PO Box 215 Bondi NSW 2026 | ph.: +61 (0)2 9332 2024 | fax.: +61 (0)2 9332 2022 | mob.: +61 (0)414 978 067 | email: o.s@tefconsult.com.au | www.tefconsult.com.au

2 May 2024

General Manager
Northern Beaches Council
PO Box 82
Manly NSW 1655

Dear Sir/Madam,

723-727 Warringah Road, Forestville NSW 2153

1. I have been requested by NAPLA Forestville Pty Ltd (the owner of the site at the above address) to carry out a traffic engineering assessment for the proposed modification of the development consent. The proposed modification involves an increase in the number of children places from 146 to 152 at a child care centre located at the site. My assessment is outlined below.
2. The following approvals are relevant to the subject child care centre
   2.1. DA2018/0697
   2.2. MOD2020/0575
   2.3. Mod2021/0859
3. The latest approved plan of the car park is attached to this report. It shows 37 car parking spaces and one service bay, suitable for utility vehicles, vans and small waste collection trucks (as per the above approvals).
4. The child care centre is currently under construction and will be in operation in the near future.
5. Warringah Development Control Plan 2011 (WDCP) sets out the following car parking requirement generally and for child care centres specifically.

   4. Carparking is to be provided in accordance with Appendix 1 which details the rate of car parking for various land uses. Where the carparking rate is not specified in Appendix 1 or the WLEP, carparking must be adequate for the development having regard to the objectives and requirements of this clause. The rates specified in the Roads and Traffic Authority's Guide to Traffic Generating Development should be used as a guide where relevant.

Health and community services	
Use	**Requirement**
Child care centre	1 space for every 4 children, having regard to the maximum number of children authorised to be cared for at any particular time.

6. Based on the DCP car parking rate of 1 space for every 4 children, the proposed 152 children places require the provision of 38 car parking spaces.
7. The approved design provides 38 car parking spaces with one of them being a designated service/waste collection bay.
8. It is proposed that this space be converted to a standard visitor (drop-off/pick-up) space for the peak hours of parking demand, with the waste collection hours restricted to before and after the operating hours and between 11 a.m. and 2 p.m.
9. The proposed arrangement will provide 38 car parking spaces to satisfy the WDCP requirements for 152 children places during peak hours.

10. The proposed arrangement is satisfactory for the following reasons.

    10.1. The proposed mixed use of one space will be included in the Plan of Management (POM). Appropriate signposting will be installed ("Loading bay 11 am to 2 pm").

    10.2. Waste collection and servicing will be carried out by private contractors who will be required to adhere to the POM.

    10.3. The proposed arrangement helps to optimise the use of the car parking areas and for this reason it is quite common at child care centres.

    10.4. Surveys at existing child care centres demonstrate that the peak parking demand typically occurs between 7 a.m. and 10 a.m. and also between 3 p.m. and 6 p.m., when most children are delivered or collected by parents/carers. Outside these times, the parking demand is generated mostly by staff (which is in the order of 50% to 60% of the peak parking demand), with reduced visitor parking. In the child care centre car parks which operate to full capacity during the peak periods, vacant spaces can always be found between the peaks.

    10.5. It is also important to note that the DCP rate of 1 space per 4 children appears to be based on the RMS (TfNSW) rate contained in the 2002 Guide to Traffic Generating Developments (GTGD). The GTGD rate is based on the surveys conducted in 1992. This trip generation and parking demand data, collected 30 years ago, is becoming increasingly out-of-date. In view of this, in 2015, the NSW RMS commissioned TEF Consulting to conduct a validation survey of the trip and parking generation of child care centres. The results of our research indicated that larger child care centres required less parking per child (due to economies of scale and a wider spread of children arrivals and departures). For child care centres with 70 to 100 children, the estimated average parking rate was 1 space per 6 children. The relevant pages from the RMS (TEF) report are attached to this document. The full report can be found using the following weblink.

    10.6. Based on the rate of 1 space per 6 children, the total car parking required for the subject child care centre is 152/6 = 25.3, say 26 spaces. Both the approved (37) and the proposed (38) numbers of parking spaces are more than sufficient to accommodate the likely actual parking demand.

    10.7. As noted in paragraph 5 of this report, WDCP states that "The rates specified in the Roads and Traffic Authority's Guide to Traffic Generating Development should be used as a guide where relevant."

