

SPRINGFIELD ROAD PTY LTD

CATHERINE FIELDS
PLANNING PROPOSAL

TRAFFIC REPORT

MARCH 2022

COLSTON BUDD ROGERS & KAFES PTY LTD
ACN 002 334 296
Level 18 Tower A
Zenith Centre
821 Pacific Highway
CHATSWOOD NSW 2067

Email: cbrk@cbrk.com.au

REF: 11918/1

TABLE OF CONTENTS

1.	INTRODUCTION	1
2	TRAFFIC IMPLICATIONS.....	2

I. INTRODUCTION

I.1 Colston Budd Rogers and Kafes Pty Ltd has been commissioned by Springfield Road Pty Ltd to prepare a traffic report for the planning proposal to rezone the site for residential development. The site is located on the western side of Camden Valley Way as shown in Figure I.

I.2 The site is located within the Catherine Fields Precinct which forms part of the South West Growth Area. It has been identified for future residential development. Strategic planning for the South West Growth Area has been undertaken by DPIE in consultation with TfNSW and local councils. This has identified appropriate road works and contributions to road upgrades to cater for future development within the South West Growth Area. In the vicinity of the subject site, the following works have either been completed, under investigation or planned future works:

- upgrade of Camden Valley Way to a dual carriageway (completed);
- traffic signals at the intersection of Camden Valley Way/Springfield Road (completed);
- traffic signals at the intersection of Camden Valley Way/Catherine Fields Road (completed);
- upgrade and extension of Rickard Road between Bringelly Road and Oran Park Drive to a 4 lane sub-arterial road (under investigation – to be completed in stages); and
- upgrade of Catherine Fields Road to a 2-lane collector road (future works).

- 1.3 As the broader traffic effects on the regional road network have been assessed, the local traffic effects of the planning proposal on the adjacent road network are assessed in Chapter 2.

2. TRAFFIC IMPLICATIONS

2.1 The traffic implications of the planning proposal are set out through the following sections:

- site location;
- proposed development;
- subdivision roads;
- public and active transport;
- traffic effects; and
- summary.

Site Location

2.2 The subject site is some 100 hectares and is currently zoned RU4 – Primary Production Small Lots and R5 Large Lot Residential. The site is currently undeveloped rural land. To the east of the site (on the opposite side of Camden Valley Way) is Camden Lakeside golf course. The land to the north, south and west is undeveloped rural land that has been identified for future residential development. Further south of the site is the existing Catherine Fields Part Precinct which is nearly fully developed.

2.3 Camden Valley Way runs in a north south direction along the eastern boundary of the site. It is a major arterial road with a dual carriageway, connecting existing and future development within the South West Growth Area with the M5/M7 Motorways at Prestons in the north and Narellan/Camden in the south. Springfield Road runs in an east west direction along the southern boundary of the

site. It is a local rural road with one travel lane in each direction and connects to Camden Valley Way at a traffic signal controlled intersection. Catherine Field Road runs along the northern boundary of the site. It is a local rural road with one travel lane in each direction and connects to Camden Valley Way at a traffic signal controlled intersection.

Proposed Development

2.4 The planning proposal would rezone the site for a residential subdivision. Indicative planning indicates some 2,080 dwellings with associated subdivision roads as shown in Figure 2. Access will be provided as set out below:

- Springfield Road – two locations. The eastern access would provide for all movements via either a roundabout or traffic signal controlled intersection and connect to future development on the southern side of Springfield Road. The western access would be via Charlesworth Close at a priority controlled t-intersection;
- Rickard Road extension – all access connection via a roundabout or traffic signal controlled intersection; and
- Catherine Fields Road - two locations. The eastern access would provide for all movements via either a roundabout or traffic signal controlled intersection and connect to future development on the northern side of Springfield Road. The western access would be at a priority controlled t-intersection.

