TRAFFIC IMPACT ASSESSMENT

PROPOSED RESIDENTIAL SUBDIVISION

18 CARTER STREET & 41-57 HOBSON STREET, STRATFORD

26 FEBRUARY 2024

18 CARTER STREET & 41-57 HOBSON STREET, STRATFORD

CLIENT: [redacted]

OBT JOB NUMBER: 25187

Suite 2.03, 789 Toorak Road
Hawthorn East, Victoria 3123

T: 61 3 9804 3610
W: obrientraffic.com

ABN 55 007 006 037

VERSION	DATE	ISSUE	PREPARED BY	REVIEWED BY
25187draft	30 Jan 2024	Draft	[redacted]	[redacted]
25187final	23 Feb 2024	Final	[redacted]	[redacted]

CONTENTS

1 INTRODUCTION

O'Brien Traffic has been engaged by [redacted] to undertake a traffic impact assessment of a proposed development plan for a residential subdivision at 18 Carter Street and 41-57 Hobson Street, Stratford.

In the course of preparing this report:

- East Stratford Development Plan – Precinct 2, Version 1, prepared by NBA Group (dated 17 July 2023) has been reviewed:
- The subject site and surrounding area have been inspected on Nearmap and Google Streetview;
- The traffic implications of the proposal have been assessed.

2 EXISTING CONDITIONS

2.1 LOCATION AND LAND USE

The subject site is located between Carter Street and Hobson Street in Stratford. The location of the subject site and the surrounding road network is shown in **Figure 1.**

COPYRIGHT MELWAY PUBLISHING PTY. LTD. REPRODUCED WITH PERMISSION

FIGURE 1: LOCATION OF SUBJECT SITE AND THE SURROUNDING ROAD NETWORK

The most recent aerial photograph showing the site and the surrounding area (from September 2023) is shown in **Figure 2**.

SOURCE: NEARMAP.COM.AU REPRODUCED WITH PERMISSION

FIGURE 2: AERIAL PHOTO OF SUBJECT SITE AND THE SURROUNDING AREA

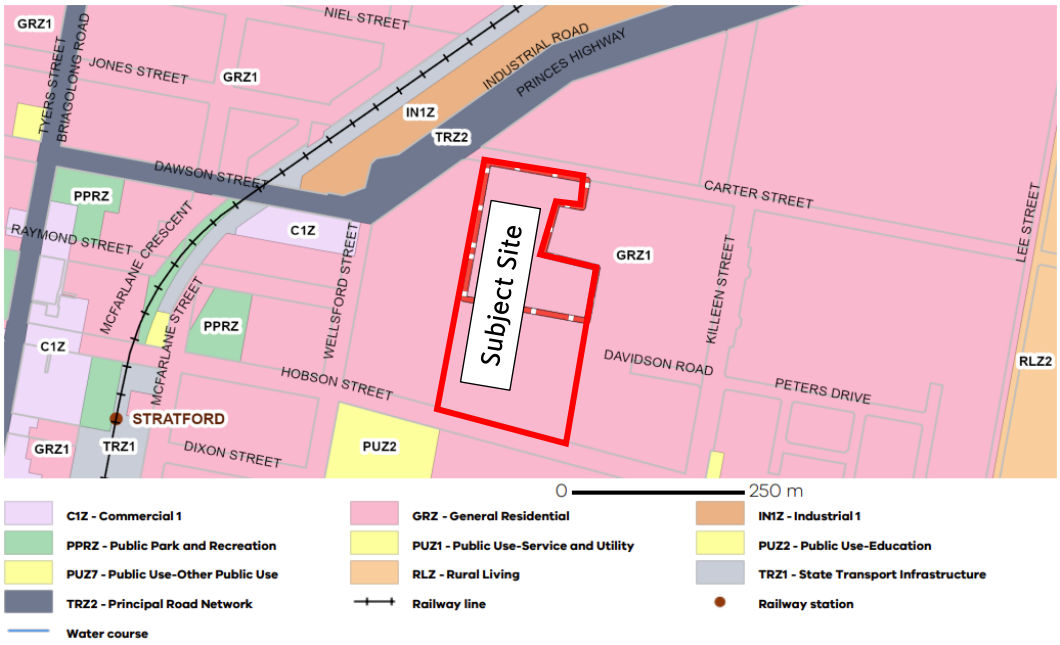
The site is zoned *General Residential (GRZ)* in the Wellington Planning Scheme. The site has frontages of approximately 145m to Carter Street and 180m to Hobson Street and comprises a total area of 5.993ha.

