

To: Richard Bender - EDQ
From: Ralph Williams - DesignFlow
Reviewed: Shaun Leinster (RPEQ 15637) - DesignFlow
Date: 15 May 2020
Subject: Carseldine Urban Village – Flood impact assessment to support Stage 2 development

Approval no: DEV2020/1118
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Attachments

1 INTRODUCTION

This technical memorandum describes flood impact assessments relevant to Carseldine Urban Village to support Stage 2 development.

2 BACKGROUND

In support of the Carseldine Urban Village development, regional and local flood assessments have been completed for ultimate development conditions to determine flood impacts associated with each. Required mitigation measures were determined to avoid flood impacts external to the site. The latest assessments are reported in:

- *Carseldine Urban Village – Updated Stormwater Management Plan* (DesignFlow, October 2019)
- *Carseldine Urban Village – Addendum to Carseldine Urban Village – Pedestrian Bridge Hydraulic and Flood Impact Assessment* (DesignFlow 19 December 2019)
- *Technical memorandum - Carseldine Urban Village – Local flood assessment to support Stage 1 development* (DesignFlow Technical Memorandum 10 October 2019)
- *Technical memorandum – Carseldine Urban Village – Updated flood assessments to support Stage 1 development* (May 15, 2020)

Regional model

Regional modelling was completed assuming ultimate developed conditions and includes all necessary mitigation measures to manage flood impacts external to the site (refer to *Updated Stormwater Management Plan, DesignFlow October 2019*).

In addition, model updates to the regional model were completed to include the pedestrian bridge linking CUV with Aspley State school (refer to *Addendum to Carseldine Urban Village – Pedestrian Bridge Hydraulic and Flood Impact Assessment, DesignFlow 19 December 2019*).

Severe storm impact assessments have been completed for the 0.5% AEP event, assuming 20% blockage of the 1200mm dia RCP culvert crossing the eastern outlet swale. Full details are provided in *Technical memorandum – Carseldine Urban Village – Updated flood assessments to support Stage 1 development* (May 15, 2020).

TECHICAL MEMORANDUM

Outcomes from the regional flood impact assessments include:

- Flood level reductions at Beams Rd and areas north of Beams Rd up to 1% AEP
- Flood level reductions along the rail corridor up to 1% AEP
- No overtopping of the flood barrier under severe storm conditions (0.5% AEP)

Local model

The local flood modelling has been completed assuming ultimate developed conditions and includes necessary mitigation measures to avoid flood impacts external to the site. Sensitivity testing, including blockage analysis has also been completed.

Full details are provided in:

- *Technical memorandum - Carseldine Urban Village – Local flood assessment to support Stage 1 development (DesignFlow Technical Memorandum 10 October 2019)*
- Technical memorandum – Carseldine Urban Village – Updated flood assessments to support Stage 1 development (May 15, 2020)

Outcomes from the local flood impact assessments included:

- Flood level reductions at Beams Rd and areas north of Beams Rd up to 1% AEP
- Flood level reductions along the rail corridor up to 1% AEP
- No flooding of the development or overtopping of flood barrier expected under design and severe storm blockage scenarios

3 STAGE 2 DEVELOPMENT

Stage 2 development covers an area of 1.09 ha. Drainage from Stage 2 connects to pipe infrastructure installed as part of Stage 1 works. This ultimately drains to Cabbage Tree Creek. Regional and local flood impact assessments previously reported have been completed for ultimate development conditions. All required flood mitigation measures for ultimate development conditions are being installed as part of Stage 1 works. The catchment and drainage assumptions made relating to future development are still valid for Stage 2 development and the flood impacts previously reported are unaltered with the inclusion of Stage 2 development.

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