Subdivision Roads

2.5 The subdivision road network will provide collector and local roads that are designed in accordance with Section 3.3 of Camden Growth Centres Precinct DCP. Section 3.3 sets out the following standards:

- collector roads – 11 or 13 metre wide carriageways in a 20 metre road reserve (carriageway width depends on whether a cycleway is provided on road or off road); and
- local roads – 7.4 or 9 metre wide carriageways in a 14.4 or 16 metre carriageway (wider road provided in busier locations).

Public and Active Transport

2.6 The proposed subdivision would provide a network of pedestrian and cycle connections with footpaths located along road and cycleways provided on and off road. Where appropriate separate pedestrian and cycle paths would be provided linking the various areas within the subdivision and to the adjacent existing and future residential precincts.

2.7 As the area develops, buses services will be introduced to provide access to public transport. It is anticipated that buses will operate along Springfield Road, Catherine Fields Road and the Rickard Road extension (along the northern, southern and western boundaries of the site) in addition to existing services that operate along Camden Valley Way. There is also potential for buses to operate along the north south collector road that connects Springfield Road and Catherine Fields Road. With appropriately located bus stops on these roads, dwellings within the site would be located within 400 metres walking distance of bus services.

Traffic Effects

2.8 Traffic generated by the proposed development will have its greatest effects during weekday morning and afternoon peak periods when it combines with other traffic on the surrounding road network. Traffic counts were undertaken in February 2022 at the following intersections:

- Springfield Road/Camden Valley Way (traffic signals);
- Catherine Fields Road/Camden Valley Way (traffic signals);
- Springfield Road/Luke's Lane (roundabout);
- Springfield Road/Catherine Field Road (priority control); and
- Catherine Field Road/Chisholm Road (priority control).

2.9 The results of the surveys are shown in Figures 3 and 4 and summarised in Table 2.1.

Table 2.1: Existing Hourly Two Way (sum of both directions) Traffic Flows		
Location	Weekday AM	Weekday PM
Camden Valley Way - north of Catherine Fields Road	3,515	4,055
- south of Springfield Road	3,240	3,615
Catherine Fields Road - west of Camden Valley Way	150	145
- west of Chisholm Road	85	110
- west of Springfield Road	225	240
Springfield Road - west of Camden Valley Way	535	625
- west of Luke's Lane	190	230
Luke's Lane		

- south of Springfield Road	495	480
Chisholm Road - north of Catherine Fields Road	75	45

2.10 Examination of Table 2.1 reveals that:

- Camden Valley Way carried some 3,500 to 4,000 vehicles per hour (two way) during weekday morning and afternoon peak hours;
- Catherine Fields Road carried some 100 to 250 vehicles per hour (two way) during weekday morning and afternoon peak hours;
- Springfield Road carried some 500 to 600 vehicles per hour (two way) during the weekday morning and afternoon peak hours, between Camden Valley Way and Luke's Lane. West of Luke's Lane, traffic flows were lower at some 200 vehicles per hour (two way) during the weekday morning and afternoon peak hours; and
- Chisholm Road carried some 50 to 75 vehicles per hour (two way) during the weekday morning and afternoon peak hours.

2.11 The capacity of the road network is largely determined by the capacity of its intersections to cater for peak period traffic flows. The surveyed intersections shown in Figures 3 and 4 have been analysed using the SIDRA program.

2.12 SIDRA simulates the operations of intersections to provide a number of performance measures. Use of the network function allows intersections in close proximity to each other to be coordinated. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle. Based on average

delay per vehicle, SIDRA estimates the following levels of service (LOS):

- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity

- For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required
43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

- 2.13 It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be
-

misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.

2.14 The analysis found that:

- the traffic signal controlled intersections of Camden Valley Way with Catherine Fields Road and Springfield Road operate with average delays of less than 25 seconds per vehicle in the weekday morning and afternoon peak hours. This represents level of service B, a good level of service with spare capacity;
- the roundabout at the intersection of Luke's Lane and Springfield Road operates with average delays for the highest delayed movement of less than 15 seconds per vehicle during weekday morning and afternoon peak hours. This represents level of service A/B, a good level of service; and
- the priority controlled intersections of Catherine Fields Road with Chisholm Road and Springfield Road operate with average delays for the highest delayed movement (right turns onto Catherine Fields Road) of less than 15 seconds per vehicle during weekday morning and afternoon. This represents level of service A/B, a good level of service.