The subject site is currently occupied by a single dwelling at the southwest corner of the site. Vehicular access is provided via gravel crossovers to Carter Street and Hobson Street.

2.2 SURROUNDING LAND USE

The subject land abuts low-density residential lots to the west and east, and is surrounded by further residential areas and an industrial area to the northwest. Stratford Primary School is located on the southern side of Hobson Street, to the southwest of the subject land.

A zoning map of the area is provided in **Figure 3**.



SOURCE: PLANNING.VIC.GOV.AU

FIGURE 3: ZONING MAP

2.3 ROAD NETWORK

Carter Street is a two-way local access road under the management of Council. In the vicinity of the subject site, it has a pavement width of approximately 3.6m with unsealed shoulders on both sides. The default 50km/h speed limit in built-up areas applies to Carter Street.

Views of Carter Street are shown in **Figure 4** and **Figure 5**.

FIGURE 4: VIEW ON CARTER STREET FACING EAST

FIGURE 5: VIEW ON CARTER STREET FACING WEST

Hobson Street is a two-way local access road under the management of Council. In the vicinity of the subject site, it has a pavement width of approximately 7.8m with an unsealed shoulder on the northern side (adjacent to the site) and with kerb and channel on the southern side. The posted speed limit on Hobson Street is 50km/h and this changes to 40km/h near the western boundary of the subject site.

Views of Hobson Street are shown in **Figure 6.**

FIGURE 6: VIEW ON HOBSON STREET FACING EAST

2.4 EXISTING TRAFFIC VOLUMES

Department of Transport and Planning (DTP) data from 2020 indicates that the Princes Highway carries two-way Annual Average Daily Traffic (AADT) volumes of 6,500 vehicles per day where it intersects Carter Street, and 11,000 vehicles per day where it intersects Hobson Street.

The exact volumes on Carter Street and Hobson Street are not known. However, based on the surrounding road network and adjacent land use it is estimated that Carter Street carries under 500 vehicles per day and that Hobson Street carries up to 2,000 vehicles per day.

2.5 CASUALTY CRASH HISTORY

A review of Department of Transport and Planning (DTP) casualty crash data for the most recent five-year period (1 July 2018 – 30 June 2023) indicates that there was:

- One crash at the intersection of Princes Highway and Hobson Street. The crash was a DCA 113 (Right-Near) crash which resulted in Other injury; and
- One crash at the intersection of Hobson Street and Wellsford Street (approximately 160m west of the subject site). The crash was a DCA 110 (Cross Traffic) crash which resulted in Other injury.

The crash history indicates that there are no underlying safety issues at the intersections and roads in the immediate vicinity of the site.

2.6 SUSTAINABLE TRANSPORT

Stratford train station is located approximately 1km west of the subject site. There is also a bus service between Sale and Stratford which runs in a loop around the town centre. The nearest bus stops are located on Hobson Street east of Princes Highway.

3 THE PROPOSAL

The concept subdivision plan indicates that the subject land would be divided into 68 residential lots with an average lot size of 657m^2. A reserve of 3,478m^2 is proposed in the centre of the site.

Vehicle access is proposed via two road connections to Hobson Street and a single road connection to Carter Street. An internal road connects Hobson Street and Carter Street. The internal road network also allows for a future connection to the east of the site. Up to seven of the lots are proposed to have direct access to Carter Street, while up to eight of the lots are proposed to have direct access to Hobson Street.

The proposed subdivision plan is shown in **Figure 7**.

