

TECHNICAL NOTE

Reference: P0555t03v01

12 August 2019

Frasers Property Australia
Level 2, 1C Homebush Bay Drive
Rhodes NSW 2138

RE: Revised Responses to Submissions – Ivanhoe Estate Stage 1, Macquarie Park (SSD 8903)

Dear Chris,

I refer to your recent request to provide further analysis to address the issues raised in the revised responses submissions that were received in relation to Ivanhoe Estate Stage 1, Macquarie Park (SSD 8903) and specifically, the following documents received following the exhibition of Stage 1:

- A. Roads and Maritime Services, *Notice of Exhibition – Stage 1 Development for Ivanhoe Estate, 2-4 Lyons Park Road, Macquarie Park Ref: SYD17/01620/03 (A27863883)*, 20 June 2019.
- B. Caleven Pty. Ltd Commercial & Industrial Properties, *Submission on Ivanhoe Estate Redevelopment – Stage 1 (SSD 8903)*, 18 June 2019.

Regarding document A, the following response is provided for point 3:

Roads and Maritime Services (A)

Issue A1

The intersection of Herring Road and Ivanhoe Place is to be signalised. However, the timing of the signalisation of this intersection is not known at this stage. Hence, the applicant should demonstrate that the existing roundabout at this intersection can accommodate Stage 1 development traffic.

Response

This issue was raised during our meeting with RMS and TfNSW on the 10 October 2017. During this meeting RMS advised that they had resolved to delay the upgrade at the intersection of Ivanhoe Place with Herring Road until Stage 2 of the Bus Priority work, expected in 2020.

Notwithstanding, an analysis has been conducted without consideration of a proposed Stage 1 interim traffic arrangement—the MPBPCI upgrading of the roundabout intersection of Herring Road with Ivanhoe Place to a signalised intersection—and the future performance of this key access intersection has been modelled using SIDRA Intersection. The modelling assessment considered the intersection in the 2021 RMS Base scenario as the existing roundabout as well as the traffic generated from Stage 1.

Intersection performance analysis is based on traffic volume data used by Transport for NSW for the Waterloo Road temporary bus shutdown network planning and is based on 2016 data. The traffic generation and distribution shown in **Table 1** and **Table 2** has been taken from the following Ason Group reports:

- Transport Management and Accessibility Plan, Ivanhoe Estate, Macquarie Park (P0421r02v07)

- Transport Management and Accessibility Plan Addendum, Ivanhoe Estate, Macquarie Park (P0412r04v01)
- Traffic Impact Assessment, Ivanhoe Estate, Macquarie Park – Stage 1 (P0555r01v07)

Table 1: Stage 1 Traffic Volumes and Distribution – Weekday Morning Peak

from	to	Turn	2016 Total	Stage 1	2021 Total
Herring Rd (N)	Morling College (W)	R	23		23
	Herring Rd (S)	T	397		447
	Ivanhoe PL (E)	L	5	7	7
Ivanhoe PI (E)	Herring Rd (N)	R	6	8	8
	Morling College (W)	T	6		
	Herring Rd (S)	L	33	63	63
Herring Rd (S)	Ivanhoe PI (E)	R	1	17	17
	Herring Rd (N)	T	1,783		1,872
	Morling College (W)	L	5		5
Morling College (W)	Herring Rd (S)	R	14		14
	Ivanhoe PI (E)	T	1		1
	Herring Rd (N)	L	1		1

Table 2: Stage 1 Traffic Volumes and Distribution – Weekday Evening Peak

from	to	Turn	2016 Total	Stage 1	2021 Total
Herring Rd (N)	Morling College (W)	R	65		65
	Herring Rd (S)	T	1,221		1,251
	Ivanhoe PL (E)	L	21	8	8
Ivanhoe PI (E)	Herring Rd (N)	R	8	7	7
	Morling College (W)	T	8		
	Herring Rd (S)	L	31	16	16
Herring Rd (S)	Ivanhoe PI (E)	R	1	58	58
	Herring Rd (N)	T	1,043		1,208
	Morling College (W)	L	4		4
Morling College (W)	Herring Rd (S)	R	12		12
	Ivanhoe PI (E)	T	1		1
	Herring Rd (N)	L	6		6

The average intersection performance Level of Service (LoS) for the AM and PM peak periods of the Ivanhoe Place / Herring Road Roundabout are shown in **Table 3**. The results show that the intersection continues to operate with a good Level of Service A for each peak period in each scenario.

Table 3: Intersection Performance of Ivanhoe Place / Herring Road Roundabout

Intersection	Peak	Parameter	2016	2021
Herring Rd / Ivanhoe PI Roundabout	AM	Delay	11	12
		LoS	A	A
	PM	Delay	11	11
		LoS	A	A

Caleven Pty. Ltd Commercial & Industrial Properties (B)

Issue B1

The proposed T-intersection at the termination of the new road connection to Lyonpark Road will form a bottleneck, and importantly, present hazardous and safety issues for patrons seeking to turn right onto Lyonpark Road.