2.15 For metropolitan residential subdivisions, TfNSW Guidelines suggest the following generation rates:

- 0.99 vehicles per hour per dwelling (two way) in the weekday morning peak hour; and
- 0.95 vehicles per hour per dwelling (two way) in the weekday afternoon peak hour.

2.16 Applying these rates, the planning proposal (some 2,080 lots) would generate some 2,060 vehicles per hour (two way) in the weekday morning peak hour and some 1,980 vehicles per hour (two way) in the weekday afternoon peak hour.

2.17 As noted in Chapter 1, future planning for the area has identified the following future works in the vicinity of the site:

- upgrade and extension of Rickard Road between Bringelly Road and Oran Park Drive to a 4 lane sub-arterial road;
- upgrade of Springfield Road to a 4-lane sub-arterial road; and
- upgrade of Catherine Fields Road to a 2-lane collector road (future works).

2.18 Arup on behalf of TfNSW has completed a Preferred Route Option Report for the Rickard Road extension between Heath Road and Springfield Road (June 2020). This report notes that the southern section of Rickard Road between Oran Park Road and Springfield Road has been constructed or approved for construction as part of the Catherine Field development. The southern section follows the alignment of Luke's Lane and then to Catherine Park Drive.

2.19 The Preferred Route Option Report has identified that the intersections of the Rickard Road extension with Springfield Road and Catherine Fields Road will be traffic signal controlled. Under traffic signal control the report found that in 2036,

the intersections would operate at level of service D (satisfactory) or better in the weekday morning and afternoon peak periods.

2.20 Future (2036) weekday morning and afternoon peak hour traffic flows on Springfield Road and Catherine Fields Road have been sourced from the Rickard Road Extension Preferred Route Report prepared by ARUP in 2014. These are based on TfNSW EMME model outputs. These flows were also used in the 2020 Preferred Option report. These are summarized below:

- In 2036 Springfield Road (between Rickard Road and Camden Valley Way) would carry some 1,300 vehicles per hour (two way) in the weekday morning peak hour and some 1,900 vehicles per hour (two way) in the weekday afternoon peak hour; and
- In 2036 Catherine Field Road (between Rickard Road and Camden Valley Way) would carry some 1,000 vehicles per hour (two way) in the weekday morning peak hour and some 1,600 vehicles per hour (two way) in the weekday afternoon peak hour.

2.21 This section of Springfield Road currently carries some 500 to 600 vehicles per hour (two way) during the weekday morning and afternoon peak hours. The majority of additional traffic in 2036 (some 800 to 1,300 vehicles per hour, two way) would be from future development either side of Springfield Road. Based on the proposed access arrangements, the planning proposal would result in traffic flow increases of some 200 to 550 vehicles per hour (two way) on Springfield Road in the weekday morning and afternoon peak hours.

- 2.22 This section of Catherine Fields Road currently carries some 100 to 200 vehicles per hour (two way) during the weekday morning and afternoon peak hours. The majority of additional traffic in 2036 (some 900 to 1,400 vehicles per hour, two way) would be from future development along Catherine Fields Road. Based on the proposed access arrangements, the planning proposal would result in traffic flow increases of some 200 to 800 vehicles per hour (two way) on Catherine Fields Road in the weekday morning and afternoon peak hours. When added to existing flows, this is lower than the forecast increase in traffic flows of some 900 to 1,400 vehicles per hour (two way).
- 2.23 It is understood that a planning proposal for residential development on the southern side of Springfield Road (on land bounded by Camden Valley Way, Catherine Fields Road and the Rickard Road extension) envisages some 900 dwellings with access to Springfield Road and Rickard Road. Based on these access arrangements, this development would result in traffic flow increases of some 100 to 500 vehicles per hour (two way) on Springfield Road in the weekday morning and afternoon peak hours.
- 2.24 Based on the above, the projected traffic flow increases on Springfield Road from future development either side of the road would be some 300 to 1,050 vehicles per hour (two way). This is similar to the forecast increase in traffic flows of some 800 to 1,300 vehicles per hour (two way).
- 2.25 Thus the traffic generated by the planning proposal has been accounted for within the strategic traffic planning for the area. The following road works have either been completed or are proposed to accommodate future traffic in the area:
- upgrade Camden Valley Way to a dual carriageway (completed);
-

