Table 2-7**.

NOTE: The green-highlighted cells, and bolded values, represent the operational hours for the proposed Child Care Centre and are those values used in the modelling Assessment. All other values were marked to '0' in the modelling.

Table 2-7: Factored Total VOC Emission Rates per Hour

Hour	Throughput % daily volume/hr	Petrol Throughput (L/hr)	% to Peak Daily Hour	ALL Bowsers Mass Emission Rate (g/s)	SINGLE Bowser Mass Emission Rate (g/s)
1	1.20%	281	19.51%	0.694	0.173
2	0.80%	187	13.01%	0.462	0.116
3	0.60%	140	9.76%	0.347	0.087
4	0.80%	187	13.01%	0.462	0.116
5	1.90%	445	30.89%	1.098	0.275
6	4.60%	1,077	74.80%	2.659	0.665
7	5.50%	1,288	89.43%	3.179	**0.795**
8	5.70%	1,335	92.68%	3.294	**0.824**
9	5.50%	1,288	89.43%	3.179	**0.795**
10	5.70%	1,335	92.68%	3.294	**0.824**
11	6.00%	1,405	97.56%	3.468	**0.867**
12	6.00%	1,405	97.56%	3.468	**0.867**
13	5.70%	1,335	92.68%	3.294	**0.824**
14	5.60%	1,311	91.06%	3.237	**0.809**
15	5.90%	1,381	95.93%	3.410	**0.853**
16	6.15%	1,440	100.00%	3.555	**0.889**
17	6.15%	1,440	100.00%	3.555	**0.889**
18	5.80%	1,358	94.31%	3.352	0.838
19	5.10%	1,194	82.93%	2.948	0.737
20	4.00%	937	65.04%	2.312	0.578
21	3.50%	820	56.91%	2.023	0.506
22	3.40%	796	55.28%	1.965	0.491
23	2.60%	609	42.28%	1.503	0.376
24	1.80%	421	29.27%	1.040	0.260

The bowser fueling activities and that of the bulk refueling deliveries were modelled as cumulative emissions, with the bulk refueling schedule in **Table 2-1** modelled as an alternating emission rate based on staggered daily deliveries, and:

- The model was additionally configured to assess constant emissions over weekdays between the hours of 0700 – 1800 hrs for the bulk delivery refueling activity and the subsequent worst-hour determined to provide further insight into the worst-case scenario for weekday bulk refueling deliveries.

Appendix A presents the summary calculations for the derived mass emission rates.

3 Aermod Dispersion Modelling Methods

3.1 Meteorology

A 3-year dataset (2020.07-2023.06) of meteorology was developed using surface observations from the Perth Metro Bureau of Meteorology (BoM) Automatic Weather Station (AWS) and supplemented using CSIRO's TAPM prognostic model for upper air characteristics.

The Perth Metro BoM AWS is 5 kilometres east of the Site and representative of meteorological conditions for the Site's locality.

Stability Class derived from the hybrid meteorological dataset, over the 3-year modelling period, showed that stability class 'D' was most prominent as illustrated in **Figure 3-1.**

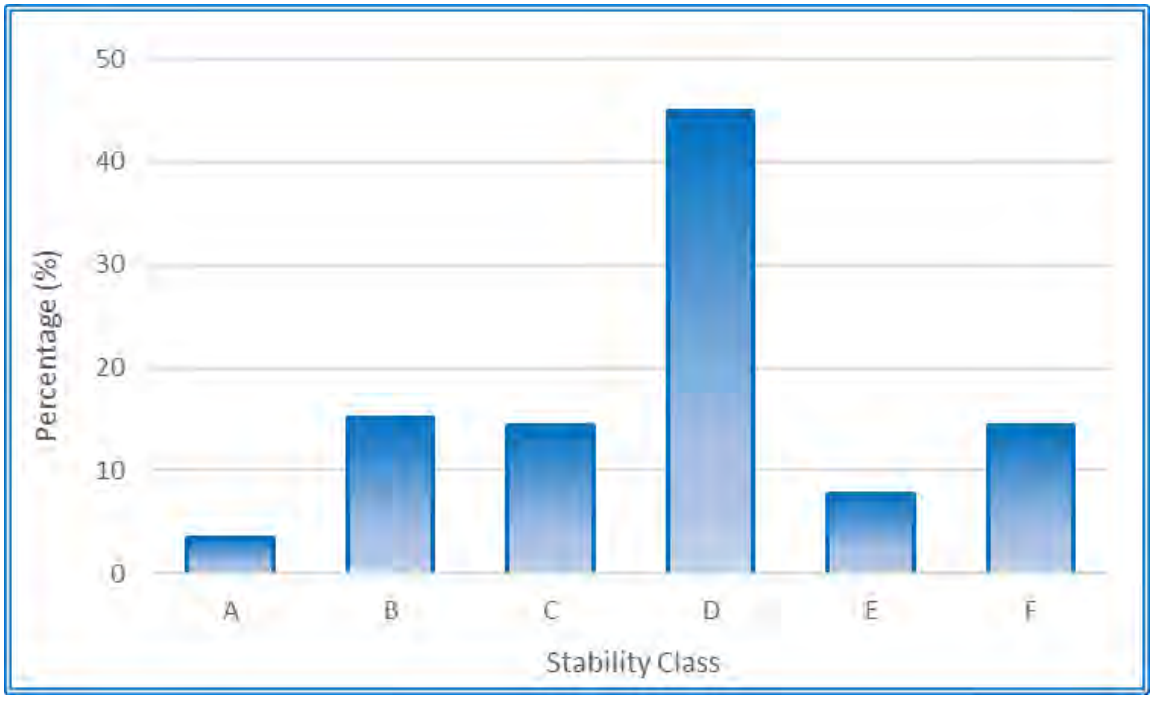

Figure 3-1: Derived Stability Class for the Site's Locality

Stability refers to the atmosphere's ability to resist or enhance vertical motion resulting in turbulence. Stability encompasses (among others) temperature changes with atmospheric height (lapse rate), wind speed and surface roughness.

The six classes of stability are:

A	very unstable
B	unstable
C	slightly unstable
D	neutral
E	stable
F	very stable

- Unstable conditions enhance mechanical turbulence (convective);
- Neutral stability neither enhances nor reduces mechanical turbulence; and
- Stable conditions reduce mechanical turbulence.

Atmospheric turbulence is the most important parameter for dispersion of airborne pollutants, i.e., dilution. Unstable conditions promote greater dilution and therefore lesser ground level impacts, both in frequency and pollutant concentration.

- **Under D Class Stability** there is minimal heating or cooling of the earth's surface and buoyancy of plumes is less evident. Under these conditions surface impacts of plumes is high/moderate if the emissions release height is near to the ground surface. At higher elevations of plume release the surface impacts are moderate/low.

3.2 Sensitive Receptors

Discrete receptors were placed at locations pertinent to outdoor childcare activities to determine the ground level concentrations of vapours with respect to the Centre's proposed operational location **(refer Figure 1-1)**.

3.3 Building Profile Input Program (BPIP)

Building wake effects occur for those vertical stack emissions, in this case passive ventilation of the storage tank vent. An example of the Aermod Input File is presented in Appendix B.

3.4 Dispersion Modelling Limitations

By definition, air quality models can only approximate atmospheric processes. Many assumptions and simplifications are required to describe real phenomena in mathematical equations. Model uncertainties can result from:

- Simplifications and accuracy limitations related to source data;
- Extrapolation of meteorological data from selected locations to a larger region; and
- Simplifications to model physics to replicate the random nature of atmospheric dispersion processes.

Models are reasonable and reliable in estimating the maximum concentrations occurring on an average basis. That is, the maximum concentration that may occur at a given time somewhere within the model domain, as opposed to the exact concentration at a point at a given time will usually be within the ±10% to ±40% range (US EPA, 2003).

Typically, a model is viewed as replicating dispersion processes if it can predict within a factor of two, and if it can replicate the temporal and meteorological variations associated with monitoring data. Model predictions at a specific site and for a specific hour, however, may correlate poorly with the associated observations due to the above-indicated uncertainties. For example, an uncertainty of 5° to 10° in the measured wind direction can result in concentration errors of 20% to 70% for an individual event (US EPA, 2003).

4 Assessment Results & Discussion

The Assessment of the existing service station Site and its vapour emissions' impacts on the location of the proposed Child Care Centre have projected ground level concentrations (GLCs) for assessed pollutants of BTEX (Benzene, Toluene, Ethyl benzene, Xylenes), Cyclohexane, *n*-Hexane and Styrene that are below the guideline exposure standards.

These pollutants were assessed by firstly modelling Total VOCs as a function of emission factors for fuel storage and vehicle dispensing volumes according to those methods in Section 2.

Those Total VOC GLCs projected were then revised to determine the percentage mass emission rate contributions for these pollutants **(refer Tables 2-2** and **2-3)**.

Table 4-1 lists each predicted pollutant concentration for each averaging period. These pollutant concentrations are revised based on each compounds vapour contribution to petrol VOC emissions.

Within **Table 4-1** are each pollutants respective assessment criteria, the projected GLCs from the modelling Assessment and the revised projected GLCs at the nearest assessed sensitive receptor with a Percentage of Exposure Limit Value (%). This value represents the percentage ratio of projected GLCs compared to the assessment criteria for each pollutant.

A % < 100 % shows that the projected concentration at the assessed receptor location achieves less than the assessment criteria i.e PASS, whereas % ≥ 100 % shows non-compliance against the assessment criteria i.e., FAIL.

The magnitude of the compliance PASS/FAIL can be readily gauged by the size of the Percentage of Exposure Limit Value (%).

- All GLC values reported for each sensitive receptor are the maximum, Rank 1 values for all averaging periods;
- All units of concentration are in µg/m^3 unless stated otherwise; and
- The worst-case bulk fuel delivery hour was predicted by the model to be at 0700 hrs, during the month of May and with a GLC value of < 9 % of the 1-hour Benzene exposure limit (i.e., PASS) at the nearest Child Care Centre outdoor receptor.

Figure 4-1 illustrates the cumulative GLCs for annual Benzene predictions.

4.1 Conclusion

In reviewing the predicted GLCs for those pollutants in **Table 4-1**, within this Assessment, the pollutant emissions predicted at the proposed Child Care Centre are less than the exposure limits in ambient air.

Additionally, the Centre already satisfies the WA EPA guidance separation distance of 50 m from the nearest refuelling location, and given this and the Centre's limited operational hours, the risk of exposure at this sensitive receptor location is low.

