

TECHNICAL MEMORANDUM



Date: 19 September 2019

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To: Adam Dunn (PEET)

From: Jason Harley (Meinhardt Urban)

Revised Stormwater Infrastructure for Stage 2-5 Flagstone

Meinhardt Urban have been appointed by Peet Flagstone City Pty Ltd to prepare a review of the Stormwater Management Report – Stage 2-5 prepared by Cardno on 14 August 2012. The purpose of the review is to document key changes to the Stormwater Management Report (SMP) to support the Stage 2-5 RFI submission.

Introduction

The Stage 2-5 SMP was drafted in accordance with the original framework of the following documents:

- *'Flagstone City – Context Area 1 Stormwater Management Strategy Report'* dated August 2012 (ref 721743/R9V2) for the purpose of stormwater treatment and peak flow management.
- *'Flagstone City - Masterplan - Flooding Assessment'* dated August 2012 (ref 721743/R1V2) for the purpose of flood management.

The Flagstone City Masterplan Flooding Assessment was updated on 5 September 2014, endorsed by EDQ as part of the Stage 1 ROL, and remains generally relevant to the Stage 2-5 ROL development proposal.

The general assumptions and principles of this framework is intended to be maintained except for the following:

- Rainwater tanks are no longer considered a storm water treatment measure due to the discontinuation of raintank compliance requirements from the Queensland Development Code.
- Whilst all basins have been sized to meet AEP 63% detention requirements, the Stage 2 basin (Basin No. 6) has been sized to detain both 63% AEP and 1% AEP to predeveloped peak flows. This is to ensure that the downstream cross drainage culvert in Silverwood Drive meets major storm transverse flow limits as recommended in QUDM.
- As part of Condition 35 of EDQ Approval DEV2018/915/2, the future developers of the proposed school will install their own water quality treatment devices to meet water quality objectives.

Apart from the above, the key changes to the Stage 2-5 SMP are restricted to changes in catchment boundaries and basin locations.

The key basin locations are located in Figure 1 below:

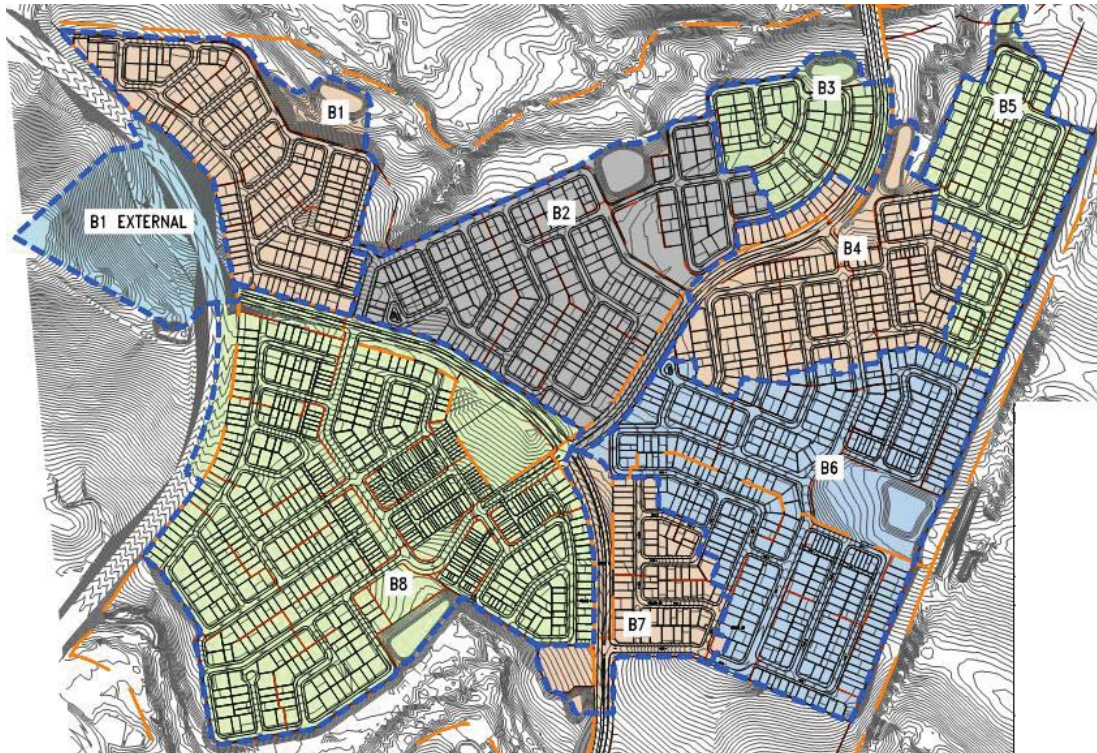


Figure 1 – Revised Catchment and Basin Locations

Detailed revised catchment and basin locations are detailed in the Stage 2-5 Condition 19 Water Quality Compliance Assessment Report.

The proposed sizing of basins are as follows:

Table 1 – Indicative Biofiltration Sizing

Device	Description
B1	Biofiltration Area = 1200m ²
B2	Biofiltration Area = 1200m ²
B3	Biofiltration Area = 340m ²
B4	Biofiltration Area = 760m ²
B5	Biofiltration Area = 570m ²
B6	Biofiltration Area = 1420m ²
B7	Biofiltration Area = 362m ²
B8	Biofiltration Area = 2350m ²

Options to incorporate other treatment measures to supplement bio-retention basins will be considered during the design phase. These measures include buffer strips, grass swales, sediment basins, and installation of saturated biofiltration zones and will result in adjustments to biofiltration areas.

Conclusion

Meinhardt Urban have reviewed the Storm Water Management Report – Stage 2-5 prepared by Cardno on 14 August 2012 and submitted to ULDA as part of the original Stage 2-5 application. Subject to minor changes detailed in this Technical Memorandum, the Storm-water Management Report – Stage 2-5 and the Master Flood Assessment Report, dated 5 September 2014 is still applicable to the application.

Furthermore, based on current approved treatment train methodologies, the development footprint can contain these treatment options.