FIGURE 7: PROPOSED SUBDIVISION PLAN

4 TRAFFIC GENERATION, DISTRIBUTION & IMPACT

4.1 TRAFFIC GENERATION

The 68 lots are anticipated to generate an average of 10 daily trips per lot, resulting in a daily traffic generation of 680 trips. It is anticipated that 10% of daily trips would occur in each of the AM and PM peak hours (i.e. 68 trips in each peak hour).

4.2 TRAFFIC DISTRIBUTION

To determine the peak hour residential traffic distribution, typical residential splits between entry and exit movements have been adopted, which are:

- AM peak hour: 20% IN and 80% OUT; and
- PM peak hour: 60% IN and 40% OUT.

This equates to 14 trips in and 54 trips out in the AM peak, and 41 trips in and 27 trips out in the PM peak.

Based on the surrounding road network and the location of key destinations, it is anticipated that all traffic generated by the subdivision would travel to and from the Princes Highway (to the west of the subject site).

From the Princes Highway, it is assumed that traffic would split as follows:

- 70% of traffic would travel south towards Stratford town centre or beyond (i.e. Maffra, Sale and Longford) (and vice versa); and
- 30% of traffic would travel north towards Bairnsdale (and vice versa).

It is anticipated that traffic to/from the north would likely use the Carter Street access and traffic/to from the south would likely use the two Hobson Street accesses. It is assumed that traffic using the Hobson Street accesses would be split 60% via the western access and 40% via the eastern access.

Based on the above, the daily traffic volumes added to Carter Street and Hobson Street as a result of the proposed development would be 200 vehicles per day and 480 vehicles per day, respectively. The AM and PM peak hour development traffic distribution at the main access points is shown in **Figure 8**, while the peak hour development traffic at key intersections is shown in **Figure 9**.