Table 4-1: Cumulative Assessment Results for GLC's of Pollutants

Receptor Location	Pollutant	Averaging Period	Exposure Limit (DWER) µg/m³ at 25°C	Predicted GLC (µg/m³)	% of CF	Pass/Fail	Averaging Period	Exposure Limit (DWER) µg/m³ at 25°C	Predicted GLC (µg/m³)	% of CF	Pass/Fail
play1	Benzene	1-hour	29	21.26	73.32%	Pass	Annual	9.6	0.11	1.19%	Pass
play2				23.58	81.31%	Pass			0.19	2.01%	Pass
play3				23.99	82.72%	Pass			0.18	1.90%	Pass
boundary1				18.95	65.33%	Pass			0.10	1.05%	Pass
boundary2				16.88	58.22%	Pass			0.12	1.23%	Pass
play1	Toluene	24-hour	3,770	6.10	0.16%	Pass	Annual	377	0.33	0.09%	Pass
play2				9.10	0.24%	Pass			0.56	0.15%	Pass
play3				8.51	0.23%	Pass			0.53	0.14%	Pass
boundary1				6.80	0.18%	Pass			0.29	0.08%	Pass
boundary2				6.17	0.16%	Pass			0.34	0.09%	Pass
play1	Ethyl benzene	1-hour	8,000	4.50	0.06%	Pass	Annual	270	0.02	0.01%	Pass
play2				4.99	0.06%	Pass			0.04	0.02%	Pass
play3				5.08	0.06%	Pass			0.04	0.01%	Pass
boundary1				4.01	0.05%	Pass			0.02	0.01%	Pass
boundary2				3.57	0.04%	Pass			0.02	0.01%	Pass
play1	Xylenes	24-hour	1,080	2.44	0.23%	Pass	Annual	870	0.13	0.02%	Pass
play2				3.65	0.34%	Pass			0.22	0.03%	Pass
play3				3.41	0.32%	Pass			0.21	0.02%	Pass
boundary1				2.73	0.25%	Pass			0.12	0.01%	Pass
boundary2				2.47	0.23%	Pass			0.14	0.02%	Pass
play1	Cyclohexane	1-hour	190	3.62	1.91%	Pass					
play2				4.02	2.12%	Pass					
play3				4.09	2.15%	Pass					
boundary1				3.23	1.70%	Pass					
boundary2				2.88	1.51%	Pass					
play1	*n*-Hexane	1-hour	3,200	98.42	3.08%	Pass					
play2				109.14	3.41%	Pass					
play3				111.04	3.47%	Pass					
boundary1				87.69	2.74%	Pass					
boundary2				78.15	2.44%	Pass					
play1	Styrene	1-hour	64	0.16	0.25%	Pass					
play2				0.18	0.28%	Pass					
play3				0.18	0.28%	Pass					
boundary1				0.14	0.22%	Pass					
boundary2				0.13	0.20%	Pass					

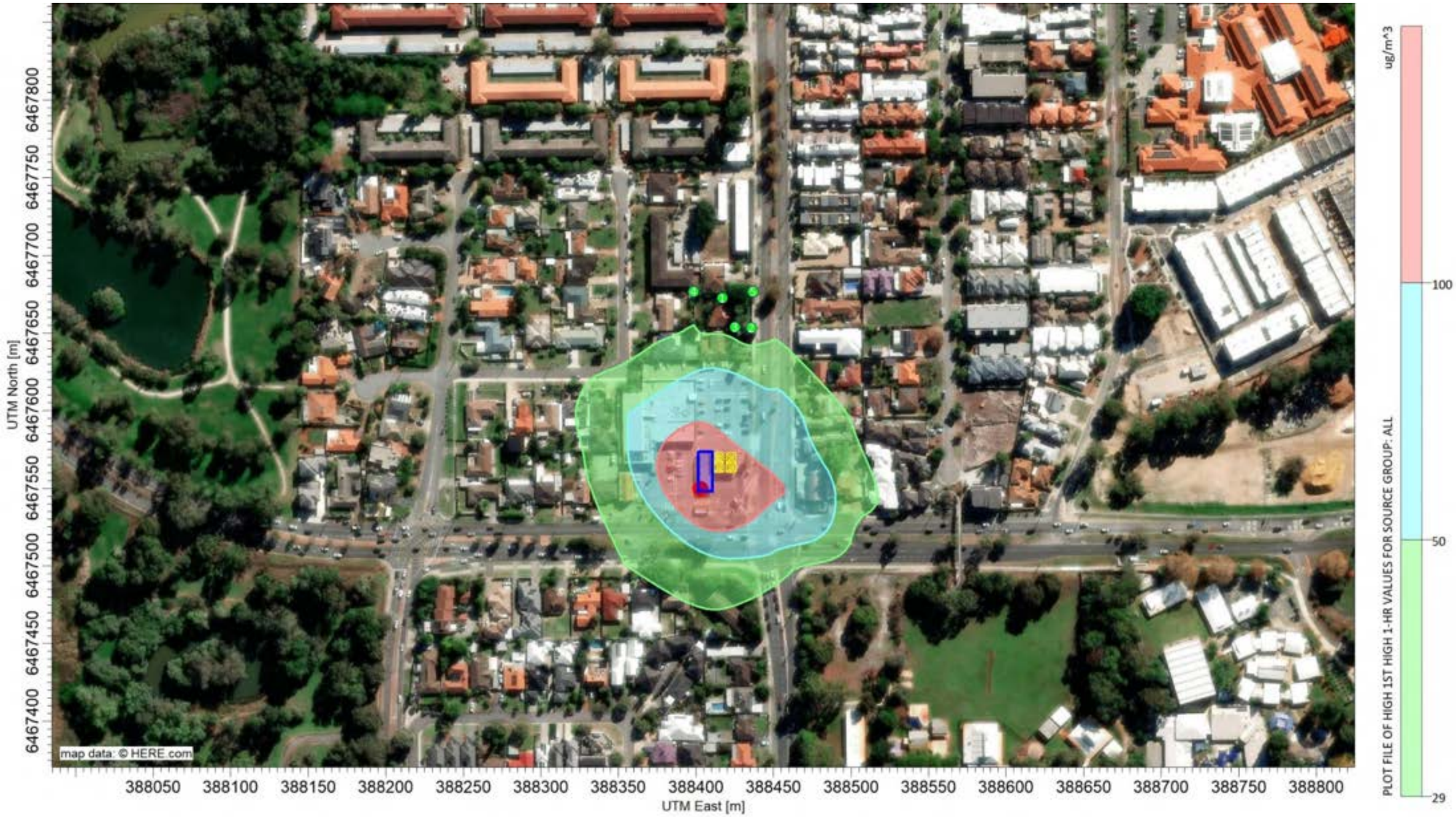

Figure 4-1: Predicted GLCs for 1-Hour Benzene Concentrations (criterion 29 µg/m^3)

Appendix A: Emissions Calculations

Bowser -VR2	Number of Dispensing Nozzles	**8**	
	Peak Hourly Volume at Bowsers (transactions x Litres per car)	**1,440**	
	CAPCOA (Lbs/1000gallons to mg/L)	8,886	mg/L
	CAPCOA (Lbs/1000gallons to g/L)	8.886	g/L
	Losses (g/L)	8.886	g/L/hr
	VR 2 - 10% Losses (g/L)	8.886	g/L/hr
	ESTIMATED TOTAL DAILY (24hr) VOLUME (L)	**23,415**	
	E10 Volatilisation	1.5	
	E10 % of T-Volumes	**0%**	
	E10 Fuel Ratio Factor	0	
	% of Other Fuels	100%	
	Fuel Ratio Factor	**1.000**	
Storage Tanks +VR 1	Total Storage Volume of Tanks(s)	40000	L
	NPI 1999	**170**	mg/L
		6813076.8	mg/hr
		6813.077	g/hr
		1.893	g/s
	4.5m High Vent Rate	0.00079	m3/s
	VR1 10% losses	0.189	g/s
	Final Value	**0.189**	**g/s**
	Annually	5969012.285	grams
		5969.012285	kgs
		16.35345832	kgs/day
	Deliveries weekly	2.792	kgs
	Per delivery	0.681	kg/hr
	Cars per Peak Hour	**48**	
	L per car on average	**30**	
	Peak Volumes Dispensed	1440	
	Average # Cars/hour Daily (7 days)	25	
	Cars Daily	584	
	Maximum Tanker Delivery (kL/hr)	40	
	Types of Fuel	Diesel, ULT Diesel, 91, 95, 98	
	Fuel Storage (kL)	Diesel	
		ULP 91	
		ULP 95	
		ULP 98	
	Bulk Deliveries per 40,000L Tank Delivery	2.05	
	Annual Sales	8,546,341	

hour	% daily sales	% to peak hr	# cars/peak hour	Petrol Throughput (L/hr)	L/s	g/s	**Final Value**	Per Bowser
1	1.2%	19.51%	10	281	0.078	0.694	0.694	0.173
2	0.8%	13.01%	7	187	0.052	0.462	0.462	0.116
3	0.6%	9.76%	5	140	0.039	0.347	0.347	0.087
4	0.8%	13.01%	7	187	0.052	0.462	0.462	0.116
5	1.9%	30.89%	15	445	0.124	1.098	1.098	0.275
6	4.6%	74.80%	36	1,077	0.299	2.659	2.659	0.665
7	5.5%	89.43%	43	1,288	0.358	3.179	3.179	0.795
8	5.7%	92.68%	45	1,335	0.371	3.294	3.294	0.824
9	5.5%	89.43%	43	1,288	0.358	3.179	3.179	0.795
10	5.7%	92.68%	45	1,335	0.371	3.294	3.294	0.824
11	6.0%	97.56%	47	1,405	0.390	3.468	3.468	0.867
12	6.0%	97.56%	47	1,405	0.390	3.468	3.468	0.867
13	5.7%	92.68%	45	1,335	0.371	3.294	3.294	0.824
14	5.6%	91.06%	44	1,311	0.364	3.237	3.237	0.809
15	5.9%	95.93%	47	1,381	0.384	3.410	3.410	0.853
16	**6.2%**	**100.00%**	**48**	1,440	0.400	3.555	**3.555**	**0.889**
17	**6.2%**	**100.00%**	**48**	1,440	0.400	3.555	**3.555**	**0.889**
18	5.8%	94.31%	46	1,358	0.377	3.352	3.352	0.838
19	5.1%	82.93%	40	1,194	0.332	2.948	2.948	0.737
20	4.0%	65.04%	32	937	0.260	2.312	2.312	0.578
21	3.5%	56.91%	28	820	0.228	2.023	2.023	0.506
22	3.4%	55.28%	27	796	0.221	1.965	1.965	0.491
23	2.6%	42.28%	21	609	0.169	1.503	1.503	0.376
24	1.8%	29.27%	15	421	0.117	1.040	1.040	0.260
	100.0%		584	**14962**		Max	3.555	0.889
			Daily ==>	23,415		SUM	57.7973	14.4493
						Per Nozzle	7.2247	7.2247

Emission Source	NPI 1999 mg/L throughput	CAPCOA Lbs/1000 Gallons throughput	CAPCOA mg/L throughput
Underground Tank Filling			
Submerged Filling	880	8.4	1007
Splash Filling	1380		
Submerged filling with vapour balance	40	0.42	**50**
Underground tank breathing losses	**120**	0.84	101
Vehicle Refuelling			
Displacement Losses (uncontrolled)	1320	**8.4**	1007
Displacement Losses (90% controlled e.g VRU 2)	132	0.74	89
Spillages			
Uncontrolled	80	0.61	73
Controlled		**0.41**	49
"Whoosh" Emissions		0.26 - 0.66	79
"Whoosh" Emissions (averaged)		**0.46**	79
Diesel	176		
LPG	0.04		

Appendix B: Example of AERMOD Input File

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 11.2.0
** Lakes Environmental Software Inc.
** Date: 6/09/2023
** File: D:\MyAERMOD\23031\23031.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE D:\MyAERMOD\22025\22025\22025.isc
   MODELOPT CONC
   AVERTIME 1 24 ANNUAL
   POLLUTID VOC
   FLAGPOLE 1.00
   RUNORNOT RUN
   ERRORFIL 23031.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION BOWS1        VOLUME     388422.787  6467563.254       15.750
** DESCRSRC Bowser 1
   LOCATION BOWS2        VOLUME     388422.735  6467569.561       15.620
** DESCRSRC Bowser 2
   LOCATION BOWS3        VOLUME     388414.706  6467569.625       15.450
** DESCRSRC Bowser 3
   LOCATION BOWS4        VOLUME     388414.704  6467563.354       15.620
** DESCRSRC Bowser 4
   LOCATION VENT         POINTCAP   388403.037  6467549.599       16.250
** DESCRSRC Tank Breather
** Source Parameters **
   SRCPARAM BOWS1              1.0     1.200     1.395     2.233
   SRCPARAM BOWS2              1.0     1.200     1.395     2.233
   SRCPARAM BOWS3              1.0     1.200     1.395     2.233
   SRCPARAM BOWS4              1.0     1.200     1.395     2.233
   SRCPARAM VENT               1.0     7.000     0.000       0.1       0.1

** Building Downwash **
   BUILDHGT VENT             5.00     5.00     5.00     5.00     5.00     5.00
   BUILDHGT VENT             5.00     5.00     5.00     5.00     5.00     5.00
   BUILDHGT VENT             5.00     5.00     5.00     5.00     5.00     5.00
   BUILDHGT VENT             5.00     5.00     5.00     5.00     5.00     5.00
   BUILDHGT VENT             5.00     5.00     5.00     5.00     5.00     5.00
   BUILDHGT VENT             5.00     5.00     5.00     5.00     5.00     5.00