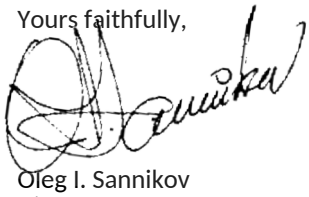
    10.8. It should be taken into account that the GTGD is currently under review and the revised document, titled "Guide to Transport Impact Assessment" (GTIA) has been published as a Draft for industry consultation. The new GTIA contains the updated parking rates for child care centres based on the research mentioned in paragraph 10.5.

11. The additional 6 children places will generate 4 to 5 vehicular trips per hour. This is a very minor addition. The total trip generation will remain well within the capacity of the car park access driveway. There will be no negative traffic impacts on the road network operation.

12. The proposal can thus be supported on traffic and parking grounds.

Please do not hesitate to contact the undersigned should you require further information.

Yours faithfully,



Oleg I. Sannikov
Director
MEngSc (Traffic Engineering)
MIEAust PEng
Fellow & Past President, NSW & ACT AITPM
Member, CE-001 Committee (development of parking Standards), Standards Australia
Member, Road Safety Panel, IPWEA

northern beaches council

THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE CONDITIONS OF DEVELOPMENT CONSENT

MOD2021/0859

INDOOR PLAY SPACES CAPACITY			
AGE GROUP	ROOM NO	AREA	PLACES
0-1 YEAR	ROOM 01	49 m²	15
1-2 YEARS	ROOM 02	66 m²	20
2-3 YEARS	ROOM 03	49 m²	15
2-3 YEARS	ROOM 04	49 m²	15
3-4 YEARS	ROOM 05	65 m²	20
4-5 YEARS	ROOM 06	98 m²	30
SCHOOL-READINESS	ROOM 07	98 m²	30
TOTAL PLACES		475 m²	146

OUTDOOR PLAY SPACE CAPACITY			
AGE GROUP	SPACE NO	AREA	PLACES
0-2 YEARS	OUTDOOR 01	208 m²	30
3-5 YEARS	OUTDOOR 02	676 m²	97
SCHOOL-READINESS	OUTDOOR 03	141 m²	20
TOTAL PLACES		1025 m²	146