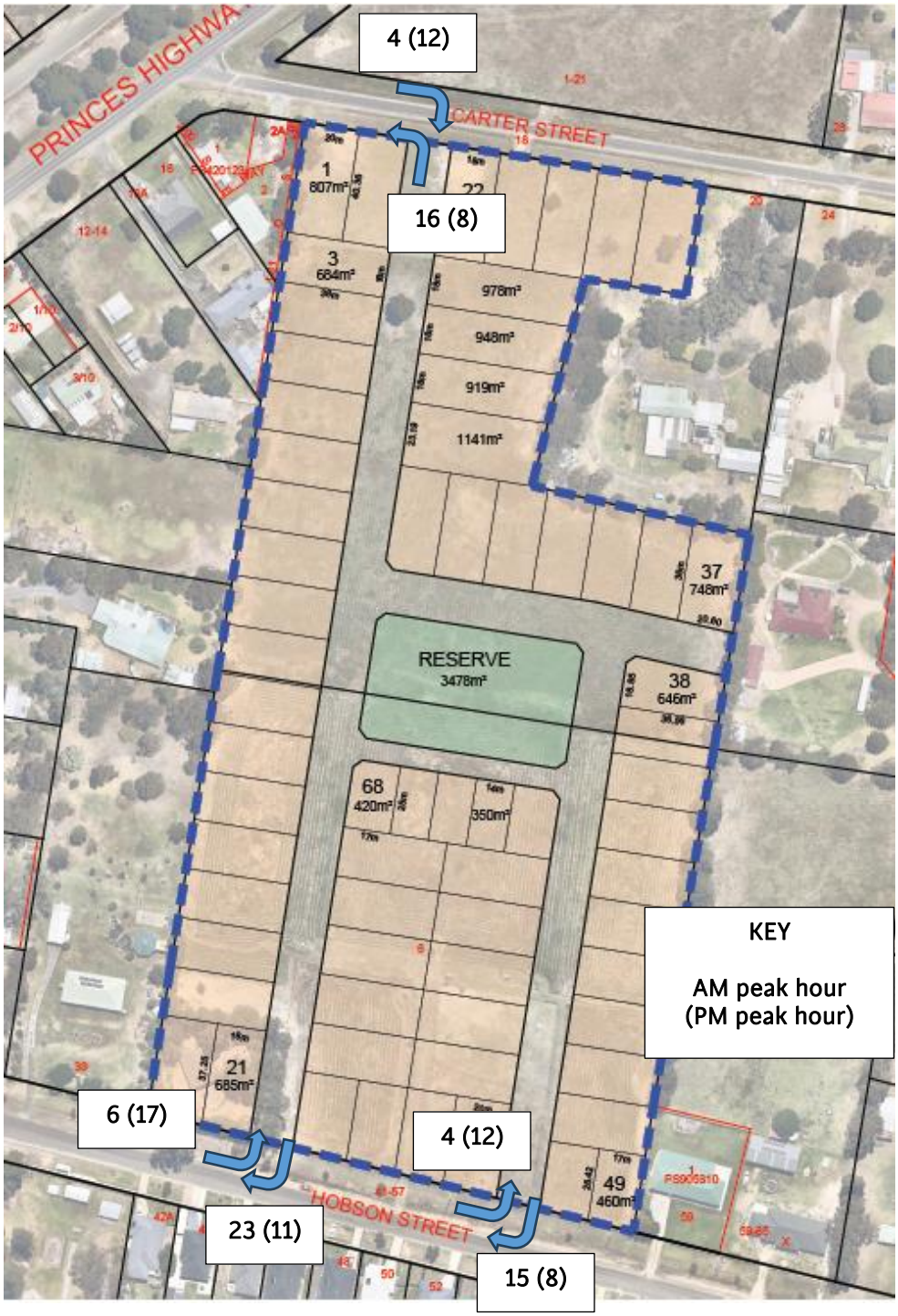


FIGURE 8: PEAK HOUR DEVELOPMENT TRAFFIC DISTRIBUTION AT SITE ACCESSES

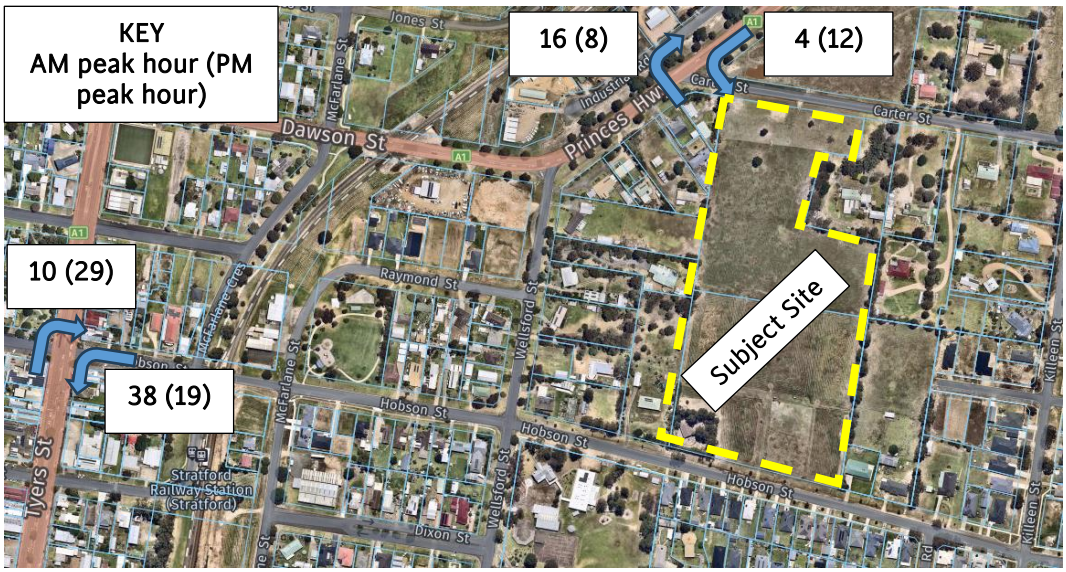


FIGURE 9: PEAK HOUR DEVELOPMENT TRAFFIC DISTRIBUTION AT KEY INTERSECTIONS

4.3 TRAFFIC IMPACT

4.3.1 Carter Street

As discussed in Section 4.2, the proposed development would increase traffic on Carter Street (between Princes Highway and the proposed site access) by 200 vehicles per day.