- upgrade Camden Valley Way with traffic signals at the intersections with Springfield Road and Catherine Fields Road (completed);
- Rickard Road upgrade and extension (under investigation) with traffic signals at the intersections of Rickard Road with Springfield Road and Catherine Fields Road;
- upgrade of Springfield Road to a 4-lane sub-arterial road (future works – funded by developments either side of Springfield Road); and
- upgrade of Catherine Fields Road to a 2-lane collector road (future works – funded by development).

2.26 With regards to intersection controls at the site accesses, the form and timing of these accesses would be determined as part of future development applications.

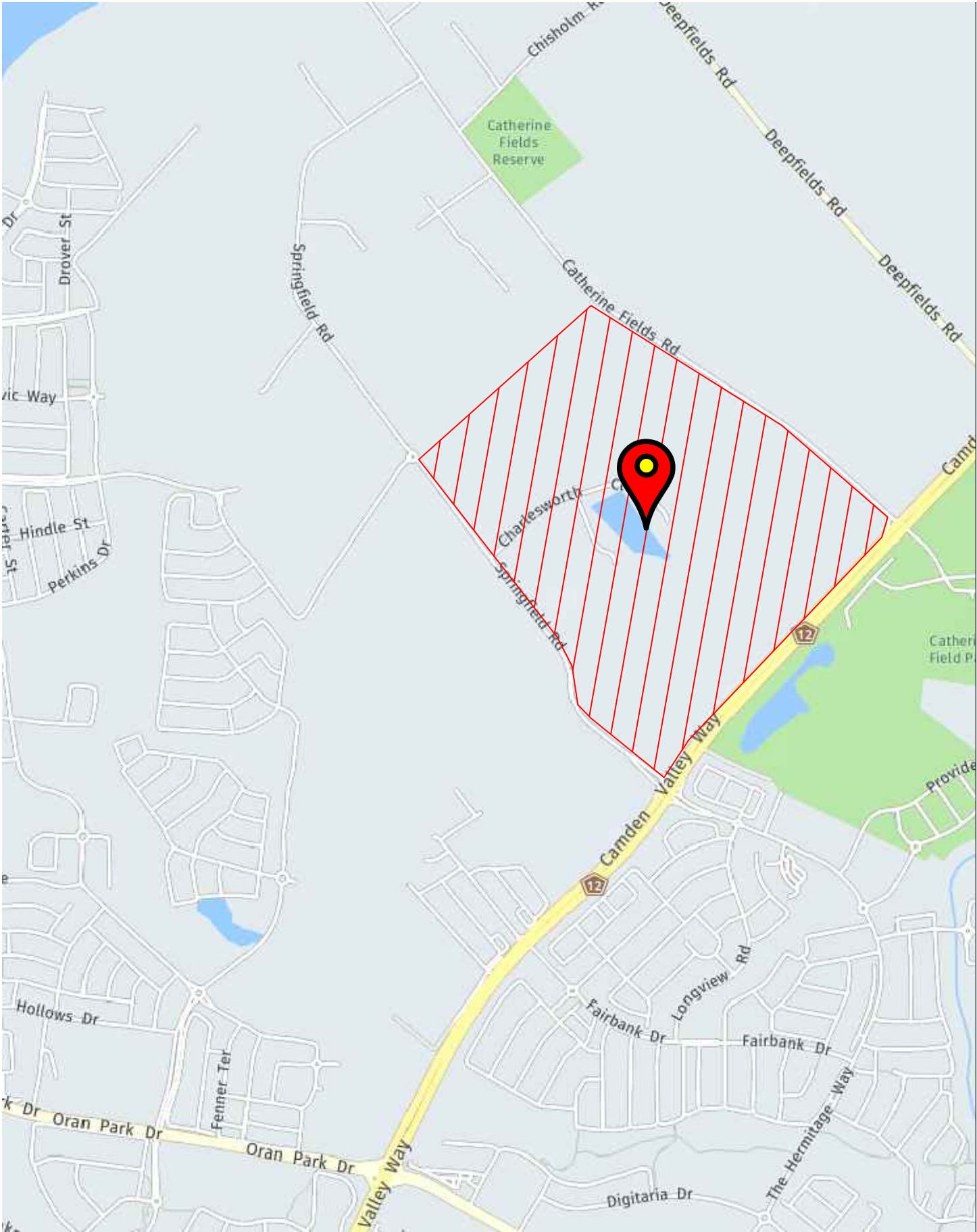
Summary

2.27 In summary, the main points relating to the traffic implications of the planning proposal are as follows:

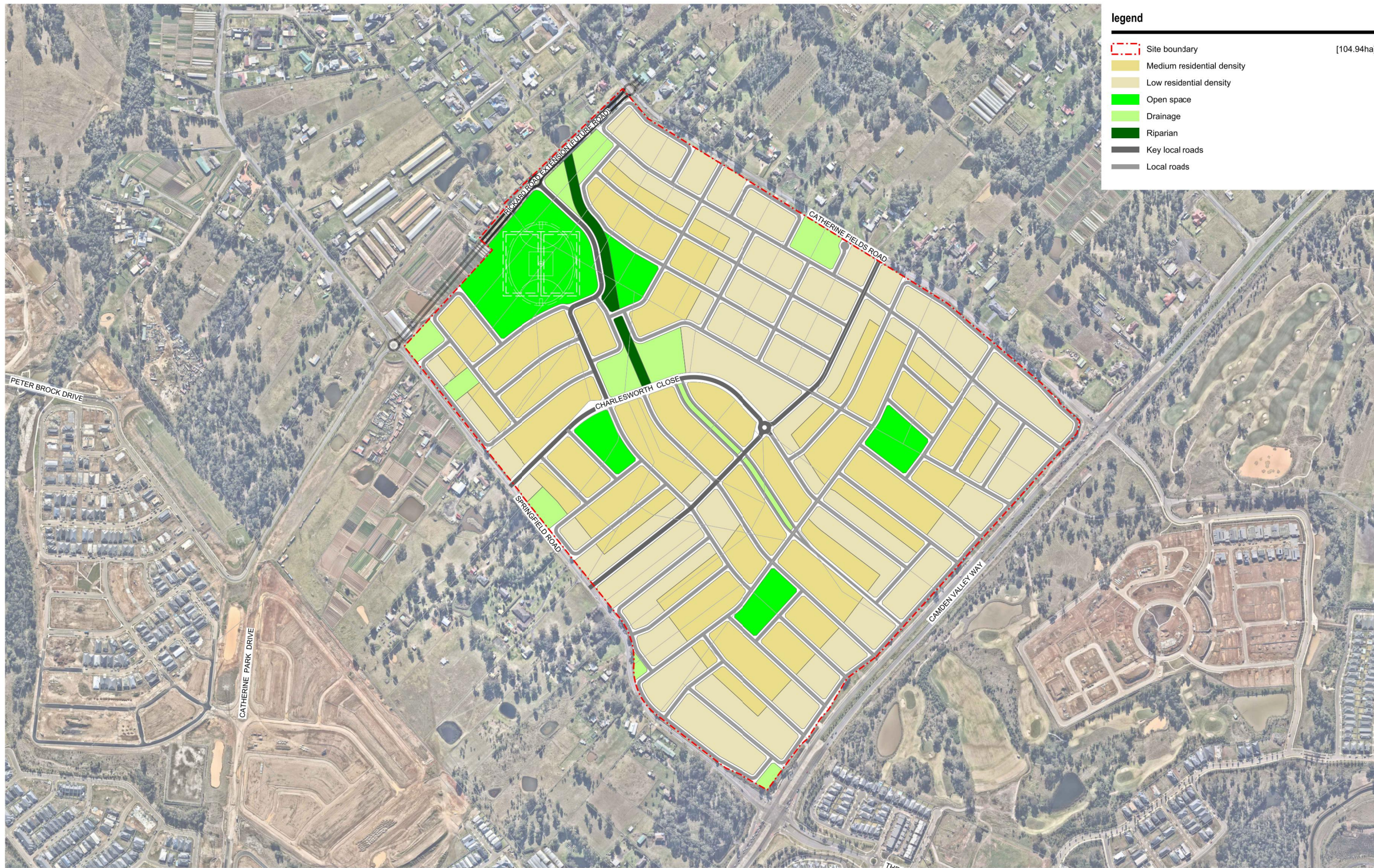
- i) the planning proposal would rezone land for a residential subdivision with some 2,080 lots;
- ii) the site is located within the Catherine Fields Precinct which forms part of the South West Growth Area and has been identified for future residential development;
- iii) strategic planning for the South West Growth Area has been undertaken by DPIE in consultation with TfNSW and the local councils;

