ATTACHMENT 1

City of Ryde Submission

IVANHOE ESTATE REDEVELOPMENT - STAGE 2

SSD-15822622

Submission Date: 12 November 2021

EXECUTIVE SUMMARY

Thank you for inviting Council to comment on Ivanhoe Estate Redevelopment - Stage 2 SSD proposal.

This submission is being made in response to SSD-15822622 lodged with the Department of Planning, Industry and Environment, currently on exhibition from 19 October 2021 to 15 November 2021.

Summary of Stage 2 Proposal:
The proposal comprises of the following:

- Excavation and earthworks;
- Construction of a part two/part three storey building (Building C2) with ground floor commercial, swimming pool, gymnasium, community centre, and central open space area known as the 'Village Green;
- Construction of a 17-storey residential apartment building with ground floor retail (Building C3), containing 168 dwellings and a 163-space basement car park;
- Construction of a 24-storey and a 17-storey residential apartment building plus four townhouses (Building C4), containing a total of 488 dwellings and a 408-space basement car park;
- Construction of Village Green open space;
- Utilities, services infrastructure and public domain areas;
- Stratum subdivision.

Council officers have undertaken a review of the proposal. A number of concerns are being raised which relate to matters including the following:

a) **Open Space (Village Green) design and dedication issue;**
b) **Design of residential waste storage and truck access;**
c) **Traffic Report inadequate and is based on incorrect assumptions;**
d) **ADG related design/ privacy issues in Building C4;**
e) **Other issues that will require Conditions of Consent to be addressed.**

Details of the above issues are included in the submission. It is recommended that the application be amended to address these issues before any approval is granted.

Details of the issues are included below.

1. Open Space

a. Open Space (Village Green) dedication – not acceptable to Council

The Environmental Impact Statement seems to indicate at page 29 that the Village Green is intended to be dedicated to City of Ryde.

i. Council does not accept the dedication of the Village Green.

ii. Council has raised issues in respect to the note in Condition A30 of the Concept Development and the proposed Mod 1 that is yet to be determined. Please refer to letter dated 16 September 2021 addressed to The Hon Rob Stokes MP, Minister for Planning and Public Spaces, GPO Box 5341, SYDNEY NSW 2001, for detailed explanation.

iii. Council expects Stage 2 Consent will be appropriately conditioned to enable payment of the s7.11 contributions in accordance with Condition A30 of the SSD 8707 Ivanhoe Concept Instrument.

b. Open Space - Village Green – Design Issues

The details relating to the embellishment of the Park as required under the SEARs have not been fully provided.

i. The current **design is unsatisfactory** as the location of a retaining wall limits pedestrian movement between the park and the pedestrian crossing. A retaining wall up to approximately 3m high is proposed along the northern edge of the playground. The Village Green design is to be revised to improve the integration with the Village Green and pedestrian crossing on Main Road. There should be a direct connection between these two elements and further within the park to activation nodes.

ii. **Maintenance vehicle access** into and circulation within the park seems not have been provided. This must be provided at a minimum width of 2.5m. Materiality of surface treatments to reflect required vehicle attenuation.

iii. **Toilet facilities** - To provide amenity to the Village Green, the proposed subdivision plans for either C2 or C3 are to be adjusted to include publicly accessible toilets during day light hours.

iv. Detail and specify **public art** within the Village Green as per SEARs requirement. Must include information demonstrating its role within the 'Ivanhoe' development and Macquarie Park. Public Art is to be fabricated to minimise ongoing maintenance requirements;

v. **Details of car parking and bicycle parking** (25) to be provided for public use associated with the Village Green.

c. Additional Issues – Open space (Village Green) (Conditions of approval)

The following additional issues are raised that may be dealt with appropriate conditions of consent.