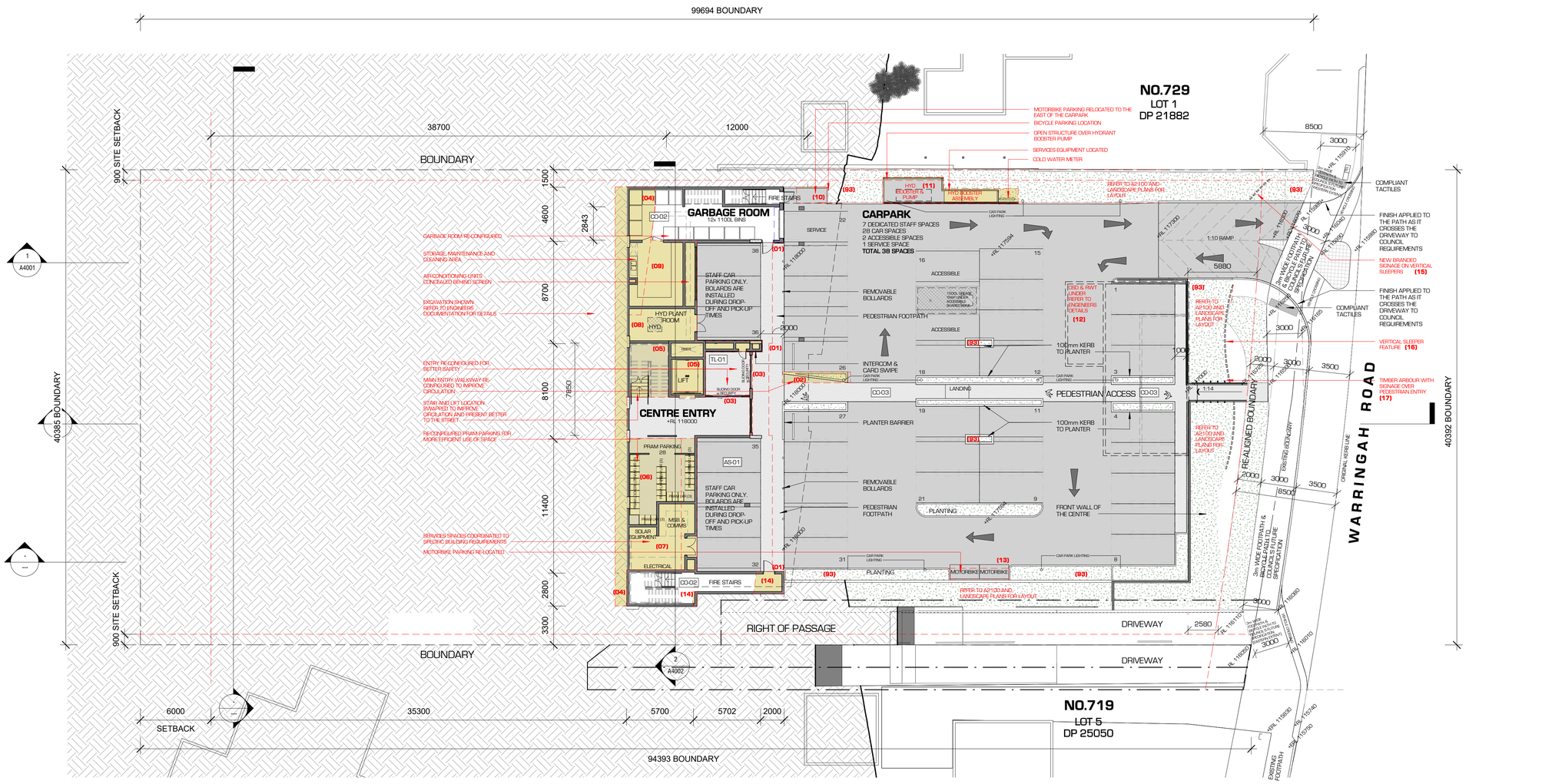
TOTAL CAPACITY OF THE PROPOSED CENTRE IS 146 PLACES

OVERALL GFA	APPROVED	PROPOSED
GROUND	46.04m²	99.33m²
LEVEL 1	312.73m²	220.44m²
LEVEL 2	741.59m²	753.87m²
TOTAL	1,100.36m²	1,073.64m²

NOTE:

EXTERNAL ENVELOPE OF THE PROPOSED BUILDING REMAINS UNCHANGED
THE EXTENT OF EXCAVATION HAS BEEN AMENDED COVER WAS REMOVED TO THE EXTENT POSSIBLE OVER THE THE LEVEL 1 OUTDOOR SPACE AND THE WESTERLY GLAZED WALL IS PROPOSED AS A BASLUSTRADE.

PROVISION OF SHADED / COVERED SPACE
TOTAL OUTDOOR SPACE 1,023m² 512m² SHADED AREA REQUIRED (50%) 513.6m² SHADED AREA PROVIDED



LANDSCAPE AREAS

ITEM	AREA	PERCENTAGE
SITE AREA	3,934m²	
SOFT LSCAPE APPROVED	1,625.3m²	% OF SITE AREA 41.3%
[MIN 1m SOIL DEPTH]		
SOFT LSCAPE PROPOSED	1,574.2m²	% OF SITE AREA 40.0%
HARD LSCAPE APPROVED	1,604.4m²	
HARD LSCAPE PROPOSED	1,655.5m²	
REQUIRED LANDSCAPE BASED ON NEW BOUNDARY	1,573.6m²	% OF SITE AREA 40%

SCALE BAR
1:200 @ A1 - 1:400 @ A3
0m 2 4 6 8 10m

NORTH

GENERAL NOTES:
THE ARCHITECTURAL DOCUMENTATION IS TO BE READ AS A SET. PLANS AND SHCEDULES ARE TO BE USED IN CONJUNCTION. INDIVIDUAL DOCUMENTS ARE NOT VALID IF THEY ARE TAKEN OUT OF THE SET. DOCUMENTATION IS TO BE USED IN CONJUNCTION WITH ENGINEER'S DOCUMENTATION. ALL MEASUREMENTTS ARE TO BE VARIFED ON SITE PRIOR TO CONSTRUCTION.

CL4.56 MODIFICATION

LIQUID DESIGN

Liquid Design Pty Ltd
Suite 5.17, 55 Miller Street, Pyrmont, Sydney, NSW, 2009
T: +61 2 7901 1215
E: info@liquidesign.com.au
W: www.liquidesign.com.au
ABN: 86 155 777 370

Issue	Rev.	Date	Description
L	1/08/19		CONFIRMATION OF THE FRONT BOUNDARY
K	1/03/19		UPDATES FROM COUNCIL MEETING
J	24/10/18		PRELIMINARY PRICING SET
I	31/08/18		AMENDMENTS AFTER DA
H	05/07/18		LANDSCAPING UPDATES
G	27/04/18		DEVELOPMENT APPLICATION SET
F	26/04/18		UPDATED GROUND FLOOR PARKING
E	20/04/18		DEVELOPMENT APPLICATION
D	17/04/18		DRAFT DA SET
C	27/03/18		COORDINATION ISSUE 2
B	22/03/18		COORDINATION ISSUE 1
A	20/03/18		INITIAL COORDINATION