- iv) access is proposed from Catherine Fields Road, Springfield Road and the Rickard Road Extension;
- v) the form and timing of the site accesses would be determined as part of future development applications;
- vi) the subdivision road network will provide collector and local roads that are designed in accordance with Section 3.3 of Camden Growth Centres Precinct DCP;
- vii) the proposed subdivision would provide a network of pedestrian and cycle connections with footpaths located along road and cycleways provided on and off road;
- viii) as the area develops, buses services will be introduced to provide access to public transport. With appropriately located bus stops, dwellings within the site would be located within 400 metres walking distance of bus services;
- ix) based on TfNSW Guidelines, the planning proposal (some 2,080 lots) would generate some 2,060 vehicles per hour (two way) in the weekday morning peak hour and some 1,980 vehicles per hour (two way) in the weekday afternoon peak hour;
- x) the traffic generated by the planning proposal has been accounted for within the strategic traffic planning for the area. The following road works have either been completed or are proposed to accommodate future traffic in the area:


- upgrade Camden Valley Way to a dual carriageway (completed);
- upgrade Camden Valley Way with traffic signals at the intersections with Springfield Road and Catherine Fields Road (completed);
- Rickard Road upgrade and extension (under investigation) with traffic signals at the intersections of Rickard Road with Springfield Road and Catherine Fields Road;
- upgrade of Springfield Road to a 4-lane sub-arterial road (future works – funded by developments either side of Springfield Road); and
- upgrade of Catherine Fields Road to a 2-lane collector road (future works – funded by development).