i. Identify details of proposed materials and structures on the site. Specify materials that are suitably robust for public open space and minimise ongoing maintenance requirements. The use of timber should be minimised and only used as a decorative element with a minimum design life of >30 years;

ii. Include public WiFi;

iii. Provide lighting, compliant with relevant codes and standards;

iv. Detail and specify public art within the Village Green as per EIS requirement. Must include information demonstrating its role within the 'Ivanhoe' development and Macquarie Park. Art is to be fabricated to minimise ongoing maintenance requirements and not include dynamic elements that can fail;

v. Demonstrate universal design principles;

vi. Include Council standard urban garbage bin enclosures and access for collection;

vii. Include CCTV to comply with CPTED requirements;

viii. Identify existing services and the location and depth of proposed services;

ix. Detail drainage, waterproofing and watering systems;

x. Detailed grading plan with existing and proposed levels, falls, and pits;

xi. Provide details of soil depths including finished levels and any mounding;

xii. Detail the location, species, maturity and height at maturity of proposed plants;

xiii. All proposed tree planting shall be advanced tree planting stock (minimum pot container size of 100 litres or greater, compliant with AS2303);

xiv. Playground equipment to have a minimum of 50% shade at commencement of operation;

xv. Solar access is to be maximised to the main turf area;

xvi. Turf area to have sand slit drainage and irrigation from non potable sources;

xvii. Demonstrate soil depth, volumes and irrigation to support all proposed plantings to achieve their full potential consistent with industry best practice;

xviii. All areas of the park to be within 30 metres of a hose cock;

xix. Detail adequate stormwater system for drainage;

xx. Prepare and implement a plant maintenance specification until the completion of the last stage of the overall 'Ivanhoe' development and commit to replacing vegetation with the same species and size at time of failure within 1 month of failure, should any vegetation loss occur within this maintenance period;

xxi. 25 bicycle parking identified in the EIS to be provided;

xxii. All pathways within the publicly accessible open space is to be illuminated to the relevant standard with pole top lights.

xxiii. All furniture and fixing to be suitably robust for publicly accessible open space. Bollard lighting is not consider robust.

xxiv. The 'North-south footpath from Mews to Main Street' is to be a minimum of 2m in width, with a more direct connection to the existing Shrimptons Creek shared user path. This intersection of paths is to allow for a smooth and seamless transition without the need for sharp turns as currently proposed.

xxv. Any works in Shrimptons Creek will require approval by City of Ryde Council.

xxvi. The Landscape Drawings are to be prepared with consideration of Council's Development Control Plan, Public Domain Manual, Standard Details including requirements for footway pavement, drainage, vehicle crossovers, pedestrian ramps and other relevant elements to the approval of Council's Parks section.

2. Traffic Issues

a. Section 7.2 of Ason Group's Transport Assessment report (Reference: P1633r01, 5 August 2021) adopted the following weekday trip generation rates for the residential and retail components of the proposed development:

Residential
AM Peak = 0.14 trips per dwelling
PM Peak = 0.12 trips per dwelling

Retail
AM/PM Peak = 1 trip per 100m^2

The abovementioned trip generation rates are well below the average rates specified within Transport for NSW's (TfNSW) *Guide to Traffic Generating Developments Updated Traffic Surveys (TDT 2013/04a)* and *Trip Generation Surveys for Small Suburban Shopping Centres (7 November 2018)* stated below:

Residential
AM Peak = 0.19 trips per dwelling
PM Peak = 0.15 trips per dwelling

Retail (GLFA less than 2000m^2)
AM Peak = 17.42 trip per 100m^2
PM Peak = 21.96 trip per 100m^2

With regards to the above, there are concerns that the peak hour traffic potentially generated by the proposed development has been underestimated in the transport study. An updated traffic modelling assessment is therefore required, which is to be based on the trip generation rates established within the abovementioned TfNSW's technical documents (i.e. *Guide to Traffic Generating Developments Updated Traffic Surveys (TDT 2013/04a)* and *Trip Generation Surveys for Small Suburban Shopping Centres (7 November 2018)*) to ensure a more accurate analysis of the traffic impacts of the proposed development.