   BUILDWID VENT            13.22    17.05    20.37    23.06    25.05    26.28
   BUILDWID VENT            26.72    26.34    25.16    26.34    26.72    26.28
   BUILDWID VENT            25.05    23.06    20.37    17.05    13.22     8.99
   BUILDWID VENT            13.22    17.05    20.37    23.06    25.05    26.28
   BUILDWID VENT            26.72    26.34    25.16    26.34    26.72    26.28
   BUILDWID VENT            25.05    23.06    20.37    17.05    13.22     8.99

   BUILDLEN VENT            26.34    26.72    26.28    25.05    23.06    20.37
   BUILDLEN VENT            17.05    13.22     8.99    13.22    17.05    20.37
   BUILDLEN VENT            23.06    25.05    26.28    26.72    26.34    25.16
   BUILDLEN VENT            26.34    26.72    26.28    25.05    23.06    20.37
   BUILDLEN VENT            17.05    13.22     8.99    13.22    17.05    20.37
   BUILDLEN VENT            23.06    25.05    26.28    26.72    26.34    25.16
```

```
   XBADJ    VENT          -1.70    -1.88    -2.00    -2.06    -2.06    -1.99
   XBADJ    VENT          -1.87    -1.68    -1.45    -5.54    -9.47   -13.10
   XBADJ    VENT         -16.34   -19.08   -21.24   -22.76   -23.58   -23.69
   XBADJ    VENT         -24.64   -24.84   -24.29   -22.99   -21.00   -18.37
   XBADJ    VENT         -15.19   -11.54    -7.54    -7.68    -7.59    -7.26
   XBADJ    VENT          -6.72    -5.97    -5.04    -3.96    -2.76    -1.47

   YBADJ    VENT          -1.07     0.94     2.92     4.81     6.55     8.10
   YBADJ    VENT           9.40    10.41    11.11    11.47    11.48    11.14
   YBADJ    VENT          10.47     9.47     8.19     6.66     4.93     3.04
   YBADJ    VENT           1.07    -0.94    -2.92    -4.81    -6.55    -8.10
   YBADJ    VENT          -9.40   -10.41   -11.11   -11.47   -11.48   -11.14
   YBADJ    VENT         -10.47    -9.47    -8.19    -6.66    -4.93    -3.04


** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 4"
** WeekDays:
   EMISFACT BOWS1        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS1        HRDOW 0.795 0.824 0.795 0.824 0.867 0.867
   EMISFACT BOWS1        HRDOW 0.824 0.809 0.853 0.889 0.889 0.0
   EMISFACT BOWS1        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT BOWS1        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS1        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS1        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS1        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT BOWS1        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS1        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS1        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS1        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT BOWS2        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS2        HRDOW 0.795 0.824 0.795 0.824 0.867 0.867
   EMISFACT BOWS2        HRDOW 0.824 0.809 0.853 0.889 0.889 0.0
   EMISFACT BOWS2        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT BOWS2        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS2        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS2        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS2        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT BOWS2        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS2        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS2        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS2        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT BOWS3        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS3        HRDOW 0.795 0.824 0.795 0.824 0.867 0.867
   EMISFACT BOWS3        HRDOW 0.824 0.809 0.853 0.889 0.889 0.0
   EMISFACT BOWS3        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT BOWS3        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS3        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS3        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS3        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT BOWS3        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS3        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS3        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS3        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT BOWS4        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS4        HRDOW 0.795 0.824 0.795 0.824 0.867 0.867
   EMISFACT BOWS4        HRDOW 0.824 0.809 0.853 0.889 0.889 0.0
   EMISFACT BOWS4        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT BOWS4        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS4        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS4        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS4        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

```
** Sunday:
   EMISFACT BOWS4        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS4        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS4        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT BOWS4        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0

** Variable Emissions Type: "By Hour / Seven Days (HRDOW7)"
** Variable Emission Scenario: "Scenario 4"
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.189 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.189 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.189 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.189
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.189 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.189 0.0 0.0 0.0 0.0 0.189 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.189 0.0 0.0 0.0 0.0 0.189 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.189 0.0 0.0 0.0 0.0 0.189
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT VENT         HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     -50
** ZONEINX  0
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Appendix C: Design Drawings of proposed Child Care Centre

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P 497

P P PP 474
3 25 230 75

N

N 13 10 2022

–	ISSUED FOR CLIENT REVIEW	x	NP	xx.xx.2022
revision/ issue	description	drawn	checked	date

project
HARBORNE STREET CHILDCARE CENTRE
location
279 & 283 HARBORNE ST, GLENDALOUGH

drawn
checked NP

description
PROPOSED SITE PLAN

Hodge Collard Preston
ARCHITECTS

Third Floor, 38 Richardson Street, West Perth, WA 6005
PO Box 743, West Perth, WA 6872
Ph: (08) 9322 5144
Fax: (08) 9322 5740
Email: admin@hcparch.com

scale AS IND

date 13.10.2022

project no 101.22

dwg no SK06

rev –

11062995
V 1 V 11 07 2024

ATTACHMENT 4

Landscape Plan

HARBORNE STREET CHILDCARE CENTRE

DEVELOPMENT APPLICATION

LANDSCAPE DESIGN

ISSUE FOR REVIEW
REV E
28.06.2024

SK-01 Landscape Concept Plan, Verge and Carpark & Planting Palette
SK-02 Deep soil Area

LANDSCAPE DESIGN
V 1 V 11 07 2024

TDL
BEYOND GREEN

LANDSCAPE CONCEPT PLAN

VERGE INSPIRATION IMAGES

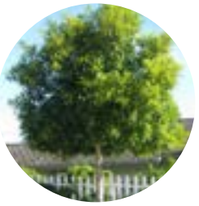
LANDSCAPE DESIGN INTENT

1. Medium shrub planting mix e.g. ***Leucophyto brownii, Westringia fruticosa*** provide soft edge along the car park.
2. Small deciduous trees ***Lagerstroemia 'Natchez'*** and ***Lagerstroemia 'Tuscarora'*** (90 Litre) that provide vibrant colours througout seasons and the visual amenity.
3. Native hedge planting ***Adenanthos sericea or Callistimon pink champagne*** to provide screening and soften boundary.
4. Proposed mix of native groundcovers and low shrubs, eg. ***Anigozanthos bush gem, Myoporum parvifolium, Grevillea 'Gingin Gem', Lomandra 'Lime Wave'***
5. Proposed trees ***Tristaniopsis 'Luscious'*** (90 Litre).
6. Exposed aggregate finish.
7. Proposed shade trees ***Gleditsia 'Shademaster'*** or ***Tristaniopsis 'Luscious'*** to the external play area.
8. Play elements in sand pit
9. Mini Play platform on astroturf
10. Play platform and slide in sandpit
11. Mulch activity path with steppers less than 600 high
12. Activity Board on astro turf

PRELIMINARY TREE SELECTION (Nominated Size 90L)

Lagerstroemia 'Natchez'
7m High x 5m Wide
Full Sun

Lagerstroemia 'Tuscarora'
7m High x 5m Wide
Full Sun



Tristaniopsis 'Luscious'
7-12m High x 5m Wide
Full Sun

Gleditsia 'Shademaster'
15m high x 10m wide
Full Sun

GROUNDCOVER AND LOW SHRUB (Nominated Sizes 140mm @3/m²)

Anigozanthos bush gem

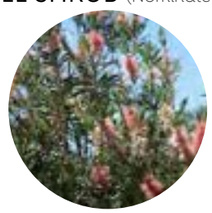
Myoporum parvifolium

Grevillea 'Gingin Gem'

Lomandra 'Lime Wave'

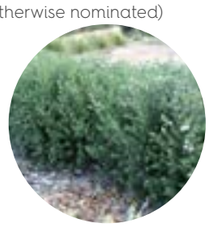
MEDIUM AND TALL SHRUB (Nominated Sizes 140mm @2/m² or otherwise nominated)

Adenanthos sericea
@1/2m²



Callistemon pink champagne
@1/2m²

Leucophyta brownii



Westringia fruticosa
'Aussie Box'

Total Site Area	1512m²
Planting Area (Deep Soil Area)	336m² (22%)
Proposed Tree	12nos. (90L)
Verge	
Planting Area	87m2

TDL LANDSCAPE GROUP

AUTHOR: VW&QY
SCALE: 1:200 @A3
Q.A: EQ
PROJECT NO: 16015
DATE: JUNE 2024

279 & 283 HARBORNE ST, GLENDALOUGH
LANDSCAPE DESIGN

SK1-E

11062995
V 1 V 11 07 2024

LANDSCAPE DEEP SOIL AREA

Deep soil area for trees

All trees are located on Deep soil and a fully irrigated via autimatic systym at time of installation

Large tree 36m³

Tristaniopsis 'Luscious'
7-12m High x 5m Wide

Gleditsia 'Shademaster'
15m high x 10m wide

Medium tree 7.2m³

Lagerstroemia 'Natchez'
7-8m High x 5m Wide

Lagerstroemia 'Tuscarora'
7m High x 5m Wide

Small tree 3.2m³

Callistemon pink champagne
3-+4m High x 3m Wide

TDL LANDSCAPE GROUP

N

AUTHOR: VW&QY
SCALE: 1:200 @A3

Q.A: EQ

PROJECT NO: 16015
DATE: JUNE 2024

279 & 283 HARBORNE ST, GLENDALOUGH
LANDSCAPE DESIGN

SK2-E

11062995
V 1 V 11 07 2024

ATTACHMENT 10

Waste Management Plan

Waste Management Plan

4 Jon Sanders Drive, 279 & 283 Harborne Street, Glendalough

Prepared for Mallica Pty Ltd

14 May 2024

Project Number: WMP23097

Assets | Engineering | Environment | Noise | Spatial | Waste

11062995
V 1 V 11 07 2024

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer	Approver
1.0	First Approved Release	14/05/2024	MA	DP	DP

Approval for Release

Name	Position	File Reference
Dilan Patel	Project Manager – Waste Management Consultant	WMP23097-01_Waste Management Plan_1.0
Signature		

Executive Summary

Mallica Pty Ltd is seeking development approval for the proposed Childcare Centre located at 4 Jon Sanders Drive, 279 & 283 Harborne Street, Glendalough (the Proposal).

To satisfy the conditions of the development application the City of Stirling (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Refuse	836	240	Four	Once each week	City of Stirling / Private Contractor
Recycling	836	240	Four	Once each week	City of Stirling / Private Contractor

The City/private contractor will collect refuse and recyclables from the Proposal utilising its kerbside collection service. The City/private contractors waste collection vehicle will service the bins the Bin Presentation Area on the verge of Harborne Street.

A caretaker/suitably qualified staff will oversee the relevant aspects of waste management at the Proposal.

Table of Contents

Tables

Diagrams

Figures

1 Introduction

Mallica Pty Ltd is seeking development approval for the proposed Childcare Centre located at 4 Jon Sanders Drive, 279 & 283 Harborne Street, Glendalough (the Proposal).

To satisfy the conditions of the development application the City of Stirling (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

The Proposal is bordered by residential developments to the north and west, Harborne Street to the east, and commercial developments to the south, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated volume of waste to be generated;
- Provide an adequately sized Bin Storage Area, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: Conclusion.

2 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

2.1 Proposed Tenancies

The anticipated volume of refuse and recyclables is based on the total internal floor area (m^2) of the Activity Rooms at the Childcare Centre – **238.8m²**.

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the City of Melbourne's *Guidelines for Waste Management Plans* (2021) as they provide contemporary estimates of waste generated from Childcare Centres.

Table 2-1 shows the waste generation rates which have been applied to the Proposal.

Table 2-1: Waste Generation Rates

Tenancy Use Type	City of Melbourne Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
Childcare Centre	Childcare	350L/100m²/week	350L/100m²/week

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown Table 2-2. It is estimated that the Proposal will generate 836L of refuse and 836L of recyclables each week.

Table 2-2: Estimated Waste Generation

Childcare Centre	Area (m^2)	Waste Generation Rate (L/100m²/week)	Waste Generation (L/week)
Refuse	238.8	350	836
Recycling	238.8	350	836
		Total	**1,672**

3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area, as shown in Diagram 1, and discussed in the following sub-sections.

3.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, internal bins will be available throughout the Proposal for the source separation of refuse and recycling.

These internal bins will be collected by the staff/cleaners and transferred to the Bin Storage Area for consolidation into the appropriate bins. This internal servicing method may be conducted outside of main operational hours to mitigate disturbances to visitors.

All bins will be colour coded and labelled in accordance with Australian Standards (AS 4123.7) to assist visitors, staff and cleaners to dispose of their separate waste materials in the correct bins.

3.2 Bin Sizes

Table 3-1 gives the typical dimensions of standard bins sizes that may be utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 3-1: Typical Bin Dimensions

Dimensions (m)	Bin Sizes		
	240L	660L	1,100L
Depth	0.730	0.780	1.070
Width	0.585	1.260	1.240
Height	1.060	1.200	1.330

Reference: SULO Bin Specification Data Sheets

3.3 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Bin Storage Area was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 3-1 and based on collection of refuse and recyclables once each week.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

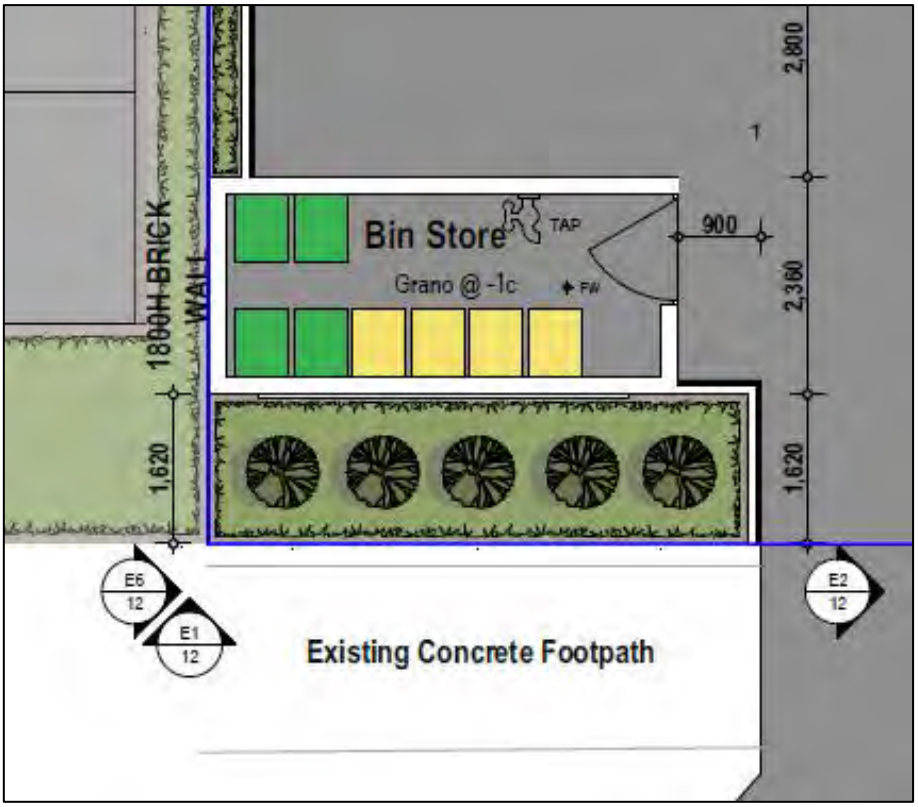
- Four 240L refuse bins; and
- Four 240L recycling bins.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	660L	1,100L
Refuse	836	4	2	1
Recycling	836	4	2	1

The configuration of these bins within the Bin Storage Area is shown in Diagram 1. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 1 represents the maximum requirements assuming one collection each week of refuse and recyclables.

Diagram 1: Bin Storage Area



3.4 Bin Storage Area Design

The design of the Bin Storage Area will take into consideration:

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Area;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Doors to the Bin Storage Area self-closing and vermin proof;
- Doors to the Bin Storage Area wide enough to fit bins through;
- Ventilated to a suitable standard;
- Appropriate signage;
- Undercover where possible and be designed to not permit stormwater to enter into the drain;
- Located behind the building setback line;
- Bins not to be visible from the property boundary or areas trafficable by the public; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Area will be monitored by the caretaker/suitably qualified staff during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

The City/private contractor will service the Proposal by providing four 240L bins for refuse and four 240L bins for recyclables.

The City/private contractor will collect refuse and recyclables once each week from the Proposal utilising a side arm waste collection vehicle.

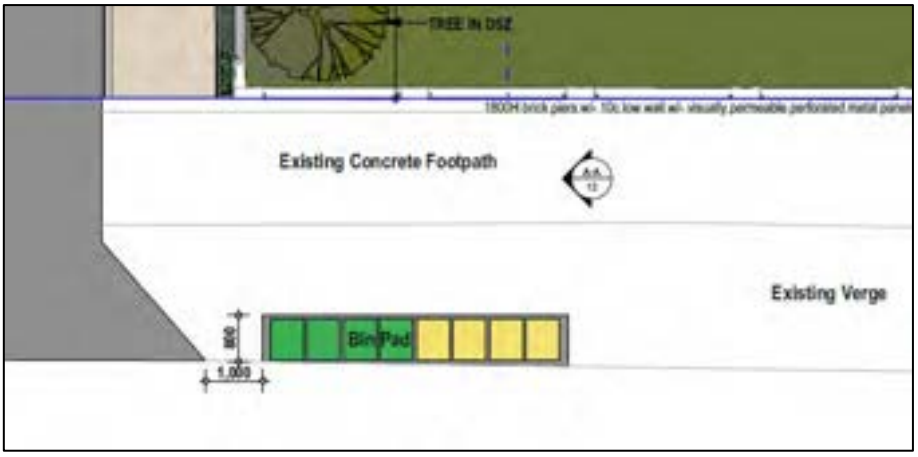
The City/private contractor will service bins from the Bin Presentation Area on the verge of Harborne Street at the front of the Proposal, as shown in Diagram 2. Note, Diagram 2 shows the maximum number of bins that would be required on the verge on collection day.

Bins will be presented for collection with the wheels and handles facing away from the street. The bins will remain clear of obstructions such as power poles, signs and street trees, and will be placed so as not to obstruct pedestrians, footpaths or bike lanes. Bins will be lined up neatly and in a single row along the verge, with sufficient space between each bin to facilitate collection by the City's/private contractors waste collection vehicle.

The caretaker/suitably qualified staff will ferry the bins to and from the Bin Presentation Area on collection days. The travel path between the Bin Storage Area and the Bin Presentation Area will be of flat surface and kept free of obstacles. The caretaker/suitably qualified staff will return the bins to the Bin Storage Area as soon as possible on the same day following collection.

It is proposed that servicing may be conducted outside of normal operating hours to mitigate the impacts of the waste collection vehicle on local traffic movements during peak hour traffic.

Diagram 2: Bin Presentation Area



4.1 Bulk and Speciality Waste

Bulk and speciality waste materials will be removed from the Proposal as they are generated. Removal of these wastes will be monitored by the caretaker/suitably qualified staff, who will liaise with staff and cleaners to assist with the removal of these wastes, as required.

Sanitary wastes will be collected in situ. A suitably qualified sanitary waste collection and disposal provider will be engaged to determine storage and collection requirements.

5 Waste Management

The caretaker/suitably qualified staff will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Area;
- Cleaning of bins and Bin Storage Area, when required;
- Ferrying of bins to and from the Bin Storage Area and Bin Presentation Area on collection days;
- Ensure all staff/cleaners are made aware of this WMP and their responsibilities thereunder;
- Monitor staff/cleaner behaviour and identify requirements for further education and/or signage;
- Monitor bulk and speciality waste accumulation and assist with its removal, as required;
- Regularly engage with staff/cleaners to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the City/private contractor to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides a sufficiently sized Bin Storage Area for storage of refuse and recyclables, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that an adequately designed Bin Storage Area has been provided, and collection of refuse and recyclables can be completed from the Proposal.

The above is achieved using:

- Four 240L refuse bins, collected once each week; and
- Four 240L recycling bins, collected once each week.

The City/private contractor will collect refuse and recyclables from the Proposal utilising its kerbside collection service. The City/private contractors waste collection vehicle will service the bins the Bin Presentation Area on the verge of Harborne Street.