Issue	Rev.	Date	Description
Q		05/10/21	CL4.56 MODIFICATION
P		24/06/21	Client Amendments for Sign-Off
O		05/05/21	OPERATOR CHANGES
N		23/04/21	LOBBY AMENDMENTS
M		07/09/20	INCREASE FOOTPATH (BIKE PATH) TO 3000 WIDE

Contractor:

Client:
WARRINGAH RD
DEVELOPMENT PTY LTD
C/O LIQUID DESIGN
5.17 55 MILLER STREET
PYRMONT NSW 2009

Project:
"THE ORCHARD"
CHILDCARE CENTRE
723-727 WARRINGAH ROAD
FORESTVILLE

Title: PROPOSED GROUND FLOOR

Drawn By:	Checked:	Project No:
DM	CB	3318
Date: 23 MARCH 2018		Sheet No: A2000
Scale: As indicated	Issue: CL4.56 MODIFICATION	Revision: Q

INDOOR PLAY SPACES CAPACITY			
AGE GROUP	ROOM NO	AREA	PLACES
0-1 YEAR	ROOM 01	47.6 m²	14
1-2 YEARS	ROOM 02	71.0 m²	21
2-3 YEARS	ROOM 03	52.9 m²	16
2-3 YEARS	ROOM 04	52.8 m²	16
3-4 YEARS	ROOM 05	69.2 m²	21
4-5 YEARS	ROOM 06	106.0 m²	32
SCHOOL-READINESS	ROOM 07	104.1 m²	32
TOTAL PLACES		503.8 m²	152

OUTDOOR PLAY SPACE CAPACITY			
AGE GROUP	SPACE NO	AREA	PLACE
0-2 YEARS	OUTDOOR 01	246 m²	35
2-5 YEARS	OUTDOOR 02	683 m²	97
SCHOOL-READINESS	OUTDOOR 03	143 m²	20
TOTAL PLACES		1071 m²	152

TOTAL CAPACITY OF THE PROPOSED CENTRE IS 152 PLACES

OVERALL GFA		
GROUND		99.33m²
LEVEL 1		220.44m²
LEVEL 2		753.87m²
TOTAL		**1,073.64m**

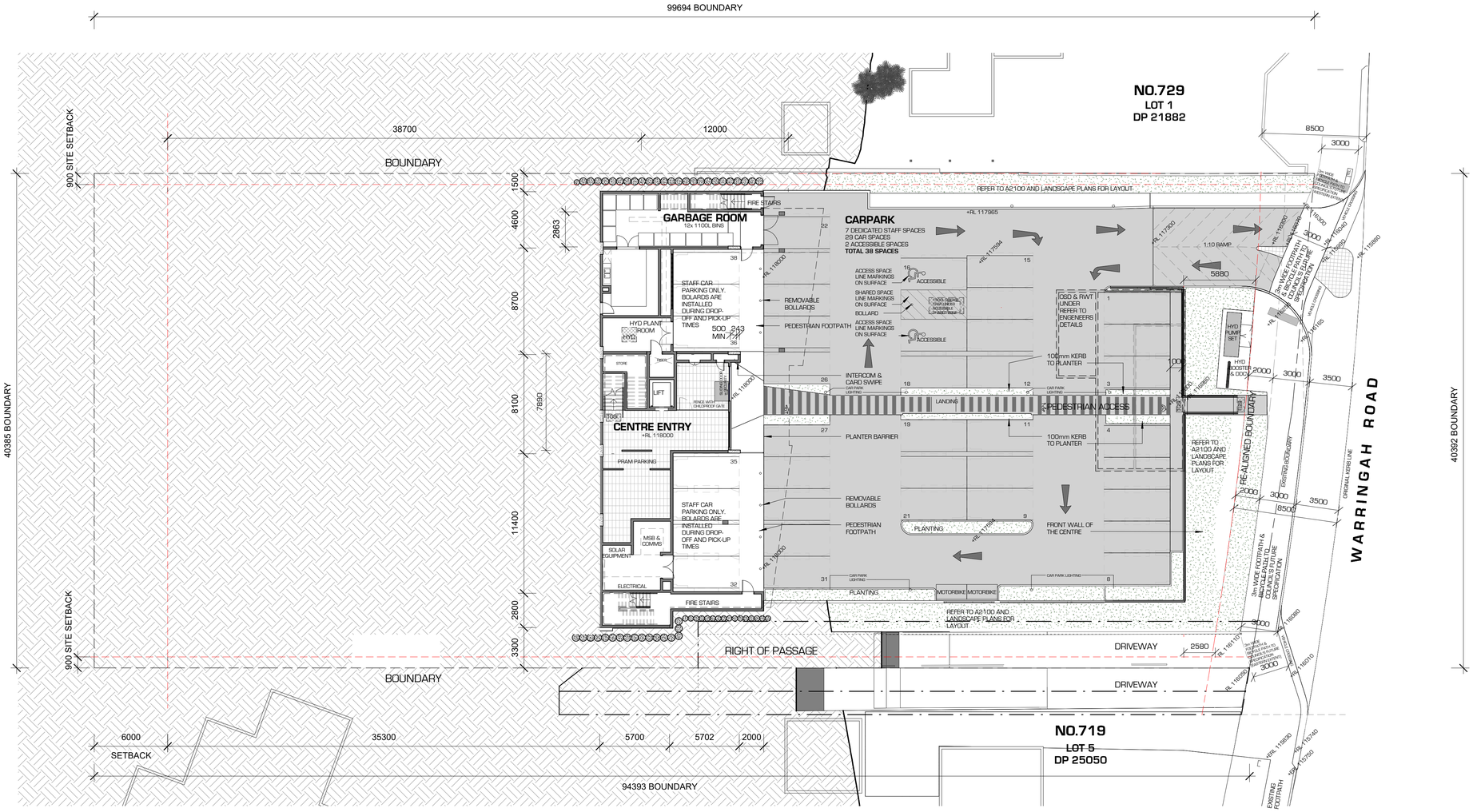
NOTE:

EXTERNAL ENVELOPE OF THE PROPOSED BUILDING REMAINS UNCHANGED
THE EXTENT OF EXCAVATION HAS BEEN AMENDED COVER WAS REMOVED TO THE EXTENT POSSIBLE OVER THE THE LEVEL 1 OUTDOOR SPACE AND THE WESTERLY GLAZED WALL IS PROPOSED AS A BASLUSTRADE.

PROVISION OF SHADED / COVERED SPACE
TOTAL OUTDOOR SPACE 1,023m² 512m² SHADED AREA REQUIRED (50%) 513.6m² SHADED AREA PROVIDED

BUILDING AS BUILT AREAS HAVE BEEN CHECKED ONSITE AND THE ABOVE TABLE IS CONFIRMED BY:

CHRIS BOMBARDIERE
LIQUID DESIGN PTY LTD
NSW ARCHITECTS NUMBER 8123



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[MIN 1m SOIL DEPTH]		
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HARD LSCAPE APPROVED	1,604.4m²	
HARD LSCAPE PROPOSED	1,655.5m²	
REQUIRED LANDSCAPE BASED ON NEW BOUNDARY	**1,573.6m**	% OF SITE AREA **40%**

SCALE BAR
1:200 @ A1 - 1:400 @ A3
0m 2 4 6 8 10m

NORTH

GENERAL NOTES:
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PROPOSED MODIFICATION

LIQUID DESIGN

Liquid Design Pty Ltd
Suite 5.17, 55 Miller Street, Pyrmont, Sydney, NSW, 2009
T: +61 2 7901 1215
E: info@liquidesign.com.au
W: www.liquidesign.com.au
ABN: 86 155 777 370

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A	20/03/18		INITIAL COORDINATION

Issue	Rev.	Date	Description
U		06/05/22	WALL & CONCRETE SETOUTS
T		21/03/22	CONSTRUCTION CERTIFICATE I
S		Date 23	FEBG & CEILING COORDINATION
R		18/02/22	DESIGN DEVELOPMENT
Q		05/10/21	CL4.56 MODIFICATION
P		24/06/21	Client Amendments for Sign-Off
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N		23/04/21	LOBBY AMENDMENTS
M		07/09/20	INCREASE FOOTPATH (BIKE PATH) TO 3000 WIDE
6		24/04/24	UPDATED AREAS AND NUMBERS
5		09/09/22	UPDATE OR COORDINATION
4		12/08/22	ROOF REVISION FOR COORDINATION