b. Stage 2 of TfNSW's Macquarie Park Bus Priority and Capacity Improvement Project (MPBPCI) outlined in Section 4.2.2 of Ason Group's Transport Assessment report (Reference: P1633r01, 5 August 2021) is currently on hold. In this regard, the traffic modelling assessment in the transport study needs to be amended to only include works that form Stage 1A and 1B of the MPBPCI project (e.g. the junction of Waterloo Road and Byfield Street needs to be modelled under its current roundabout configuration rather than under traffic signal control).

c. Ason Group's Transport Assessment report (Reference: P1633r01, 5 August 2021) indicates that the future T-junction of Lyonpark Road and Ivanhoe Place is expected to operate with a good level of service (LoS) 'B' for both the weekday AM and PM peaks for the year 2031 (inclusive of development traffic).

Considering the significant right turning traffic volumes to and from Lyonpark Road via Ivanhoe Place and the through southbound traffic volumes along Lyonpark Road, vehicles exiting Ivanhoe Place onto Lyonpark Road are expected to experience much greater delays than what is reflected in the SIDRA output on pages 114 and 115 of the transport study. This is substantiated by the SIDRA modelling undertaken by Council staff, which have incorporated the traffic volumes adopted in the Ason Group's transport report. Figure 1 overpage provides a comparison of the SIDRA outputs.

It is evident from Figure 1 that based on the modelling undertaken by Council staff, the future T-junction of Lyonpark Road and Ivanhoe Place is projected to operate with a poor LoS 'F' under the proposed priority controlled intersection treatment. As such, an alternative intersection treatment/improvements is required to ameliorate the traffic impacts generated by the proposed development.

d. Ason Group's Transport Assessment report (Reference: P1633r01, 5 August 2021) indicates that the future T-junction of Lyonpark Road and Ivanhoe Place is expected to operate with a good level of service (LoS) 'B' for both the weekday AM and PM peaks for the year 2031 (inclusive of development

traffic).

Considering the significant right turning traffic volumes to and from Lyonpark Road via Ivanhoe Place and the through southbound traffic volumes along Lyonpark Road, vehicles exiting Ivanhoe Place onto Lyonpark Road are expected to experience much greater delays than what is reflected in the SIDRA output on pages 114 and 115 of the transport study. This is substantiated by the SIDRA modelling undertaken by Council staff, which have incorporated the traffic volumes adopted in the Ason Group's transport report. Figure 1 overpage provides a comparison of the SIDRA outputs.

It is evident from Figure 1 that based on the modelling undertaken by Council staff, the future T-junction of Lyonpark Road and Ivanhoe Place is projected to operate with a poor LoS 'F' under the proposed priority-controlled intersection treatment. As such, an alternative intersection treatment/improvement is required to ameliorate the traffic impacts generated by the proposed development.

FIGURE 1 – COMPARISON OF SIDRA OUTPUT (JUNCTION OF LYON PARK ROAD AND IVANHOE PLACE)

MOVEMENT SUMMARY

Site: 3 [AM_ Lyonpark-Ivanhoe _ s2_no Left-In_opt1]

Network: N1 [AM_ Ivanhoe_ s2_no Left-In_opt1]

Ivanhoe Main Road x Lyonpark Road
2031 Background plus Development Traffic, with Upgrades
No Left-In from Epping (this traffic redistributed as 100% Right-In from Herring)
Site Category: Three Leg Priority Controlled
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Aver. Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lyonpark Road (160m)														
1	L2	19	0.0	19	0.0	0.265	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	49.3
2	T1	494	1.3	484	1.3	0.265	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.6
Approach		513	1.2	503[N1]	1.2	0.265	0.2	NA	0.0	0.0	0.00	0.02	0.00	49.6
North: Lyonpark Road (180m)														
8	T1	286	1.5	286	1.5	0.152	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	463	1.4	463	1.4	0.436	8.2	LOS A	1.2	8.4	0.63	0.88	0.82	31.3
Approach		749	1.4	749	1.4	0.436	5.1	NA	1.2	8.4	0.39	0.54	0.51	36.5
West: Ivanhoe Main Road (290m)														
10	L2	213	1.5	212	1.5	0.839	12.2	LOS A	3.7	26.0	0.84	1.82	2.50	26.6
12	R2	403	1.3	402	1.3	0.839	16.9	LOS B	3.7	26.0	0.84	1.82	2.50	21.1
Approach		616	1.4	614[N1]	1.4	0.839	15.3	LOS B	3.7	26.0	0.84	1.82	2.50	23.3
All Vehicles		1878	1.3	1867[N1]	1.4	0.839	7.1	NA	3.7	26.0	0.43	0.82	1.03	31.7