4.3.2 Hobson Street

As discussed in Section 4.2, the proposed development would increase traffic on Hobson Street (between Princes Highway and the proposed site access) by 480 vehicles per day.

4.3.3 Princes Highway/Carter Street

As indicated in **Figure 9**, the proposed development would result in a maximum of 16 vehicles performing any one movement (i.e. the right turn out during the AM peak). This equates to an average of 1 movement roughly every 3-4 minutes. This level of traffic is unlikely to result in adverse traffic impact at the intersection.

4.3.4 Princes Highway/Hobson Street

As indicated in **Figure 9**, the proposed development would result in a maximum of 38 vehicles turning left from Hobson Street during the AM peak, which equates to an average of 1 movement every 1 minute 30 seconds. In the PM peak, a maximum of 29 vehicles are expected to turn right into Hobson Street, which equates to an average of 1 movement every 2 minutes. This level of additional traffic is unlikely to result in adverse traffic impact at the intersection.

5 ROAD UPGRADES

5.1 CARTER STREET

Given the narrow pavement width of Carter Street (3.6m) and the addition of 200 vehicles per day as a result of the development, it is recommended that the road pavement is widened to 7.3m to meet the requirements of an Access Street as per the IDM. This widening is only required to the section of Carter Street between Princes Highway and the proposed site access point.

5.2 HOBSON STREET

Hobson Street has an existing pavement width of 7.8m, which is wider than the 7.3m minimum width of an Access Street as per the IDM. The addition of approximately 490 vehicles per day would still be within the capacity of an Access Street (up to 2,500 vehicles per day). Kerb and channel will be required along the site frontage.

5.3 PRINCES HIGHWAY/CARTER STREET

The existing intersection does not provide turn lanes (as indicated in **Figure 10**). Given the anticipated additional traffic at the intersection would be low (as shown in **Figure** 9), it is considered that the intersection would continue to operate satisfactorily. Therefore, no upgrade works at the intersection are considered necessary beyond the widening of Carter Street as discussed in Section 5.1.

FIGURE 10: PRINCES HIGHWAY/CARTER STREET INTERSECTION

5.4 PRINCES HIGHWAY/HOBSON STREET

The existing intersection features channelised right turn lanes into both legs of Hobson Street (as indicated in **Figure 11**).

This level of treatment is considered adequate based on the 50km/h speed zone on Princes Highway and the anticipated traffic volumes (up to 29 veh/hr turning right as indicated in **Figure 9**).

FIGURE 11: PRINCES HIGHWAY/HOBSON STREET INTERSECTION

6 INTERNAL ROAD NETWORK

6.1 FUNCTIONAL CLASSIFICATIONS

The anticipated maximum traffic volumes on the access roads within the subdivision would be under 400 vehicles per day. Under Clause 56.06-8 Table C1 of the Planning Scheme, this would be considered an Access Place, which carries under 1,000 vehicles per day.

6.2 STREET DESIGN

The internal access road within the subdivision is proposed to have a road reserve width of 16 metres. This would accommodate the cross section of an Access Street as per the Infrastructure Design Manual (IDM) which includes a 7.3 m wide carriageway carrying two-way traffic and parking on both sides of the street, and 1.5 m wide footpaths on both sides. The indicative cross section is shown in **Figure 12**.