A caretaker/suitably qualified staff will oversee the relevant aspects of waste management at the Proposal.

Figures

P P 454 6903 604 N 6007 1300 251 070

LEGEND

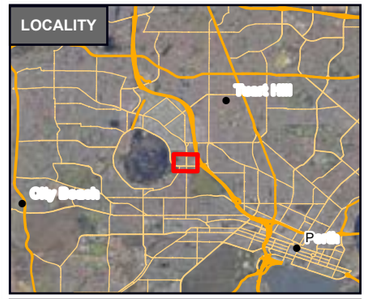
- Site Boundary

Cadastre

- Freehold
- Road
- Strata Plan or Lot
- Easement

P

LOCALITY



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LOCALITY

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P P23097	

talis consultants

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Data source: Roads, Cadastre • Landgate, 2023. Imagery: Nearmap, 2023.

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V 1 V 11 07 2024

Assets | Engineering | Environment | Noise | Spatial | Waste

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Design Review Report – Item 1

Local government:	City of Stirling	
Item no.:	Item 1 – DA24/0665– 279 & 283 Harborne Street, Glendalough – Development Assessment Panel – Form 1 – Child Care Centre	
Acting Chairperson:	Philip Gresley	
Panel members:	Tony Blackwell Lisa Shine Wayne Dufty	
Local government officers:	Karina Bowater Casey Hill Simone Palmer	Acting Coordinator Planning Acting Senior Planning Officer DRP Support Officer
Observers	Shaun Wheatland	Senior Planning Officer
Date:	6 June 2024	Time: 2pm
Venue:	City of Stirling – Challenger Room	

Proponent/s		
	Ashleigh Maple Danielle Davison Claudia Dattilo	Rowe Group *(Applicant)* Davison Advisory Service Germano Designs
	Owners	Mallica Pty Ltd
Observer/s		

Briefings		
Development assessment overview	Casey Hill	Acting Senior Planning Officer
Technical issues	Casey Hill	Acting Senior Planning Officer
Design Review		
Proposed development	Item 1 – DA24/0665– 279 & 283 Harborne Street, Glendalough – Development Assessment Panel – Form 1 – Child Care Centre	
Property address	279 & 283 Harborne Street, Glendalough	
Background		
Proposal		
Applicant or applicant's representative address to the design review panel	Danielle Davison	Davison Advisory Service
Key issues / recommendations	The applicant is thanked for the significant and successful amendments to the proposal in response to the Panel's comments at DRP1. There remain opportunities for improvements and in summary the Panel	

Design quality evaluation **Item 1- DA24/0665 – 279 & 283 Harborne Street, Glendalough – Development Assessment Panel – Child Care Centre** **DRP Meeting – Thursday 6 June 2024**		
	S	*Design Principle satisfied*
	P	*Design Principle pending further attention*
	N	*Design Principle not satisfied*
Principle 1 **Context and character**		*Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.*
	P	1a. The location of an early learning centre in close proximity to the adjacent shopping centre, with a physical pedestrian connection, is supported. 1b. As requested by the Panel in the previous DRP meeting, further dialogue around the existing and future character of the surrounding area and how this impacts the design would be beneficial. The proposal does not currently speak to its location or use. 1c. The Applicant was urged to connect back to their research around the context of the area, especially with relation to materiality and refine the aesthetics accordingly. There is a significant amount of salmon brick in the area which might be a good place to start a design dialogue.
Principle 2 **Landscape quality**		*Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.*
	N	2a. The Panel was supportive of the extra planting of trees in the carpark and stated this is a positive outcome. 2b. The Panel reiterated it is critical in this harsh environment that all efforts should be made to protect the tree canopy. Clarification was provided by the Panel around the previous comments in relation to the tree canopy. The Panel clarified the planting of large trees was not reflective of bag size when planted but the canopy coverage they can achieve. It was suggested a Tuart tree is a good example and could be planted on the northeast corner with supportive trees planted around it. 2c. Comment was made by the Panel providing no street trees is a serious retrograde step. The Panel encouraged the Applicant to continue with discussions with the City and for the City to play a more proactive role in demonstrating to the community the opportunities for planting verge landscaping and trees. 2d. The Applicant was urged to reassess the tree species selection. Although it is encouraged to use native shrubs it was pointed out the Grevillia is a high allergy tree so may not be the best outcome is areas children can touch them. Similarly, the Gleditsia tree included in the selection has nasty thorns and grows seeds. 2e. Comment was made by the Panel it is essential and important to provide a landscape plan for the play areas as they can have a significant impact on the function of the Landscape, and Aesthetics. 2f. It was noted play equipment requires fall zones around each piece of equipment and some of the fall zones are overlapping the paving which may cause the play areas to not comply with Australian standards which prompted the Panel to question if the landscape will be successful. 2g. As stated in the last review, the Panel still has concerns about the delivery of appropriate landscaping which is such a key component of an Early Learning Centre. The Applicant advised that the owner will be designing their own play spaces (presumably including landscaping) post approval but have provided Landscape plans to demonstrate how they might be achieved to satisfy the requirements of the City. The Panel encouraged the Applicant to create a brief of the DRP comments around the landscape design and what would constitute a good outcome and present it to the operator as a recommendation and continue to refine it continuously. 2h. Clarification is required around the calculations on the landscape drawings. It was noted the paving has been increased even though deep soil has also increased

		which does not appear to be correct. 2i. The Panel stated it is not clear what surface is under the trees and clarification is required. 2j. It was suggested by the Panel some proposed trees could be planted sooner than construction to allow the trees 1 to 1.5 years to become established whilst building is taking place. A commitment should be made to replace the loss of existing trees as soon as possible. 2k. The Panel noted the opportunity to provide canopy coverage over the EV car charging area. 2l. The Panel stated shade sails are not supported. The wider verandahs are now usable which is a good outcome although the addition of extra shade sails is a not supported as it affects the aesthetics and access to daylight into the building. The Applicant was urged to rethink this, and it was suggested there may be enough shade value in 5 years to remove the shade sails in the future. 2m. It was suggested the landscape architect should consider the paving skirt as there is currently no integration between the landscape and paving.
Principle 3 **Built form and scale**		*Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.*
	P	3a. The Panel support the removal of the columns on the southern carpark side which land at the edge of the carpark vehicle aisle. 3b. Comment was made by the Panel the raised roof provides visual interest from the street which is a good outcome. 3c. The Panel suggested changing the gate in the bin store to solid and not permeable. 3d. There may also be opportunity to reduce the bin store further which would be beneficial and allow the garden to wrap around the corner. The bins could be accessed by taking them out and reordering them providing a level of circulation. The Applicant was urged to interrogate this further. 3e. Comment was made by the Panel the main entry shown in the previous design had some practical issues although it did frame the entrance. The current entrance way feels institutional. The thickness of the fascia could add to this. There is opportunity to redesign the formal response in this area better frame the entry. 3f. It may be beneficial in the future when showing elevations to include a version with the fence and one without the fence to better show the actual building elevations. 3g. It was noted by the Panel the sun angles in the sections are incorrect. Further clarification and interrogation is required. 3h. The highlight windows to the skillion roof element should be reconsidered to better balance the need for light / sun access, especially to the east and west. 3i. The formal design response is currently a combination of many different ideas and the Panel suggested that a more harmonious and simplified approach might be beneficial. This might include re-considering the varied (and sometimes quite deep) canopies including detailing, and the better integration of the overly prominent cot room at the entranceway to the building. 3j. Colour plays an important part of the formal response, and a more cohesive colour palette is suggested to enhance the built form. The Panel suggested anchoring a palette around a single colour. These should be selected to work successfully with naturally finished materials, which are always preferred.
Principle 4 **Functionality and build quality**		*Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.*
	S	4a. This design principle is supported by the Panel. 4b. The Applicant advised an acoustic report has been undertaken and it shows the noise levels are acceptable and will not affect the children. This has been submitted as part of the DA package.

Principle 5 **Sustainability**		*Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.*
	P	5a. The Panel acknowledged the focus and commitments made to sustainability but believe this principle could be further explored and pushed further. 5b. The Panel support the operable windows which will promote cross ventilation and will make a significant improvement. 5c. The operable skylight integrated to bring light into the corridor is supported by the Panel. 5d. It was suggested by the Panel water saving initiatives could be interrogated and included in the design. 5e. The Panel commented it would be beneficial to have clarity on the lifecycle of the material selections included in the proposal. 5f. It was recommended by the Panel the black roof is not supported due to heat gain. A lighter colour roof would be the preferred outcome. 5g. It was suggested there could be ideas around sustainability education and introducing it into the architecture and landscape. 5h. It was noted by the Panel increased photovoltaic cells on the roof is supported although the skillion roof is facing south not north which will cause the cells to be less efficient. 5i. It was suggested by the Panel the vertical windows under the skillion roofs could have operable windows.
Principle 6 **Amenity**		*Good design optimises internal and external amenity for occupants, visitors and neighbours providing environments that are comfortable, productive and healthy.*
	S	6a. This design principle is satisfied. 6b. The Panel acknowledged the commitment to include bike racks and sufficient space for prams around the entry and expressed their support for this outcome. 6c. The outlook from the staff room is an improvement and benefits staff amenity. It was suggested the clothesline and bench seat could be swapped in the courtyard to the staff room to provide a better connection to the seat and landscaping and improve the outlook where the walls are permeable. 6d. Comment was made by the Panel the addition of an openable window to the cot room is a good outcome to allow the room to purge overnight and enable natural light penetration.
Principle 7 **Legibility**		*Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.*
	P	7a. The accessway through the shopping centre carpark is working well and supported. 7b. Comment was made by the Panel that although there has been some reconfiguration around the entry area to improve amenity, legibility from the main street entry area has not improved. The entry is narrow and restrained which is working against the design and affects legibility. There is opportunity to introduce more amenity and provide better signalling of the entry in this location.
Principle 8 **Safety**		*Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.*
	S	8a. This design principle is supported by the Panel. 8b. The relocation and reduction in size of the bin store is supported by the Panel.
Principle 9 **Community**		*Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.*

	S	9a. This design principle is satisfied. 9b. Comment was made by the Panel amenity has been improved between the entry and the street.
Principle 10 **Aesthetics**		*Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.*
	P	10a. The Panel were generally supportive of the introduction of the pastel theme and appreciate this is a nice change from strong bold colours. However a more cohesive colour palette is suggested to enhance the built form. The Panel suggested the anchoring a palette around a single more dominant colour. These should be selected to work successfully with naturally finished materials, which are always preferred. A response to salmon coloured brick would be an appropriate design consideration given the context of the area. 10b. The Panel suggested still more playfulness could be introduced to the design. The current proposal still does not create a distinct sense of place for its use or location. It was mentioned there is opportunity to think about the canopy soffits and how there could be painted design elements that wrap from paving to walls up into these. This might include the proposed paving markings (toned down) to the pedestrian accessway which would in conjunction with the pastel branding create a good sense of fun whilst integrating functional elements. 10c. The Panel expressed concerns around the proposed shade structures which can, without appropriate consideration, significantly diminish the aesthetic appeal of a proposal. 10d. In relation to the front fencing, it was noted by the Panel that it would be an improvement to further break down the long fence which is repetitive and allow a different streetscape and make the fence less of a dominant item. 10e. The formal design response is currently a combination of many different ideas and the Panel suggested that a more harmonious and simplified approach might be beneficial. This might include re-considering the (sometimes quite deep) differing canopy detailing, which is quite commercial, and the better integration of the rather prominent (or as one panel member mentioned “gun turret like”) cot room at the entranceway to the building.

Design Review progress
Item 2- DA24/0665 and PDA24/0013 – 279 Harborne Street, Glendalough – Pre Development Application – Child Care
DRP Meeting – Thursday 6 June 2024 and 28 March 2024

S	*Design Principle satisfied*
P	*Design Principle pending further attention*
N	*Design Principle not satisfied*

			DR1 28/3/24	***DR 2 - 6/6/24***		
P	1	**Context and character**	P	P		
P	2	**Landscape quality**	N	N		
P	3	**Built form and scale**	P	P		
P	4	**Functionality and build quality**	P	S		
P	5	**Sustainability**	N	P		
P	6	**Amenity**	P	S		
P	7	**Legibility**	P	P		
P	8	**Safety**	N	S		
P	9	**Community**	P	S		
P	10	**Aesthetics**	P	P		

DR1 – DRP Recommendations DRP Meeting – 28/3/2024	DR2 – Applicant Response DRP Meeting – 28/3/2024	DR2 - DRP Recommendations DRP Meeting – 6/6/2024	DR2 – Applicant Response DRP Meeting – 6/6/2024
1b. Further dialogue was requested by the Panel around the existing and future character of the surrounding area and how this impacts the design. The proposal does not currently speak to its location or use. 1d. It was noted the illustrations don't accurately represent the current context. The Applicant is strongly encouraged to demonstrate what is happening on the neighbouring sites to further understand the context of the location. 1e. Please provide plans with north up the page wherever possible.	1b. Further site imagery has been provided to identify the context of the site and surrounds. 1d. Further site imagery has been provided to identify the context of the site and surrounds. Additional wayfinding, crosswalk, and structure added to highlight connectivity of the site to its surrounds. 1e. All plans submitted with the Application include a north point.	1b. As requested by the Panel in the previous DRP meeting, further dialogue around the existing and future character of the surrounding area and how this impacts the design would be beneficial. The proposal does not currently speak to its location or use. 1c. The Applicant was urged to connect back to their research around the context of the area, especially with relation to materiality and refine the aesthetics accordingly. There is a significant amount of salmon brick in the area which might be a good place to start a design dialogue.	