Source: Extract of Ason Group's Transport Assessment report (Reference: P1633r01, 5 August 2021) – AM PEAK

MOVEMENT SUMMARY

▽ Site: 101 [AM Peak (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m
South: Lyonpark Rd										
1	L2	19	5.0	19	5.0	0.272	4.6	LOS A	0.0	0.0
2	T1	494	5.0	494	5.0	0.272	0.0	LOS A	0.0	0.0
Approach		513	5.0	513	5.0	0.272	0.2	NA	0.0	0.0
North: Lyonpark Road										
8	T1	286	5.0	286	5.0	0.617	5.4	LOS A	7.2	52.7
9	R2	463	5.0	463	5.0	0.617	10.4	LOS B	7.2	52.7
Approach		749	5.0	749	5.0	0.617	8.5	NA	7.2	52.7
West: Ivanhoe Pl										
10	L2	213	5.0	213	5.0	1.847	392.9	LOS F	97.3	710.6
12	R2	403	5.0	403	5.0	1.847	401.7	LOS F	97.3	710.6
Approach		616	5.0	616	5.0	1.847	398.7	LOS F	97.3	710.6
All Vehicles		1878	5.0	1878	5.0	1.847	134.2	NA	97.3	710.6

Source: Council SIDRA modelling – AM PEAK

FIGURE 1 (CONT.) – COMPARISON OF SIDRA OUTPUT (JUNCTION OF LYON PARK ROAD AND IVANHOE PLACE)

MOVEMENT SUMMARY

▽ Site: 3 [PM_ Lyonpark-Ivanhoe _ s2_no Left-In_opt1]

Network: N1 [PM_ Ivanhoe_ s2_no Left-In_opt1]

Ivanhoe Main Road x Lyonpark Road
2031 Background plus Development Traffic, with Upgrades
No Left-In from Epping (this traffic redistributed as 100% Right-In from Herring)
Site Category: Three Leg Priority Controlled
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lyonpark Road (160m)														
1	L2	139	0.8	139	0.8	0.168	4.6	LOS A	0.0	0.0	0.00	0.24	0.00	43.0
2	T1	174	1.2	174	1.2	0.168	0.0	LOS A	0.0	0.0	0.00	0.24	0.00	46.3
Approach		313	1.0	313	1.0	0.168	2.0	NA	0.0	0.0	0.00	0.24	0.00	45.3
North: Lyonpark Road (180m)														
8	T1	685	1.1	685	1.1	0.361	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
9	R2	865	1.0	865	1.0	0.650	8.4	LOS A	3.3	23.4	0.64	0.85	0.97	31.0
Approach		1551	1.0	1551	1.0	0.650	4.7	NA	3.3	23.4	0.36	0.47	0.54	37.3
West: Ivanhoe Main Road (290m)														
10	L2	44	0.0	44	0.0	0.477	5.6	LOS A	0.8	5.6	0.65	0.87	0.95	26.8
12	R2	139	0.8	139	0.8	0.477	17.8	LOS B	0.8	5.6	0.65	0.87	0.95	21.3
Approach		183	0.6	183	0.6	0.477	14.8	LOS B	0.8	5.6	0.65	0.87	0.95	22.9
All Vehicles		2046	1.0	2046	1.0	0.650	5.2	NA	3.3	23.4	0.33	0.47	0.49	35.3

Source: Extract of Ason Group's Transport Assessment report (Reference: P1633r01, 5 August 2021) – PM PEAK