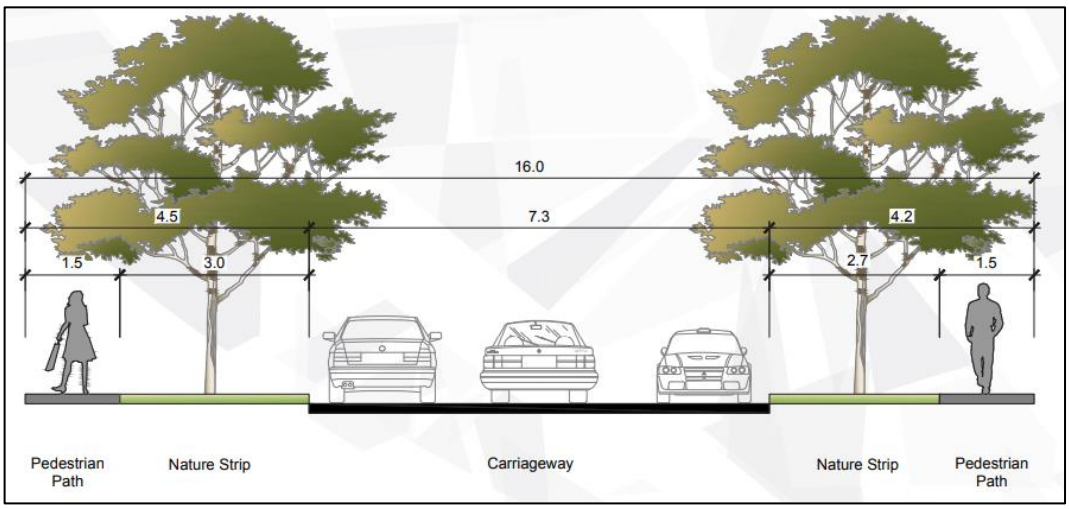


FIGURE 12: INDICATIVE CROSS SECTION FOR AN ACCESS STREET

6.3 PEDESTRIAN & CYCLIST PROVISION

The indicative cross section would cater for pedestrians and cyclists by providing footpaths for pedestrians and a low-speed road environment suitable for cyclists.

6.4 PUBLIC TRANSPORT

There is no requirement for the new internal access streets to cater for buses.

6.5 LOCAL AREA TRAFFIC MANAGEMENT

The internal roads within the subdivision form T-intersections, which is desirable from a road safety perspective. In accordance with Clause 56.06-7 of the Planning Scheme, a minimum 3m x 3m corner splay should be provided at intersections of streets within the subdivision.

The length of the north-south street between Carter Street and Hobson Street is 360m. While this exceeds the desirable maximum of 240m as per Clause 56.06-7 of the Planning Scheme, it is likely that the majority of vehicles will drive significantly less than this on the north-south road given drivers start/end points within the subdivision. Therefore, it is considered that local area traffic management measures to reduce vehicle speeds (such as speed humps) are not required.

6.6 EMERGENCY AND SERVICE VEHICLE ACCESS

Country Fire Authority (CFA) requirements for fire truck access are specified in the document *Requirements for Water Supplies and Access for Subdivisions in Residential 1 and 2 and Township Zones*. The requirements outlined in this guide would be met with the proposed road cross sections. This also ensures appropriate access for emergency and service vehicles.

7 CONCLUSION

Based on the investigations made during the preparation of this report, it is concluded that:

- The traffic generated by the proposal would be accommodated by the proposed road network; and
- The internal road network design is appropriate and is in accordance with the cross-section requirements in the Infrastructure Design Manual.

Therefore, it is concluded that there are no traffic related grounds to prevent the proposed development from proceeding.