2b. The Panel stressed it is critical in this harsh environment that all efforts should be made to protect tree canopy. Where this is not possible, efforts should be made to replace and enhance the tree canopy being removed. Whilst noting that the applicant is providing extra trees, it is recommended that they provide a strategy on how canopy replacement is being accomplished including timeframes for full recovery of existing tree canopy and species selection to shorten timeframes for mature growth. 2c. The Panel has concerns about the delivery of appropriate landscaping which is such a key component of an Early Learning Centre. The Applicant advised that the owner will be designing their own play spaces (presumably including landscaping) post approval but have provided	2b. The landscape plans have been amended to accommodate two large tree varieties planted within the outdoor play area, providing a total of six large trees. The two tree varieties, Tristaniopsis 'Luscious' and Gleditsia 'Shademaster' grow to 7-12m high and 5m wide and 15m high and 10m wide, respectively. The Gleditsia 'Shademaster' is a fast-growing tree, with both trees to be provided at 90L pot sizes. This will create an expected canopy of greater than 50m2 at maturity. The larger trees will be planted alongside two smaller tree species, being Lagerstroemia 'Natchez' and Lagerstroemia 'Tuscarora', both of which reach 7m in height and 5m wide at maturity. The combination of large and medium tree species and low-level planting will ensure the existing canopy to be removed will be replaced with an improved	2b. The Panel reiterated it is critical in this harsh environment that all efforts should be made to protect the tree canopy. Clarification was provided by the Panel around the previous comments in relation to the tree canopy. The Panel clarified the planting of large trees was not reflective of bag size when planted but the canopy coverage they can achieve. It was suggested a Tuart tree is a good example and could be planted on the northeast corner with supportive trees planted around it. 2c. Comment was made by the Panel providing no street trees is a serious retrograde step. The Panel encouraged the Applicant to continue with discussions with the City and for the City to play a more proactive role in demonstrating to the community	

	Landscape plans to demonstrate how they might be achieved to satisfy the requirements of the City. The Panel suggested that the selection of plant species is very important to the outcome of the landscape quality and there was concern expressed around the species being changed / decided at a later stage. The Panel encouraged the client to explore landscape further asking them to address this design principle with more rigor. 2d. It is desirable to see shade structures and play equipment included on the plans as they can have a significant impact on Landscape and Aesthetics. 2e. The Panel commented there is an opportunity to plant additional trees in the car park and create some tree canopy by planting larger trees. The tree in the carpark currently is exposed and very small and offers inadequate shading. 2f. It was stated by the Panel that permeable paving should be considered. 2h. The paving edge around the building would benefit from being better integrated into the landscape design generally, rather than a simple hard edge. Using section drawings will help to design and describe the quality of these spaces. 2i. The Applicant is strongly encouraged to use the services of a Landscape Architect for the finalisation of the Landscape Design.	landscaped environment, utilising a fast-growing species, which provide an attractive setting to the Child Care Premises. 2c. The landscape plans have been amended to include detail on species, quantity and pot sizes and the locations provided on the plans, demonstrating the space around the building can accommodate large tree planting and lower-level planting suitable to a child care environment. The plant species selected for the outdoor play area include a mix of large and medium trees, including fast growing species. Further, it is common for development approval to include a condition requiring a detailed landscape plan to be provided for approval, prior to be installed. 2d. The development plans and landscape plans have been updated to show details of shade sails within the outdoor play area to the west and east of the building. 2e. The Landscape Plan now shows where trees are to be provided, including additional trees within the car parking area. 2f. This was explored through the design process and is not suitable for ongoing maintenance (high traffic) and can be a trip hazard. 2h. Additional paving has been added under the awning and detail of the material has been shown on the plans. 2i. A qualified Landscape Architect has been used to prepare the Landscape Plan accompanying this Application.	the opportunities for planting verge landscaping and trees. 2d. The Applicant was urged to reassess the tree species selection. Although it is encouraged to use native shrubs it was pointed out the Grevillia is a high allergy tree so may not be the best outcome is areas children can touch them. Similarly, the Gleditsia tree included in the selection has nasty thorns and grows seeds. 2e. Comment was made by the Panel it is essential and important to provide a landscape plan for the play areas as they can have a significant impact on the function of the Landscape, and Aesthetics. 2g. As stated in the last review, the Panel still has concerns about the delivery of appropriate landscaping which is such a key component of an Early Learning Centre. The Applicant advised that the owner will be designing their own play spaces (presumably including landscaping) post approval but have provided Landscape plans to demonstrate how they might be achieved to satisfy the requirements of the City. The Panel encouraged the Applicant to create a brief of the DRP comments around the landscape design and what would constitute a good outcome and present it to the operator as a recommendation and continue to refine it continuously. 2j. It was suggested by the Panel some proposed trees could be planted sooner than construction	

		to allow the trees 1 to 1.5 years to become established whilst building is taking place. A commitment should be made to replace the loss of existing trees as soon as possible. 2k. The Panel noted the opportunity to provide canopy coverage over the EV car charging area. 2l. The Panel stated shade sails are not supported. The wider verandahs are now usable which is a good outcome although the addition of extra shade sails is a not supported as it affects the aesthetics and access to daylight into the building. The Applicant was urged to rethink this, and it was suggested there may be enough shade value in 5 years to remove the shade sails in the future. 2m. It was suggested the landscape architect should consider the paving skirt as there is currently no integration between the landscape and paving.	
3d. There were also concerns about the general quality and legibility of the entry area. The Panel believes that a reconsideration of this area is recommended which might tie together the quality of the fence at the entry, the column elements, the connection to the pedestrian movement system, and an opportunity to integrate some space for community interaction. 3f. The Panel supported the skillion roof to the north, but recommends shading studies be undertaken to inform how to adequately shade west and east elevations. 3g. The Panel recommends that the	3d. The entrance has been reconfigured considering pram/bike storage, communal gathering, and general legibility. 3f. Additional shade structures have been included on the revised development plans, increasing the ability to shade the east and west elevations of the building, adding to the existing verandahs. 3g. The City's planning framework specifically advises that a bin store should not be located against a residential boundary. In doing what has been suggested, it will push it to within 10m of a neighbour's living room. The bin setback to the bin store has been increased by 0.75m	3c. The Panel suggested changing the gate in the bin store to solid and not permeable. 3d. There may also be opportunity to reduce the bin store further which would be beneficial and allow the garden to wrap around the corner. The bins could be accessed by taking them out and reordering them providing a level of circulation. The Applicant was urged to interrogate this further. 3e. Comment was made by the Panel the main entry shown in the previous design had some practical issues although it did frame the entrance. The current entrance way feels institutional.	

	bin store be relocated to provide a safer car park interface with the street.		to ensure sightlines for vehicles exiting the site can be maintained.		The thickness of the fascia could add to this. There is opportunity to redesign the formal response in this area better frame the entry. 3f. It may be beneficial in the future when showing elevations to include a version with the fence and one without the fence to better show the actual building elevations. 3g. It was noted by the Panel the sun angles in the sections are incorrect. Further clarification and interrogation is required. 3h. The highlight windows to the skillion roof element should be reconsidered to better balance the need for light / sun access, especially to the east and west. 3i. The formal design response is currently a combination of many different ideas and the Panel suggested that a more harmonious and simplified approach might be beneficial. This might include re-considering the varied (and sometimes quite deep) canopies including detailing, and the better integration of the overly prominent cot room at the entranceway to the building. 3j. Colour plays an important part of the formal response, and a more cohesive colour palette is suggested to enhance the built form. The Panel suggested anchoring the palette around a single colour. These should be selected to work successfully with naturally finished materials, which are always preferred.	
4a.	Comment was made that the fence around the entry is mean	4a.	The development plans have been updated to improve the entry to	4a.	This design principle is supported by the Panel.	

and is not welcoming and creates a barrier. Create more generosity of space here and perhaps utilise face brickwork as an element to tie in with aesthetically with the building. 4b. The Panel expressed concern around the acoustics from Harborne Street and how this noise from heavy traffic may affect the children. An acoustics report would be beneficial to provide an understanding and clarity. 4c. Comment was made around the number of locked gates included in the proposal. It was suggested this many gates may not be required.	include landscaping, a larger area for pram parking and a more open and inviting entry space. 4b. An acoustic consultant has been engaged and has addressed noise from street traffic and identified this as not being a concern. Refer to Attachment 7 – Transport Noise Management Plan. 4c. Internal access control restrictions have been reassessed with the tenant for operational requirements. Minor changes have been made, which include removing the gates adjacent to the car parking bays toward the rear of the building and replacing this with landscaping.	4b. The Applicant advised an acoustic report has been undertaken and it shows the noise levels are acceptable and will not affect the children. This has been submitted as part of the DA package.	
5a. The Panel was generally disappointed with the lack of commitment to providing any valuable sustainability outcomes. The Applicant was encouraged to explore sustainability initiatives and make a commitment to appropriately address this design principle. 5b. The Applicant was encouraged by the Panel to explore better passive solar design. Some moves have been made to enable possible winter sunlight into spaces and achieve cross ventilation, but additional work can be done to mitigate summer heat gain and to introduce light into internal dark spaces in the centre of the plan. An operable skylight could be integrated to bring light into the corridor. 5c. It was suggested there could be ideas around sustainability education and introducing it into the architecture and landscape.	5a. Solar panels are being used to reduce the buildings' reliance on external energy. Substantial roof overhands and verandahs to all facades will help reduce heat loads into the building, whilst also providing safe play spaces for the children. Through numerous deep soil areas to support tree canopies, and the tenants' aspirations of planting 7-10 medium to large trees, the landscaping of the development site will provide additional shading whilst contributing to the wellbeing of the occupants. Setbacks within the building design will maximise natural light access and ventilation to the development, whilst contributing to both internal and external privacy. 5b. An amended roof design now allows for openable sky lights. The entrance has had an additional ceiling detail with high level window to add additional light. 5c. The educational curriculum is not relevant to the consideration of the	5d. It was suggested by the Panel water saving initiatives could be interrogated and included in the design. 5e. The Panel commented it would be beneficial to have clarity on the lifecycle of the material selections included in the proposal. 5f. It was recommended by the Panel the black roof is not supported due to heat gain. A lighter colour roof would be the preferred outcome. 5g. It was suggested there could be ideas around sustainability education and introducing it into the architecture and landscape. 5i. It was suggested by the Panel the vertical windows under the skillion roofs could have operable windows.	

	development application and built form and landscaping outcome.		
6b. The Panel expressed concern around the complex not including bike racks or sufficient space for prams around the entry. These should be included in the design to improve amenity. 6c. Comment was made by the Panel fencing design in general could be improved to provide a good balance between transparency, material character, acoustic control, road grime management and attractiveness. 6d. It was mentioned by the Panel there is scope for the architecture to provide additional shade, which is currently lacking. 6f. Comment was made by the Panel there is opportunity for one of the cot rooms to have an openable window to purge overnight and enable natural light penetration. 6g. It was mentioned by the Panel internal spaces including the corridor having limited light penetration and could benefit from skylights or highlight windows between roof planes.	6b. Bike racks and pram parking have been included on the plans. 6c. Perforated sheeting has been included. 6d. Deeper verandahs and alfresco areas have been added (significantly) and indicative shade structure locations shown on the development plans. 6f. Cot rooms now have openable windows. 6g. Skylights and high level windows have been added.	6a. This design principle is satisfied.	
7a. Comment was made by the Panel the entry area is not well defined and only identifiable from the carpark. The entry would benefit from being emphasized from the street. 7b. There were comments from the Panel around the entry from the adjacent site. There could be an opportunity to relocate the walkway and disabled bay to match up with the main entry. It was suggested a crossing point could be integrated and one option was by adding a change in the paving.	7a. Amended plans have been prepared to ensure connectivity is now well defined. 7b. Amended plans have been prepared to ensure connectivity is now well defined.	7b. Comment was made by the Panel that although there has been some reconfiguration around the entry area to improve amenity, legibility from the main street entry area has not improved. The entry is narrow and restrained which is working against the design and affects legibility. There is opportunity to introduce more amenity and provide better signalling of the entry in this location.	

8a. It was suggested by the Panel the bin store should be relocated to the rear of the development out of sight. The bin store is not supported at the front of the complex and is a sight line and safety concern. It was recommended the rubbish collection time could be managed. 8b. The permeability of the fence could pose a safety concern and the Panel urged the Applicant to continue to manage this. 8c. It was recommended to think about the angles of the column facia detail as these could pose a safety issue with people hitting their heads.	8a. The City's planning framework specifically advises that a bin store should not be located against a residential boundary. In doing what has been suggested, it will push it to within 10m of a neighbour's living room. Bin store has been pulled back by 0.75m. 8b. The front fencing has been modified to accommodate a perforated metal sheet above a 1.2m brick wall. 8c. Columns have been removed.	8a. This design principle is supported by the Panel.	