MOVEMENT SUMMARY

▽ **Site: 101 [PM Peak (Site Folder: General)]**

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m
South: Lyonpark Rd										
1	L2	139	5.0	139	5.0	0.170	4.6	LOS A	0.0	0.0
2	T1	174	5.0	174	5.0	0.170	0.0	LOS A	0.0	0.0
Approach		313	5.0	313	5.0	0.170	2.1	NA	0.0	0.0
North: Lyonpark Road										
8	T1	685	5.0	685	5.0	1.045	34.2	LOS D	62.6	457.2
9	R2	865	5.0	865	5.0	1.045	39.6	LOS E	62.6	457.2
Approach		1550	5.0	1550	5.0	1.045	37.2	NA	62.6	457.2
West: Ivanhoe Pl										
10	L2	44	5.0	44	5.0	4.734	1717.1	LOS F	57.3	418.6
12	R2	139	5.0	139	5.0	4.734	1741.4	LOS F	57.3	418.6
Approach		183	5.0	183	5.0	4.734	1735.5	LOS F	57.3	418.6
All Vehicles		2046	5.0	2046	5.0	4.734	183.7	NA	62.6	457.2

Source: Council SIDRA modelling – PM PEAK

e. Table 6 of Ason Group's Transport Assessment report (Reference: P1633r01, 5 August 2021) indicates no difference in the level of service (i.e. average vehicle delay) for the intersections of Herring Road/Ivanhoe Place and Waterloo Road/Herring Road between the year 2021 (middle column of Table 6) and the year 2031 (right column of Table 6) scenarios. This is not considered to be realistic, as more traffic is expected to be concentrated on these intersections in 2031 than 2021. Further, other traffic studies undertaken at these intersections for the year 2031 have shown these intersections to be operating much worse than what is reflected in Table 6 of the report. The discrepancy in the modelling outcomes needs to be justified by the applicant.

3. Inadequate waste storage area in the basements and lack of satisfactory access for collection truck

a. Building C3 comprising 168 residential dwellings and seven (7) retail tenancies require several design changes with respect to waste storage and truck access for waste collection. The following specific issues are raised:

i. Building C3 comprises 168 residential dwellings and seven (7) retail tenancies over 17 storeys. Access is proposed via Neighbourhood St Road 3 to a ground floor loading dock. The waste truck will utilise a turntable which accommodates a 12.5m HRV. The same driveway is used for residential vehicular access. There are concerns surrounding the visibility of cars coming up the ramp exiting the driveway while the waste truck departs from the loading dock area. This needs to be reviewed from a safety and WHS perspective.

ii. The Waste Management Plan prepared by SLR Consulting shows that there will be only 3 x 1100L waste bins and 6 x 660L recycle bins for the 168 units. This equates to 44L per unit which is not adequate. The

bin configuration should be: 7 x 1100L waste bins serviced 3 times per week, 12 x 660L recycle bins serviced two times per week. The Waste Management Plan needs to be amended accordingly.

iii. The residential bin holding area at the rear of the Loading Dock Turntable is not large enough to house the above 19 bins – The loading dock area needs to be amended and the plans are to show the above bin configuration to ensure that they can be stored without impeding on the turntable area.

iv. There are dual chutes (one for waste and one for recycling) located on each floor of both Building A & B. The chute rooms on Basement 1 shows that waste will be compacted. Council does not allow for compactors due to breakage of the bins. The plans need to show that the above bin configuration can fit into the chute rooms.

v. The Bulky Waste Room is included as part of Building B waste store room. The bulky waste room needs to be a separate room so that access to the bins is not blocked and residents do not access the chute room. Plans need to be amended to provide a separate bulky waste storage room. It is suggested that the Bulky Waste Room is located on the ground floor adjacent to the loading dock to provide a more efficient service. Safe access for residents is to be considered when relocating the bulky waste storage room. This will be more efficient for the building manager in not being required to move the cleanup items from the Basement to Ground Floor.