Location Plan




Indicative Structure Plan
Springfield Road, Catherine Field
A Prolet Project


0 75 150m
DRAFT
scale: 1:5000@A2 | 1:2500@A0

plan: 074.CF.004
date: 02/02/2022
aerial: nearmap

revision: 05
proj: MGA94-56
drawn: BR

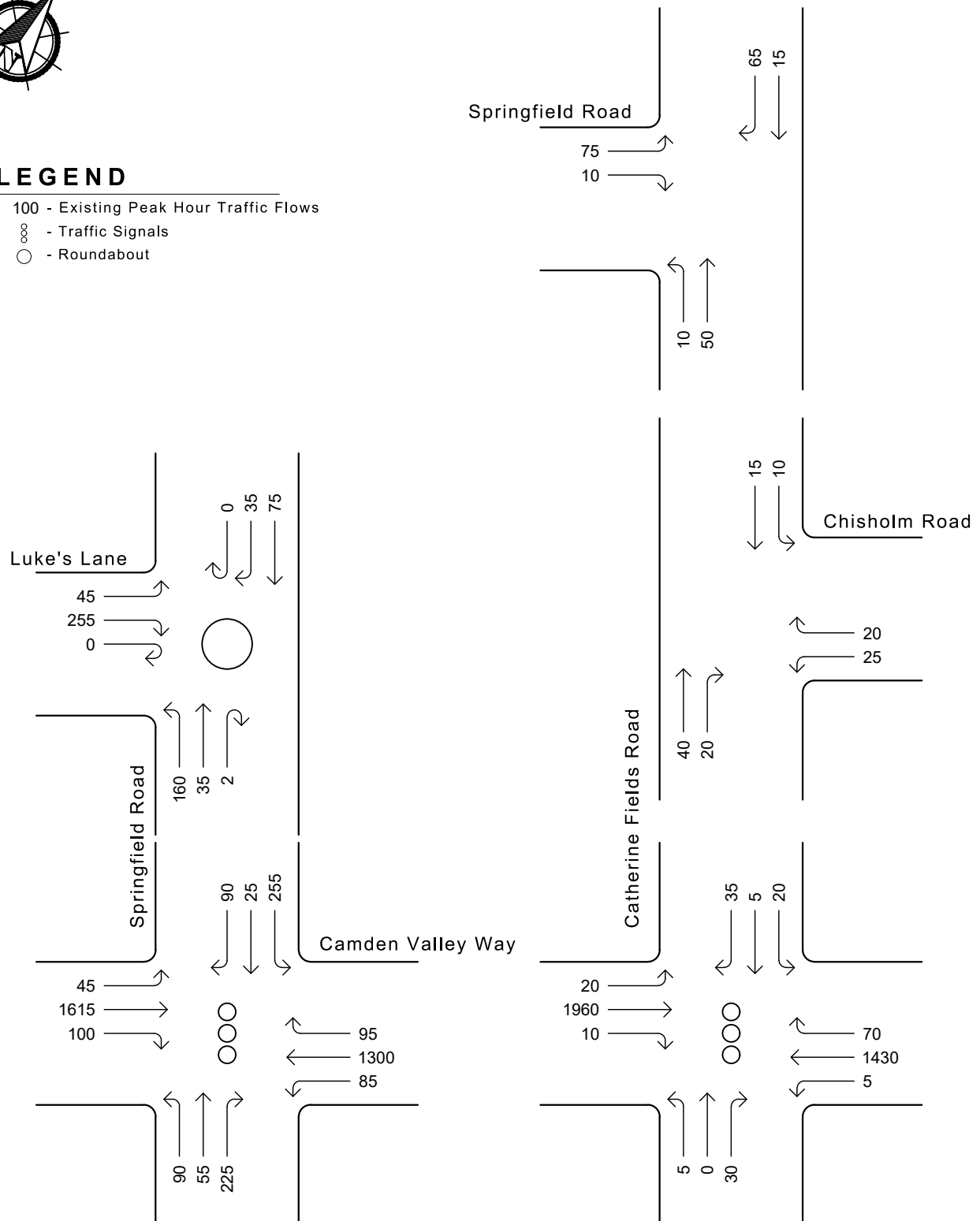

info@urbanco.com.au | www.urbanco.com.au
© COPYRIGHT URBANCO. ALL RIGHTS RESERVED.
Suite 3.02.55 Miller Street PYRMONT NSW 2009
PG No. 548 PYRMONT NSW 2009 | 10 801 9333