APPENDIX A

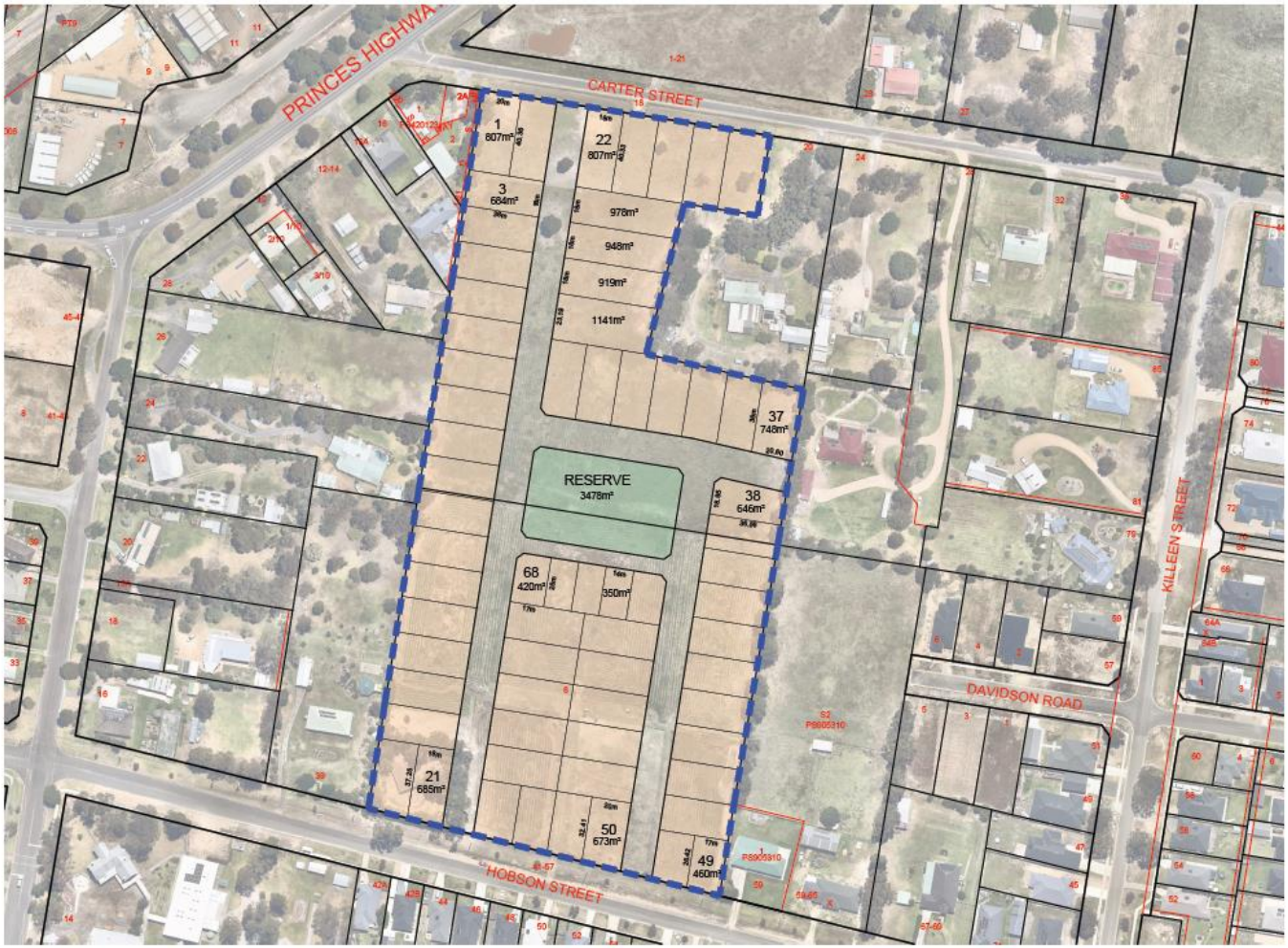
CONCEPT DEVELOPMENT PLAN

DESIGN RESPONSE NOTES

- Layout considers East Sale ODP by Beca.
- Connectivity provided to East.
- Consider connection to Davidson Road.
- Carter Street intersection to Princes Highway needs further investigation.
- Undersupply of open space may be paid as cash or embelishment to reserve.
- Consider staging from Hobson Street

LOT S2 PS812031 & CA 6 SEC.48 PARISH OF STRAFORD

68 LOTS @ 657m²



NBA Group Pty Ltd ABN 194 748 327 43
Sale 6-8 Wellington Park Way, Sale 3850
Morwell 108 Commercial Road, Morwell 3840
Metro 2/65 Chapel Street, St.Kilda
Mail P O Box 1170, Sale 3850
M 0418 402 340

nick@nbagroup.com.au
nbagroup.com.au

NBAgroup

0 40 100 200

SCALE 1:1000

No.	Revision Description	Date
1	Issued for comment	17.07.2023

EAST STRATFORD DEVELOPMENT PLAN
PRECINCT 2
VERSION 1

Hobson Street, Stratford
WELLINGTON SHIRE COUNCIL