vi. The Waste Management Plan states that the bins will be taken up to the ground floor via a dedicated lift adjacent to Building A Waste Room. The path for bins to be moved from Building B Waste Room needs to be provided to ensure that safe access is provided.

vii. Two separate receptacles must be provided inside each dwelling to store up to two days worth of waste and recyclables awaiting transfer to the communal bin disposal areas to ensure source separation of recyclables.

b. Building C4 comprises 268 residential apartments in a 24-storey residential building (Market) and 216 residential apartments in a 17-storey residential building (Social) plus four townhouses (Building C4), a total of 488 dwellings. The following issues are raised which require revised basement design to address Council's concerns:

i. Access for the Waste Truck is proposed via a new combined ingress/egress driveway (Residential Mews) off Neighbourhood Street. The heavy vehicle driveway provides connectivity to an internal loading dock/turntable, which is intended to accommodate service vehicles up to the size of a 12.5m long Heavy Rigid Vehicle (HRV). Parking for residential units in Market will also access this driveway. Swept paths show that the residential vehicles may impede access for the waste

truck. Traffic management signals will be required to be utilised while the truck is in the loading dock turntable.

ii. The access driveway is very tight in the horseshoe and should be revised to ensure that the waste truck can manoeuvre without issues.

iii. The Waste Management Plan prepared by SLR Consulting shows that there will be only a total of 8 x 1100L waste bins and 17 x 660L recycle bins for the 488 units. This equates to 44L per unit which is not adequate. The bin configuration should be:

- Social North - 5 x 1100L waste bins serviced 3 times per week, 8 x 660L recycle bins serviced two times per week.
- Social South – 4 x 1100L waste bins serviced 3 times per week, 7 x 660L recycle bins serviced two times per week.
- Market– 11 x 1100L waste bins serviced 3 times per week, 20 x 660L recycle bins serviced two times per week.
- Townhouses will have a set of bins provided to each property – 140L waste serviced weekly & 240L recycle serviced fortnightly

iv. The Waste Management Plan needs to be amended accordingly.

v. The residential bin holding area at the side of the Loading Dock Turntable is not large enough to house the above 20 x 1100L waste bins and 36 x 660L recycle bins awaiting to be serviced. – The plans need to be amended to ensure the bin collection room can accommodate the above bin configuration without impeding on the turntable area.

vi. There are 3 dual chutes (one for waste and one for recycling) located on each floor - 2 for social but only 1 for market which has 268 units. A second chute should be provided for Market to ensure that waste and recycling does not overflow in the bins provided at the end of the chute on Basement 2.

vii. Market Housing waste room is located on Basement 2 which includes a bulky waste room. The bulky waste room needs to be a separate room so that access to the bins is not blocked and residents do not access the chute room. Plans need to be amended to provide a separate bulky waste storage room for Market. The size of the bulky waste room should be a minimum of 25m2.

viii. The Bulky Waste Room for Social is located on Basement 1, with the Waste Chute for Market running through it to the basement 2.

ix. It is suggested that the storage room for bulky waste is located adjacent to the loading dock to provide a more efficient service thus meaning the building manager will not be required to move the cleanup items. Safe

access for residents is to be considered when relocating the bulky waste storage room.

x. The Waste Management Plan states that the bins will be taken to the Loading Dock via a tug. The path for moving the bins from each of the chute rooms to the loading dock needs to be provided to ensure that safe access is provided.

xi. Two separate receptacles must be provided inside each dwelling to store up to two days worth of waste and recyclables awaiting transfer to the communal bin disposal areas to ensure source separation of recyclables.