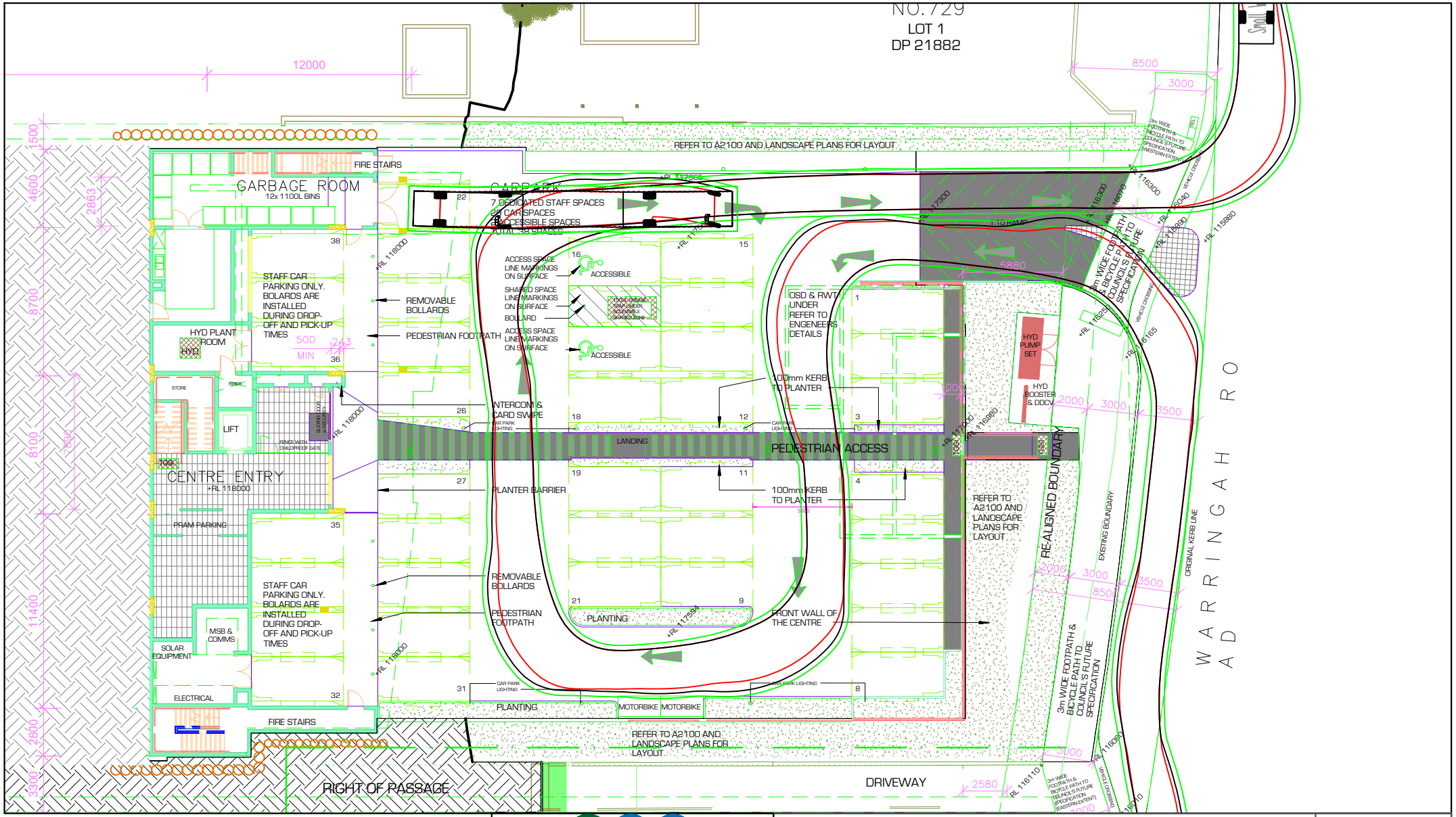
Contractor:

Client: Napla Forestville Pty Ltd

Project: "THE ORCHARD"
CHILDCARE CENTRE
723-727 WARRINGAH ROAD
FORESTVILLE

Title: PROPOSED GROUND FLOOR

Drawn By:	Checked:	Project No:
DM	CB	3318
Date: 23 MARCH 2018		Sheet No: A2000
Scale: As indicated	Issue: PROPOSED MODIFICATION	Revision: 6



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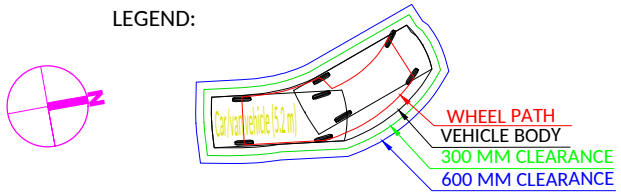