Indicative Structure Plan



LEGEND

- 100 - Existing Peak Hour Traffic Flows
- ∞ - Traffic Signals
- - Roundabout

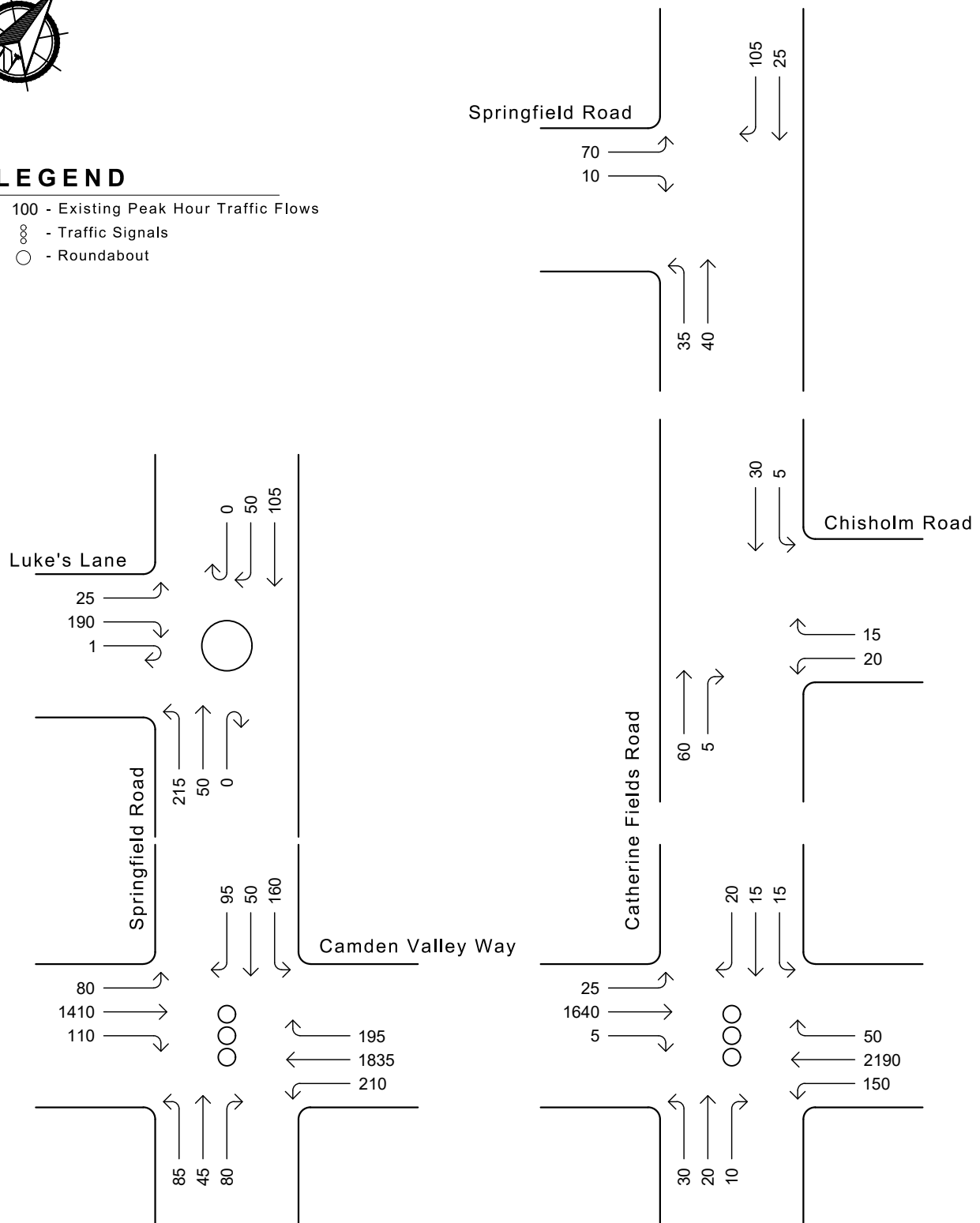


**Existing weekday morning
peak hour traffic flows**



LEGEND

- 100 - Existing Peak Hour Traffic Flows
- ∞ - Traffic Signals
- - Roundabout



**Existing weekday afternoon
peak hour traffic flows**