4. Drainage/ Flood related Issues

Additional details in relation to flood planning is required:

a. Future stormwater infrastructure must be clearly detailed in the plans.

b. Stormwater infrastructure to be in public ownership after the development is complete shall comply with City of Ryde Council's Stormwater Technical Manual.

c. Discharge headwalls placed inside the creek reserved imply a series of permits are required from Council, from a legal and environmental point of view.

d. PMF levels shall be detailed in the vicinity of the buildings impacted. A detailed assessment of all openings that maybe affected by PMF floods must be undertaken to ensure all openings, ramps, etc are above the PMF at each specific point.

e. Electronic copies of the Hydraulic model (HEC-RAS/TUFLOW) shall be submitted to Council.

f. As per the City of Ryde DCP "For sites where flood level information is available, the issued flood level information should be utilised to calibrate the model." It is understood that the flood modelling has been done using Council information. However, it is required to include Flood Levels provided by Council to ensure the model is based on the current information provided by Council. Since the Flood Impact Statement does not demonstrate any records of the Calibration to Council flood certificate, it is requested that this is provided for Council's consideration.

g. VD product (Velocity x depth) of overland flows to be supplied and, if increased inside the development, restricted to below 0.4 m2 /s.

h. VxD map to be included in the Flood Study, including neighbouring properties.

i. Details of the driveway leading to the basement carpark shall clearly demonstrate that the proposed basement ramps have crest levels up to PMF level.

j. As this is a critical issue for this development, a clear study of all ramps/basement flood immunity shall be provided. Long sections of all basement ramps shall be provided including proposed crests AHD level, 1 in 100yr ARI AHD level and PMF AHD level. Also, an analysis of all basement openings shall be included (emergency exits, stairs, ventilation, etc…) to ensure the full flood immunity of all basements.

k. Future Council Stormwater Pipes shall have a cover as per City of Ryde DCP. Please indicate the cover of the proposed pipe within Council land on the long section.

l. Details of the connection to Council drainage system shall be included in the Stormwater Management Plan.

5. Public Domain
(Refer to Attachment 2 for recommended Conditions)

6. Sustainability – Water, Energy and Environment

a. Block C3

i. The Sustainability Report indicates that 8.7 Nathers compliance levels for thermal comfort scoring is:
- Heating = <53% below allowable BASIX target
- Cooling = 41% below allowable BASIX target

If C3 is to house social/ affordable housing then this is insufficient as occupants within social/ affordable housing are provided fans (not air conditioning but will be 'air conditioning ready'). Thermal comfort through achieving BASIX targets is imperative for these dwellings/ occupants as they will be detrimentally impacted during extended hot weather periods and in winter with limited affordability to cool. This should be improved as a non-negotiable as will render the occupants vulnerable to these impacts which could be modified through improved passive design and comfort.

b. Block C4

i. Planting palette provided in the C4 landscape plan is not supported at all. It conflicts the key strategies identified by Frasers own architects which is the support the adjoining vegetation communities and has identified problematic invasive and weed species. Species will have ability to negatively impact surrounding natives in the corridor.

ii. Open space pathways connecting to Council land are conflicting in designs. Hassell landscape plan provides 6 connections (all abilities

and general pathways) this is too many and should be reduced.

iii. Bins should be provided within the property boundary closest to the buildings (not near bushland) to cater for users. This is not nominated.

iv. Ethos Urban (EIS) nominates a raingarden next to Shrimpton's Creek but it is not nominated in the Hassell landscape plan for C4. Details of this required for size, placement and suitability for council to review. This is not to be placed within Lot 29.

v. (EIS) nominates raingardens but no details provided.

vi. Lighting – application does not include riparian lighting and guidance for providing dimmable, fauna friendly lighting that minimises spill and complies with
   - National Light Pollution Guidelines for Wildlife (DEE 2020).
   - Australian Standard *AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting* provides information about the impact of artificial light on biota (DEE 2020).

   This will be consistent with the rest of the shrimptons creek pathway lighting and council can provide specifications for delivery.

c. Transport/ parking:

i. No EV charging stations have been provided on the site at all despite State Design & Place SEPP movement towards getting all new developments to ensure this is provided. Council has also previously requested this as residents will require access and is easily and affordably provided during the planning and construction stage. Retrospective installation would be problematic given the layout and scale of the development. Given the numbers of residents which will reside and visit the site, this should be included.

ii. No Climate adaptation plan (nominated in the Greenstar requirements) was found which should be included at initial design stages to ensure it will provide adequate climate resilience for residents and surrounds and not post occupation as requirements will consider design.

iii. The passive open space between C2 and C3 should prioritise water storage and capture from the adjoining buildings to support long term maintenance of the green space to reduce long term potable water supply needs to maintain for the several thousand people who will use the space. This will be a high cost for maintenance with tanks readily able to be placed within the design phase to accommodate under a harvesting program.