TEF CONSULTING

Dwg No 24034/03	Rev. A	01/05/2024

Client:
Napla

725 Warringah Road, Forestville NSW 2087

SCALE 1:300@A4

Swept path analysis
Small waste truck
Option 1

PO Box 215 Bondi NSW 2026 | ph:+61 (0)2 9332 2024 | fax: +61 (0)2 9332 2022 | mob: +61 (0)414 978 067 | email: o.s@tefconsult.com.au | www.tefconsult.com.au

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NSW GOVERNMENT | Transport Roads & Maritime Services

ROADS AND MARITIME SERVICES

VALIDATION TRIP GENERATION SURVEYS

CHILD CARE CENTRES

ANALYSIS REPORT

In summary, the analysis of data highlighted the following facts:

- Average trip rates should not be utilised for planning purposes.
- Good linear and non-linear relationships were established between the Centre peak hour vehicle trips AM and PM, Centre vehicle trips (in+out) during AM peak hour on adjacent road and the independent variable "number of licensed places for children" for all centres except OSHC.
- Good linear and non-linear relationships were established between the peak parking accumulation and the independent variable "total building GFA" for LDCC and PS centres.
- It is noted that the current rate of parking provision in the RMS (2002) Guide, based on 1992 data, is 1 parking space per 4 children. For comparison with this rate, the Peak Parking Accumulation formula from Table 4.2 was used for a range of numbers of children places. The resulting calculations indicate the following average rates:
    - Centres with 20 to 35 children – 1 space per 4 children
    - Centres with 40 to 65 children – 1 space per 5 children
    - Centres with 70 to 100 children – 1 space per 6 children

4.3 Comparison with 1992 data

- In this study, the sample sizes for each type of the centre were smaller than those in the 1992 study. However, analysis of the combined 2015 data for LDCC and PS centres returned reliable regression equations. In the 1992 study these types of child care centres were analysed separately.
- The following graphs show comparisons of trip generation and parking demand trend lines for regression analysis of LDCC and PS centres. Graphs for 1992 LDCC and PS data were overlayed separately on the combined 2015 LDCC/PS data.

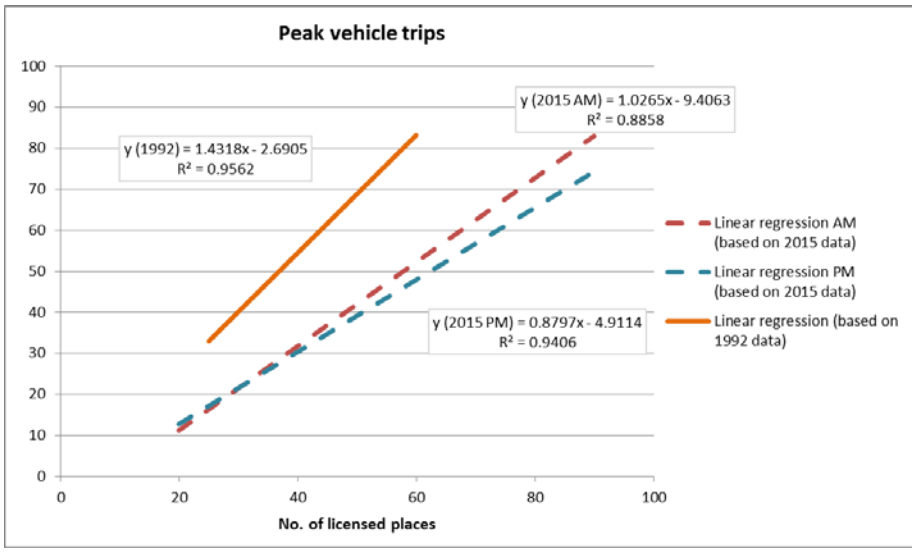

Figure 4.1 **Centre peak hour vehicle trips vs. Number of licensed places – comparison of 1992 PS and 2015 LDCC/PS data.**

- Peak trip generation of PS centres in 1992 was generally higher and the rate of its increase with the increase of the centre capacity was greater than those from the 2015 LDCC/PS data.

[redacted]

Guide to Transport Impact Assessment

Version 1.0 Draft for industry consultation

Email: GTIA@transport.nsw.gov.au

Web: transport.nsw.gov.au

Prepared by: Strategic Transport Planning Branch, Transport for NSW

Status: Draft for industry consultation

Overview:

The draft Guide to Transport Impact Assessment (the Guide) is the first full update to the Guide to Traffic Generating Developments (GTGD) since 2002. The draft Guide has been updated with new guidance on multimodal transport network impacts, site access design, travel demand management, trip generation methods and parking guidance.