9a. Comment was made by the Panel there is opportunity to introduce more amenity for the community between the entry and the street including seating and a place to gather and sit. 9b. The Panel support the coffee and breakfast bar for parents and commented it is a great idea although there could be opportunity to open this up and introduce some natural light. 9c. The location of an early learning centre in close proximity to the adjacent shopping centre, with a physical pedestrian connection, is supported. 9d. The Panel encouraged the applicant to consider public art to be included in the proposal.	9a. The plans have been amended to include a communal gathering area to the front entrance. 9b. The plans have been amended to include increased accessibility to natural light through skylights and high- level windows. 9c. The connection to the shopping centre has been enhanced with a feature entry. 9d. Kinder Park signage and more decorative elements have been included in amended plans for a more 'artistic' feel	9a. This design principle is satisfied.	
10a. The Panel suggested that some playfulness could be introduced to the design. The current proposal does not create a distinct sense of place for its use or location. Care should be taken to find a visual balance between a residential facility and a commercial facility. 10b. The Panel commented the metal	10a. Kinder Park signage and more decorative elements have been included in amended plan for a more 'artistic' feel. 10b. Amended plans have been provided to provide a mesh like product for the front fence. This is required to be somewhat open for	10a. The Panel were generally supportive of the introduction of the pastel theme and appreciate this is a nice change from strong bold colours. However a more cohesive colour palette is suggested to enhance the built form. The Panel suggested the	

fence detracts from the aesthetics. It is important to determine how the design of the fence may contribute to and how it relates back and supports the building elevation. The updated renders which show a masonry / metal fence are heading in the right direction but could benefit from additional design work. 10e. There were concerns raised around the detailing and realism of the proposed clad column / fascia element. The Panel recommends considering architectural details and the impact they will have on appearance.	ventilation/natural air flow and breeze, while also being secure and providing separation from the street and footpath. 10e. The facade of the building has been improved.	anchoring a palette around a single more dominant colour. These should be selected to work successfully with naturally finished materials, which are always preferred. A response to salmon coloured brick would be an appropriate design consideration given the context of the area. 10b. The Panel suggested still more playfulness could be introduced to the design. The current proposal still does not create a distinct sense of place for its use or location. It was mentioned there is opportunity to think about the canopy soffits and how there could be painted design elements that wrap from paving to walls up into these. This might include the proposed paving markings (toned down) to the pedestrian accessway which would in conjunction with the pastel branding create a good sense of fun whilst integrating functional elements. 10d. In relation to the front fencing, it was noted by the Panel that it would be an improvement to further break down the long fence which is repetitive and allow a different streetscape and make the fence less of a dominant item. 10e. The formal design response is currently a combination of many different ideas and the Panel suggested that a more harmonious and simplified approach might be beneficial. This might include re-considering the (sometimes quite deep) differing canopy detailing, which	

		is quite commercial, and the better integration of the rather prominent (or as one panel member mentioned “gun turret like”) cot room at the entranceway to the building.	

Government of Western Australia
Department of Health

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DEVELOPMENT APPLICATION DA24/0665 – CHILD CARE PREMISES – 283 HARBORNE STREET GLENDALOUGH

31 2024

1. Water Supply and Wastewater Disposal

2. Medical Entomology

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3. *Food Act 2008* Requirements

Food Act 2008 *Food Regulations 2009*
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4. Separation distances for sensitive land uses
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A/EXECUTIVE DIRECTOR
ENVIRONMENTAL HEALTH DIRECTORATE

23 2024

Development Services
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Re: Lot 156 & 157 Harborne St & Lot 2 Jon Sanders Dr Glendalough

27 2024

Water

Wastewater

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Approval for works

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P P

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Building Approval Application

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Jason Rice

Department of Planning, Lands and Heritage

GOVERNMENT OF WESTERN AUSTRALIA

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23 2024

Re: Lot 156, 157 (No 279 and 283) Harborne Street and Lot 2 (No 4) Jon Sanders Drive, Glendalough

22 2024

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Land Requirements

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Access

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WAPC SPP 5.4 Road and Rail Noise

P P PP 5 4 N

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Recommendation

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Hi Anne,

TMS has reviewed the request below, and here are our findings:

- MRWA will not support the installation of a "No U-turn" sign at this time. Currently, drivers are legally allowed to make U-turns at this location, and prohibiting this manoeuvre may result in illegal U-turns at the signalised intersection.
- MRWA is open to funding and installing a "No U-turn" sign in the future if deemed necessary after the development is completed, and upon the City of Stirling's request.
- We recommend that the City of Stirling and the applicant explore alternative safe access options to the site, as banning U-turns would limit access for southbound traffic on Harborne St.

Best regards,

Caleb Ham
Traffic Services Officer
Traffic Management Services
Network Operations Directorate
Tel: 61893234058

Attachment 10 - Applicant's Response to Public Consultation

Comment	Response
This plan personally affects me as in a rental crisis this plan will remove two rental properties from from a lower socioeconomic area already struggling. I don't believe this is the best location for a childcare centre as the business in the lot next door include a service station and a bottle shop which attract a certain amount of dangerous and non child appropriate foot traffic. Harborne Street is a main thoroughfare for flats and government provided housing which means this section of the street experiences frequent break ins, property damage and drunk and disorderly behaviour.	The Child Care Premises is a use that is capable of consideration in the Residential zone as well as providing an essential service for local residents. The rental crisis is a larger issue that one single development is not capable of solving. In terms of the comment relating to the suitability of the use within the area, it is important to note that the building has been designed in such a way to ensure the premises is secure, with the safety of children an obvious priority.
There are a lot of families with young children in the area and no close daycare centres let alone centres with availability. With all the new development around glendalough, sacrificing such a small block for this is justifiable!	Noted.
The building is an eyesore and Harbourne Street is not a reasonable place to build a childcare centre. It is loud and high foot and car traffic. The City of Stirling should not be sacrificing residential housing just to earn some money. A childcare centre should be built in a more appropriate location.	Refer to response to Submission 1, above. Further, the proposed development is of high quality providing an enhanced amenity outcome for the locality, while addressing the 10 design principles set out in SPP 7.0 and incorporated design review feedback.
In view of the current housing rental crisis I feel the developers are not considering the very human impact their proposed removal of rental accommodation will have on people so affected. Effectively, through no fault of their own, they are being turfed onto the street. Well may the developers and powers that be shrug their shoulders to declare "That's business" but this proposal runs far deeper. People's lives are being affected by this greedy, insensitive and callous proposal. Please think again the consequences!	Refer to response to Submission 1, above.
This is going to have a negative impact a already terrible traffic situation in the area. The building period will greatly upset traffic here. The shops will have part of car park shut resulting in not enough room during construction. It's terrible idea to place a child care centre on this corner because of public riff raff thoroughfare. The picture given shows a crosswalk. If a crosswalk was installed on Harborne or Jon Sanders drive so close to traffic lights would build up traffic constantly back through that major intersection.	Refer to response to Submission 3, above. The crosswalk in the image is on site, providing a suitable crossing through the child care premises car park.

Comment	Response
This would be a great addition to the suburb and I would be one of them to use this service as I'll have a newborn next year!	Noted.
Received a letter stating the above application. I understand where the day care centre will be located but not the carpark. Have looked at the plans but couldn't understand the location of the extra parking bays. Also it looks as though there is access from the public carpark to the day care. I would be concerned as the day care car park should be totally enclosed for the safety of the children. As has been reported in recent weeks some day cares have had breaches of safety. Kind regards	The proposal includes 12 car parking bays on site, in addition to use of parking bays within the adjacent shopping centre site, accessible through a pedestrian accessway. The proposed development has been designed to meet specific safety requirements for child care premises.
No objection to the child care building / change from residential to commercial, although I query whether the development application requires an investigation into traffic and safety issues given the large number of vehicles on Harborne St and the multiple points of ingress and egress from the adjoining shopping centre car park. If the owners own both the shopping centre and child care centre lots, can the child care centre be built without parking (enabling more green and play areas for children) with a right of parking at Glendalough Village? The shop car park is never full and it would certainly have ample capacity for the child care centre on its current specs.I object to every tree being razed as part of the development. The COS talks about loss of tree canopy and claims it wants to restore it. The site has 19 extremely mature trees. Re-planting 12 near new trees will be an immense reduction in canopy cover. I note that no tree type with growth rate and ultimate height is specified. I assume it will be relatively young trees that are planted and around 10-20 years before they reach full height. I appreciate some existing trees may be problematic to maintain but surely some mature trees (such as the large tree on the northern edge of the site - possibly a Moreton Bay) can be retained? It clearly is possible, as shown at the redevelopment of ECU in Churchlands in the COS, where there are (relatively) a large number of existing trees; compare for example the near-treeless concrete scape at the development near Little Sisters of the Poor / Powis St. We owe it to the children who will be attending the day care centre, not to mention COS residents generally, to preserve trees wherever possible	The application is supported by a Transport Impact Assessment which assesses the parking provided on site and available at the shopping centre site. In terms of tree canopy, an Arborist report was prepared to assess the health, safety and suitability of existing trees on site. The existing trees on site are either in poor condition, or unsuitable for retention in a child care environment due to safety issues around the small, inedible fruit the trees produce. Further, the application provides a significantly improved and increased replacement tree canopy, including suitable species, with variation in height, canopy cover as well as lower level planting. The proposal includes shade tree parking within the car parking area as well as tree planting along the street frontage. This is demonstrated on the landscape plan provided with the application.

Comment	Response
and not simply capitulate to developer suggestions which are aimed at maximising profit. This is particularly so on a busy road with high levels of pollution and noise. Glendalough is a particularly tree-barren area as it is a high-density area. That is a reflection of previous planning approvals and practice rather than an inability to combine high density development with leafy streets. I would encourage the COS to take all endeavours to maintain the existing trees, at least those on the boundary line which could not be said to impact construction in line with the existing plans (or which could be done with minimal amendment).	
Our area has 3 primary school close to each other. the child care project in between. And the free way just next to two primary school . During the school time drop off and pick up are stock enough not to mention people who walk to school . I would suggest between harborne st and Leedr St set up a traffic light or caross walk . The traffic in harborne road and jon sanders dive are crazy . I have seen so many people cross the road including children (some drive bike or scooter or walk cross) It's good to have childcare here but need to be very organized for the safety and traffic issues.	Noted. The wider pedestrian environment, including drop off and pick up bays for primary schools outside of the subject site and immediately surrounding area is outside the scope that the proposed development can improve.

Comment	Response
Btw lake monger school has theircare before and aftercare already.	
Hello DAP, The development of a childcare facility on Harborne Street (DA24/0665) is a positive for the community. It will provide some convenience and be close to large volumes of people who could consider the utilisation of such a service. The location and proposal will have little negative impact on the area and I welcome the idea. It will also be a positive for property value being a service of demand for young families. I believe the proposed location is ideal with the current infrastructure in place.	Noted.

Comment	Response