Response

In the Department of Planning and Environment, *Ivanhoe Estate Peer Review of Addendum Transport Report*, 5 July 2019, Arup’s response to the TfNSW question regarding the suitability of a priority controlled intersection at Main Street / Lyonpark Road was that, “Traffic modelling has confirmed that the proposed layout is suitable.”

Notwithstanding, further intersection modelling has been undertaken to assess the capacity of the Main Street and Lyonpark Road intersection during the AM and PM peak periods for the 2021 scenario. The existing priority controlled intersection performed acceptably in the 2021 scenario. However, the preferred layout option shown in **Figure 1** incorporates a 70m dedicated right turn bay into Main Street and has a separate southbound through lane. The results shown in **Table 4** demonstrate that the intersection continues to operate with a good level of service with the addition of the proposed development.

The future Lyonpark Road / Main Street intersection has been assessed and appropriate traffic control measures recommended given the volume of traffic this intersection is forecast to carry.

Table 4: Lyonpark Road / Main Street SIDRA Results

Peak Period	Criteria	2021	
		Base	Base + Dev + Upgrades
AM	LoS	A	A
	Delay (s)	7	12
PM	LoS	A	A
	Delay (s)	6	13

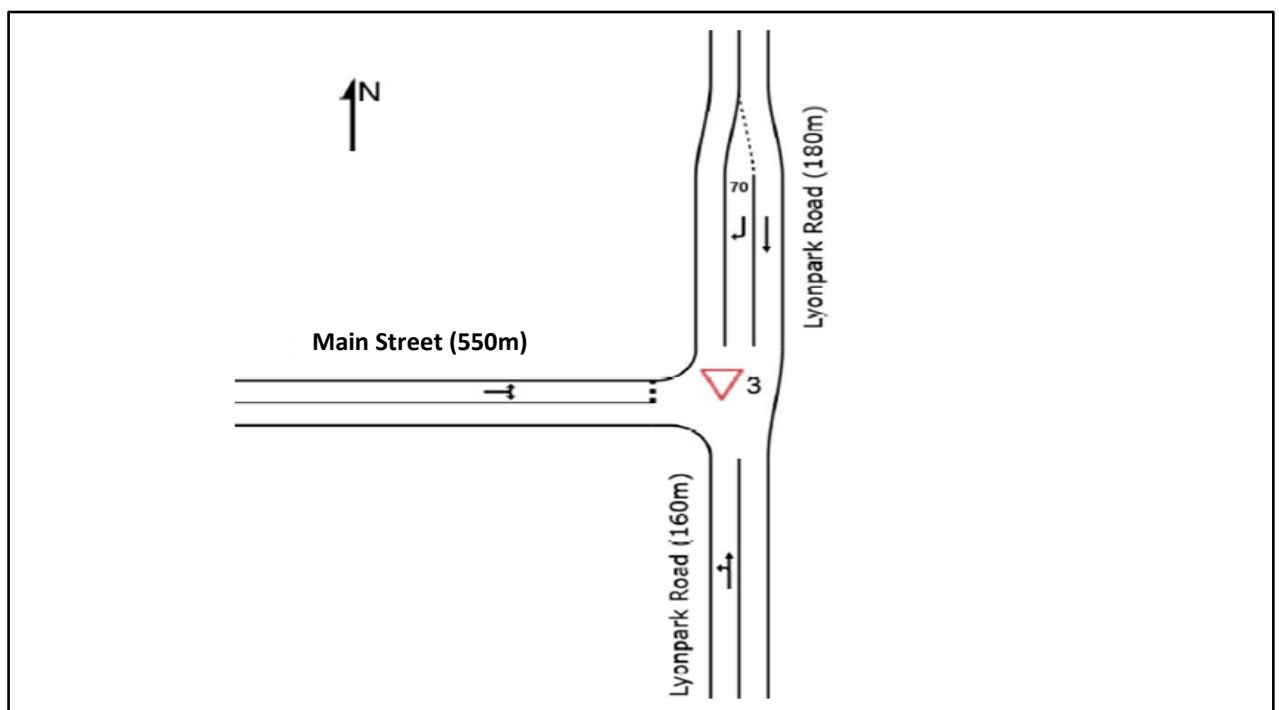


Figure 1: Main Street / Lyonpark Road SIDRA Intersection Layout

The NSW crash data from the Road Safety website has also been interrogated for the past five years and there have been no crashes in the vicinity of the proposed intersection or along Lyonpark Road from Epping Road to Byfield Street. The location has good sight distance, delineation, road geometry and traffic volumes and speeds are not considered to be high risk. Further, the intersection will be designed in accordance with the appropriate guidelines and standards to ensure the safest possible design for all road users.

Finally, we trust the above information provides clarification and a greater appreciation of the issues identified in the revised responses to submissions. Please contact undersigned or should you have any queries or require further information.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Dan Budai', written in a cursive style.

Dan Budai
Senior Traffic Engineer – Ason Group

Email: dan.budai@asongroup.com.au