7. ADG Design Issues

a. Village green

i. There is a retaining wall up to approximately 3m high along the northern edge of the playground. Whilst terracing seating is supported, to deal with the level change in this location, it should also take the advantage of play opportunities such as sliding and climbing to create a better

transition from the public domain. It can potentially become a playful entry point to the playground directly from the pedestrian crossing on the main street to the north.

ii. The playground should be provided with permanent shade structures or large mature canopy trees to provide shade over the play area during summer months.

iii. It is recommended that the substation (item No.7 on page 46 of the landscape report) to be relocated away from the entry point on Neighbourhood Street 2 to improve the visibility of the open space and the arrival experience. If relocation is not possible, reorientate the substation to be perpendicular to the street frontage.

b. Visual privacy

i. A 3m setback has been provided from the public footpath to the habitable rooms of Unit C4.2-GF.01. The separation is not sufficient to protect the privacy of the unit. It is recommended that the distance between the public footpath to the habitable rooms of the unit increases to a minimum of 6m.

ii. The privacy of the terrace of Unit C4.2-LG.01 will be impacted due to its proximity to the pathway to the building entry. Units C4.1-GF.11, C4.2-LG.03 and C4.2-LG.06 also have the similar issue due to their proximity to a building entry pathway or communal open space.

iii. The separation distances between the social and market housing buildings are less than 24m towards the norther end. It does not comply with the ADG's separation requirements for habitable rooms/balconies. There are habitable rooms and balconies that directly face each other with less than 24m building separation. Examples include Units C4.1-8.02 and C4.2-8.01 as well as units in this location on upper levels.

c. Deep soil

i. The basement car park in lot C4 is built to the boundary to the northeast, northwest and southwest. The design does not provide adequate depth of soil to support the landscape planting intended on the landscape plans to protect the privacy of the ground floor units. The design guidance under Section 3E-1 of the ADG recommends to provide 15% of the site as deep soil on sites greater than 1,500sqm. The proposal provides 1,041m2 of deep soil which is 14% of the site area. The Applicant should seek further opportunities to increase deep soil provision in lot C4, especially in the street setback zone.

d. Common circulation and spaces

i. Section 4F-1 of the ADG requires that for buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40. Lot C4 fails to comply with the ADG in the following areas:

- The social housing building, on average, has 56 units serviced by a single lift in the northern core and 47.5 units serviced by a

single lifts in the southern core. The market housing building provides 3 lift to service 256 units, i.e. 85 units serviced by a single lift.

- On some levels, the proposed buildings provide up to 12 apartments per circulation core, whereas the ADG's design criterion specifies that the maximum number of apartments off a circulation core on a single level is 8.
- The market housing building has an unusually long common corridor (approximately 57m along and 1.6m wide) on the first 18 floor levels. The common corridor is excessively long and has an uncomfortable length to width ratio. No articulation elements such as series of foyer areas or seating spaces are provided to the common corridor from Levels 3 to 17 other than three windows.

The combination of the above issues indicate that the proposal has not provided a satisfactory level of amenity to the future residents and properly service the number of apartments. For such a long building, a more appropriate approach is to provide two independent circulation cores, each has two lifts opening to a shorter and wider common corridor and servicing no more than 6 apartments on a single floor level and. That will enable the provision of cross-through apartments in the middle of the floor plate, provides greater privacy and security to the future residents. Windows are better to be provided at the end of the corridor so that they are easily visible from the lift lobby. A dual-core internally layout will not preclude the creation of deep slots to the eastern elevation and the façade articulation that are currently proposed.