



Ref: 300001PM MO/LF

6th September 2019

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

Attention: Chris Koukoutaris

Dear Chris,

**RE: IVANHOE ESTATE MASTERPLAN,
STORMWATER AND DRAINAGE ASSESSMENT ADDENDUM 2**

1.0 BACKGROUND

ADW Johnson was engaged by the Aspire Consortium, to undertake a Stormwater and Drainage Assessment to accompany a State Significant Development Application (SSDA) for the Ivanhoe Estate redevelopment.

The original Stormwater and Drainage Assessment (reference 300001-Stormwater and Drainage Assessment Revision E, dated 27th February 2018) was undertaken to determine the stormwater quantity and quality controls required for the overall development in order to meet the requirements of Ryde City Council.

An addendum letter to the original report was prepared on the 8th August 2018 to discuss the impact of changes to the proposed masterplan on the stormwater controls outlined within the original report. Since this time the masterplan has been refined further and this letter has been prepared to discuss the further changes. This letter should be read in conjunction with the original Stormwater and Drainage and Assessment and first addendum letter.

It is noted that the Stormwater and Drainage Assessment was prepared to accompany a masterplan development application and as such, the water quantity and quality controls outlined within the report are to be considered as a guide for the future development of the site only. Further details around the specific controls required are to be provided as part of individual stage development applications.

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2.0 MASTERPLAN CHANGES

As mentioned above, since the first addendum letter, the masterplan has been further refined in order to satisfy a number of different issues raised by different authorities.

As the stormwater controls proposed in the original assessment were provided on a lot by lot basis, only changes to the proposed built form within the individual lots will have an impact on the proposed stormwater controls for the development. For comparison purposes, a copy of the original and updated masterplans has been attached to this letter.

Upon review of the attached amended masterplan, the following changes have been identified as having an effect on the stormwater controls proposed under the original assessment:

- Reduction in footprint of buildings A3, D1, D2, D3 and D4;
- Minor changes to other buildings throughout the masterplan;
- Removal of Left in Left Out intersection with Epping Road and associated local Road (Green Star requirements only).

The following sections provide further detail on the above changes and the associated impact they will have on the stormwater and drainage assessment.

2.1 Reduction in Footprint of Buildings A3, D1, D2, D3 and D4

To avoid impacts on the Sydney Turpentine Ironbark Forest, an Endangered Ecological Community (EEC) located adjacent to the Epping Road boundary, the footprint of all buildings within the vicinity of the EEC have been reduced.

From a stormwater perspective, these changes will result in a reduction of impervious area within each of these lots and hence a reduction in the peak discharge being generated by these lots. This will likely result in a slight reduction in the detention tank sizes for each of these lots. It is however anticipated that the reduction in peak discharge will be minimal and therefore the changes to the tank size will also be minimal.

As indicated in the original Stormwater and Drainage Assessment, the tank sizes proposed are to be considered approximate only and detailed assessments of each tank are to be undertaken as part of the development application phase for the relevant stage. Given this, and the fact the changes are anticipated to be minimal, it is considered that the original Stormwater and Drainage Assessment, submitted as part of the SSDA, is still valid.

2.2 Minor Changes to Building Shapes throughout the Masterplan

Throughout the masterplan, a number of building shapes have changed from those proposed in the original Stormwater and Drainage Assessment. As the building shapes were used to determine the roof catchment areas in the original assessment, any change in building shape will have an effect on the roof catchments.

Notwithstanding the above, it is noted that the roof areas proposed in the updated masterplan have generally reduced in area and will therefore result in lower peak discharges.

It is also considered likely that, throughout the life of the project, building shapes will continue to be refined and roof areas will once again change. As these changes will be assessed with the individual development applications, it is considered that the original Stormwater and Drainage Assessment is still valid, despite the changes to the masterplan.

2.3 Removal of Left in Left Out (LILO) intersection with Epping Road and associated local Road.

Similar to the reduction in building footprints along the Epping Road frontage, the road link and LILO intersection with Epping Road has been removed from the masterplan to avoid impacts on the EEC.

The removal of the intersection itself will not have an impact on the internal stormwater network, however the removal of the local road connection will result in a reduction of impervious area.

As discussed in the original Stormwater and Drainage Assessment, the public road network does not need to be detained or treated in order to meet council requirements, however a number of targets were met in order to meet a 6 Star Green Star rating.

It is noted that the reduction in impervious area associated with the removal of the local road will result in a reduction of the peak discharge reaching the outlet and will only increase the compliance with the Green Star requirements. As such it is considered that the original Stormwater and Drainage Assessment is still valid, despite the removal of the road connection and LILO intersection.

3.0 CONCLUSION

This letter was provided to assess the likely impact of changes to the Ivanhoe Estate masterplan on the Stormwater and Drainage Assessment submitted as part of the SSDA.

It has been found that the masterplan changes will have a negligible effect on the proposed stormwater infrastructure and it was noted that detailed assessments of each building and lot will be undertaken as part of the individual development application phase for the relevant stage.

As such, it is considered that the original Stormwater and Drainage Assessment is still valid despite the changes to the masterplan and therefore it does not need to be amended.

We ask that you please do not hesitate to contact the undersigned should you require any additional information, seek clarification on any item or wish to further discuss.

Yours faithfully,



Ben Myles
Civil Engineer
ADW JOHNSON

Previous Masterplan



Proposed Masterplan