To the Metro Inner Development Assessment Panel, Michael Italiano and Mergon Nega:This letter has been written by owners and occupiers of [redacted] Heard Way, Glendalough - [redacted] - in response to "Application No: DA24/0665. Lots 156 & 157 (Nos. 279 & 283) Harborne Street & Lot 2 (No. 4) Jon Sanders Drive, Glendalough". Firstly, we would like to profess that we are strong proponents for development in our suburb, and as a young couple with the intention to start a family in the near-future, would benefit from a childcare centre in the suburb. However, we have numerous concerns about this proposal on both individual and community levels. CONCERNS SPECIFIC TO [redacted]HEARD WAY, GLENDALOUGH 1. Significantly increased noise pollutionCynthia is a medical doctor pursuing a specialisation in Emergency Medicine. Working in this specialisation inevitably involves shift work including late shifts and night shifts, which would necessitate sleeping during the day. We are concerned that noise pollution from this development will severely compromise Cynthia's sleep quality and hence compromise her ability to perform optimally in her lifesaving occupation. We have identified 3 sources of noise as follows:a. Street noise from Harborne StreetHarborne St is a busy road in the suburb but we currently do not hear any of its traffic noise as the house on 279 Harborne St buffers this. Per this development proposal, we would be exposed to traffic noise from Harborne St relatively unfiltered as the house on 279 Harborne St will be replaced with only a 2m-high wall. b. Noise from cars in adjacent parking lotsOne of our boundary walls is currently adjacent to a parking lot for the shopping centre next door, which has its share of expected vehicular noise. This development will double the number of boundary walls we will have that are adjacent to parking lots and hence inevitably increase the amount of vehicular noise, especially at pick-up and drop-off times for the daycare centre. Additionally, there is a different type of noise in the carpark at night which will be elaborated on in the community concerns below.c. Unpredictable noise from childcare centre Young children scream and cry while at play. However, unlike the unpredictable noises of a neighbour's children, a daycare centre's large number of children would invariably mean unpredictable noises more often and louder. 2. Green waste	Comments provided in response to specific points within submission, as follows1. Noise - The proposal has been demonstrated to comply with the Environmental (Noise) Regulations 1997, subject to complying with the recommendations of the Environmental Acoustic Assessment prepared in support of the proposal. Measures to ensure compliance include:- Use of the outdoor play area only after 7am;- mechanical plant placed to obscure nooise impacts;- a 2.0m high boundary wall abutting residential properties;- best practice management practices implemented to ensure noise impacts are managed, including (but not limited to) no amplified music to be played outside, use of soft finishes within the outdoor play area.Further, the car parking area is located directly abutting the submitter's property, which is expected to have minimal use outside of the peak drop off and pick up times and include screen planting to the boundary.2. Green waste impacts - The landscaping proposed is intended to replace existing trees on site, which are currently quite substantial. It is not expected that the proposal will generate any further leaf litter than is already experienced.1. Anti-social behaviour - the proposal will not result in an increase in anti-social behaviour. The child care premises includes secure fencing which will be locked outside of operating hours. Criminal behaviour is a policing matter. 2. The proposal includes a 2.0m high fence along the boundary to residential properties, as well as the pool within the submitter's property being required to comply with relevant pool safety legislation. 3. Children accessing or leaving the child care premises do so with an adult that is required to sign children in and out of the premises. Child safety within carparks is a relevant consideration for all developments. Notwithstanding, the Transport Impact Assessment prepared as part of the application, includes a survey of parking usage at the shopping centre complex. This demonstrates the under-use of parking within this area of the shopping centre car park, meaning this is a low traffic volume area.4. The location of the child care premises is suitable, such that it provides an appropriate transition of land uses from the shopping centre

Comment	Response
from new treesWe put significant efforts in maintaining the cleanliness of our swimming pool, with leaves from our neighbour's trees at 17 Heard Way contributing to most of our pool's debris.We note that there are plans to plant trees at the boundaries adjacent to our property, and we are concerned that this will add significantly to our pool's debris and hence upkeep of our pool. CONCERNS RELEVANT TO THE COMMUNITY Through this development plan, we were made aware that the owners also own the neighbouring shopping complex Glendalough Village. As passive observers of their management of this shopping complex (including their inactions), we are concerned that the owners proposing the daycare centre are motivated by financial gain rather than the betterment of the community. 1. Increased criminal activity from inappropriate use of parking lotsAt night, the parking lot of the shopping complex adjacent to our house attracts vagrants, teenage alcohol users and illicit substance users. There are little measures to deter such inappropriate use of this space, e.g. security surveillance.With the addition of the adjoining carpark for the proposed daycare centre, we are concerned that this will provide more space for additional users of illicit substances. Please refer to the numerous police complaints we have made as proof that this is not a hypothetical concern - these inappropriate users are also a frequent source of nocturnal noise, and we contact the police when James' attempt in confronting them about their noise level is unsuccessful. Increased illicit substance use in parking lots would also reduce the safety of our neighbourhood. 2. Child drowning risk from accidental access to our swimming poolWe note in the development plans that the proposed outdoor space for the daycare centre shares a boundary wall with our backyard, with a tree proposed to be planted at this boundary. We are concerned that this could become an entry point for an arboureal toddler into our backyard which contains a swimming pool. Based on the lack of action in covering up an offensive graffiti (pictured below) on a current boundary wall of Glendalough Village, we have little confidence that the owners of the property would be proactive in maintaining the tree immediately adjacent to our property to ensure that the tree does not have branches growing towards our boundary fence. We don't know how long the orange-coloured graffiti has	to neighbouring residential lots and meets the location requirements of the City's LPP 6.4.

Comment	Response
been here - it was already present when we moved into the neighbourhood in June 2023. 3. Increased risk of pedestrian collisions at parking lot of Glendalough Village Glendalough Village is a shopping complex with a supermarket, pharmacy and petrol station, and hence is well-trafficked at all times of the day. In the development plans, the parking lot of Glendalough Village is intended to be the daycare centre's overflow parking, with a direct side pedestrian access between the 2 carparks. We are concerned that this design choice would increase the risk of vehicular accidents with children pedestrians going to or coming from the daycare centre. In addition to the risk of young children acting impulsively by running across a parking lot, they are also less visible to drivers because of their short stature. In wondering whether it was reasonable for a daycare centre's parking lot to have direct pedestrian access to a retail complex with high vehicular traffic, we reviewed satellite images of daycare centres in residential suburbs within a 5km radius. We did not find any daycare centres whose parking lot had direct access to the parking lot of a retail complex with stores catering to everyday essentials (and hence associated high vehicular traffic) as there were NO daycare centres that were directly adjacent to a retail complex with high vehicular traffic. SUGGESTIONS FOR DEVELOPMENT PLAN This section used to have numerous suggestions for modifications such as reorienting the daycare centre's building and parking lot by 90 degrees and have the daycare outdoor areas and parking lot facing Harborne Street with a lockable gate for the centre's parking lot. However, in our realisation that no daycare centres in residential suburbs within 5km are situated directly adjacent to a retail complex with high vehicular traffic, we feel that it might fundamentally be a poor choice to situate a daycare centre at 279-283 Harborne Street, and suggest that if a daycare centre is deemed necessary for this suburb, that it should be built at another site that does not have the high vehicular traffic associated with a retail complex with a supermarket, pharmacy and petrol station.	

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Comment	Response
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Comment	Response
[redacted] and we will endeavour to be there.	

Comment	Response
In reference to the information letter received from City of Stirling Development Authority we have some very important consideration by considering parking los usage for additional parking for 73 Children care taker drop of and pick up in Glendalough commercial Plaza, 13 Staff Member parking including daily visitors, contractors, government authorities parking will be very serious concern as Plaza is basically over flooding parking currently during the most of the time also as this plaza is very much exposed to highly busy traffic zone. This development will create an extra serious burden of traffic congestion on main roads where road widening is nearly impossible where huge office complexes, commercial properties in Osborne parks including massive car dealerships, lots of schools, parks, huge residential complexes and some under construction where traffic congestion is a very serious issue. Also plaza parking will be a serious concern. There may be a huge bottle neck including traffic hazards. Also heavy traffic zone children safety will be highly critical concerns. All of the Child care centers are inner residential areas where there are no major road or heavy traffic exposures . Also because of the higher exposure on the public area near to commercial plaza and adjustment of heavy traffic and public movement where monitoring is highly crucial on main roads where children safety in all aspects needs to be considered, Thank you for inviting the public comments	The Transport Impact Assessment prepared in support of the proposed development included parking surveys at the shopping centre site, establishing that there is a current under-utilisation of parking at the shopping centre. Further, the traffic generation has been assessed and found that the traffic generation of the proposal is relatively low and will not have any adverse impacts on the surrounding road network. No particular transport or safety issues have been identified for the proposed child care development.
We think that will be over burden on parking space over all on heavy and super busy all time traffic congestion on main road including super busy corridor to Osborne Park, CBD, Subiaco's business and commercial enclave including major industrial and residential area. We think children safety in every angle may be concern due to high exposure area. Generally this kind of setup should be in internal neighbourhood would be ideal..We respect the decision by City town planning and development authorities.All the very best	Refer to response to Submission 13, above.

Comment	Response
Many individuals discuss how this development affects the neighbourhood based on signage at 283 Harborne Street by City of Stirling, Public Notice and Open for Comment. As General we encourage City of Stirling Development authorities to survey the residents. In general not the ideal idea for a child care center in a super busy area for child security in general. Thank you for signage and open public comment	The location of the child care premises is suitable, such that it provides an appropriate transition of land uses from the shopping centre to neighbouring residential lots and meets the location requirements of the City's LPP 6.4.
Respected Assessment Panel members Thank you for mailed letter sent out for public comment, where proposed development of Child care, we are not sure if compatible with the proposed site due to very heavy transit exposures including vehicle traffic and public of children exposures in that environment for safety and emergency compliance point of view. Thank you	The location of the child care premises is suitable, such that it provides an appropriate transition of land uses from the shopping centre to neighbouring residential lots and meets the location requirements of the City's LPP 6.4.
In view of Public notice we understand to help the city of stirling optimum and informed decision making. However we understand the impact of the new development where city of stirling open on public comment welcomed, where we think that development of new child care on very busy main road may implicate child exposure and may add traffic congestion on the very busy main road and Harborne street is single lane road off powis street towards Subiaco. Another side of Powis on Harborne is also super busy both entries to Mitchell freeway from Hutton and Powis. Also high density residential areas and very busy office buildings.	The location of the child care premises is suitable, such that it provides an appropriate transition of land uses from the shopping centre to neighbouring residential lots and meets the location requirements of the City's LPP 6.4.

Comment	Response
I object to the development of Lots 156 and 157 Harborne St Glendalough (and any other development in the Glendalough area) until the current and future traffic problems in the area are addressed. I live on the corner of Leeder and Harborne. My property has been owned by my family since the mid-90s when the bus terminus was diagonally opposite. There were far fewer residences then. Redevelopment/infill has (and continues to) create traffic headaches with each new development. During morning and afternoon peak in particular, I cannot get out of my driveway. The Childcare centre proposed is likely to be accessed mostly during those same peak periods. A left turn only on exit means the first opportunity to turn back toward the south or the freeway is via Leeder St. A u-turn currently available in the median strip is not much use when the traffic is banked up along Harborne. Too many vehicle (including trucks) use Leeder & Rawlins Sts as a rat run to access Powis St. The 'Smart Freeway' system currently under construction is already causing even more traffic to back up along Powis from JS Drive and Harborne St Wembley. Similar systems already functioning on the Kwinana Fwy have proven useless as traffic still needs to merge upon entry to the freeway. All it has served is to cause traffic to back up further back along the feeder roads. I see it every day from my elevated vantage points along the freeway. The intersection of Leeder and Harborne is fraught with hazards all day every day, even weekends. Vehicles use the intersection for u-turns to access properties inaccessible by any other means (depending on direction of travel), to cross directly from one side of Harborne to the other to/from multi resident properties opposite Leeder, turn into/out of Leeder from Harborne in a north-easterly direction. It is a dangerous intersection already. I hear horns blasting all day long. Then there's the complete ignorance of 'no parking' and/or 'no standing' signs along Leeder St. The worst and most dangerous place is at the front entrance to the high rise on Leeder near the railway line, which is also almost directly opposite Rawlins St. In the absence of a dedicated loading zone or short term parking cut in, I have witnessed or been a party to numerous near misses trying to access Rawlins St by deviating around an illegally stopped vehicle at the high rise entrance. Then there are the vehicles which stop right on the corner of Rawlins and Leeder, also	The Transport Impact Assessment prepared in support of the proposed development included parking surveys at the shopping centre site, establishing that there is a current under-utilisation of parking at the shopping centre. Further, the traffic generation has been assessed and found that the traffic generation of the proposal is relatively low and will not have any adverse impacts on the surrounding road network.No particular transport or safety issues have been identified for the proposed child care development.All other matters relating to traffic congestion in general within the surrounding area is not relevant to the proposed development.

Comment	Response
marked with 'no parking' signage. When I advised my car insurer of my new address, I was advised I would have to pay a premium on my cover due to the higher likelihood of an accident from living in a built up area. We have already had our council verge trees destroyed by wayward drivers entering Leeder from Harborne. Ours are residential streets with limited access to the main roads due dead ends or traffic furniture preventing turning in certain directions. Meanwhile, development continues at an alarming rate with little consideration for off-street parking. I note the carpark at the existing IGA complex is also to be used by childcare centre visitors. Drivers cannot abide the one way movement already in existence in the carpark as it is, let alone making it available to more vehicles. Until such times as the Council and Main Roads address illegal parking, traffic problems during peak times at the Powis/JS/Harborne St lights, and the problems it creates for intersections such as Harborne/Leeder (and similar on the Wembley side of Harborne near the primary school) to reduce traffic using Leeder/Rawlins as a thoroughfare, it's an emphatic NO to a Childcare Centre (nor any other multi-unit development in the area).	

PART C – OTHER BUSINESS

1. **State Administrative Tribunal Applications and Supreme Court Appeals**
2. **General Business**
3. **Meeting Closure**