Previous versions:

- Guide to Traffic Generating Developments v2.2, 2002
- Guide to Traffic Generating Developments v2.0, 1993
- Policies, Guidelines and Procedures to Traffic Generating Developments, 1984

This version:

This document is a working draft for the purpose of industry consultation only and has not been finalised or formally adopted. TfNSW welcomes any comments on the draft Guide at www.haveyoursay.nsw.gov.au/guide-to-transport-impact-assessment until 31 May, 2024.

Following industry consultation, feedback will be considered in the finalisation of the draft Guide. The final Guide is planned for release in late 2024, at which point it will formally supersede the existing Guide to Traffic Generating Developments (GTGD 2002) and Updated Traffic Surveys Technical Direction (TDT 2013/04a).

Until the Guide to Transport Impact Assessment is formally adopted, practitioners and planning authorities should continue to use the current GTGD 2002 and TDT 2013/04a wherever these documents are referenced in existing EPIs, DCPs or other development assessment requirements.

Standards ID. TBC (for use when published)

Disclaimer:

This Guide has been prepared by TfNSW to provide guidance only. TfNSW has taken care to ensure that the Guide is correct at the time of publication. It does not make any representations or warrant that the Guide is free from error, is current, or, where used, will ensure compliance with any legislative, regulatory or general law requirements. TfNSW disclaims all and any guarantees, undertakings and warranties (expressed or implied) and is not liable, including for negligence, for any loss (incidental or inconsequential), injury, damage or other consequences arising directly or indirectly from the use of the Guide. Professional advice should be obtained before applying the guidance in this document to particular circumstances.

NOTE: This is an interactive pdf file and may launch in 'protected view'. Click '**Enable All Features**' for the best experience and functionality of all links.

5.6.8 Health, education and community facilities

Child care centres (2015)

Surveys of child care centres in NSW were undertaken in 2015. The study included surveys at four different types of child care centres: long day care centre (four), pre-school (three), occasional care (three), and outside school hours care (four). Traffic activity was found to vary with the differing operating hours of the child care centres. The person and vehicle trip generation rates given below are the aggregated averages and shortcut rates.

Table 5.56. **Child care centre sample summary**

	Long day care centre		Pre-school		Occasional care		Outside school hours care (OSHC)		All (excl. OSHC)	
Weekday rates	**Avg**	**Short cut**	**Avg**	**Short cut**	**Avg**	**Short cut**	**Avg**	**Short cut**	**Avg**	**Short cut**
Person trips (person trips/licensed child places)										
Site AM peak hour	0.85	0.99	1.08	1.33	0.77	0.96	0.47	0.65	0.89	1.07
Site PM peak hour	0.83	0.89	1.03	1.22	0.84	1.26	0.49	0.58	0.89	1.19
Network AM peak hour	0.66	0.79	1.09	1.30	0.73	0.96	0.08	0.16	0.81	1.06
Network PM peak hour	0.39	0.49	0.60	0.88	0.06	0.10	0.28	0.47	0.36	0.65
Daily	3.07	3.13	2.50	2.78	1.83	2.56	1.51	1.77	2.52	3.10
Vehicle trips (vehicle trips/licensed child places)										
Site AM peak hour	0.81	0.97	0.86	1.17	0.63	0.92	0.38	0.55	0.77	1.04
Site PM peak hour	0.80	0.84	0.76	1.01	0.78	1.18	0.43	0.50	0.78	1.02
Network AM peak hour	0.64	0.75	0.83	1.13	0.63	0.92	0.07	0.14	0.69	1.01
Network PM peak hour	0.39	0.51	0.51	0.70	0.06	0.10	0.23	0.36	0.33	0.63
Daily	2.97	3.03	1.96	2.54	1.65	2.38	1.30	1.57	2.27	2.99

Notes

- The centres surveyed had 45 to 90 children in long day-care, 20 to 40 children attending pre-schools, 25 to 36 attending occasional care, and 70 to 105 children in OSHC care. The average parking rate was calculated to be:
  - Centres with 20 to 35 children – one space per four children
  - Centres with 40 to 65 children – one space per five children
  - Centres with 70 to 100 children – one space per six children

Mode share

The dominant mode of transport for child care centres was private vehicles, and mode shares were generally consistent in the AM period (between 6:30am and 9.30am) and PM period (between 2:30pm and 6pm).

Table 5.57. **Mode share summary for child care centres**

Mode	Sydney Average and range	Regional Average and range
Car	87% (46% to 99%)	89% (84% to 93%)
Non-car	13% (1% to 54%)	11% (7% to 16%)

Notes

- Mode share has been calculated based on the person trips observed between 6:30am and 9.30am and 2.30pm and 6pm.