

13th April 2022

Reeds Ref: EF21-2022 442-450 Auburn Road Hawthorn

Attention: Justin Galligan
Senior Development Manager
Hamton
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**Re: 442-450 AUBURN ROAD, HAWTHORN
INITIAL STORMWATER MANAGEMENT STRATEGY ADVICE**

This memo is intended to outline an initial assessment of Stormwater Management Strategy (SWMS) requirements to support initial engineering masterplanning and Planning Scheme Amendment for the above site in response to the DELWP letter dated 6th April 2022 (ref DFP-201).

Preliminary advice provided in this memo is intended to address the critical site development constraints and stormwater management issues and requirements to support the Planning Scheme Amendment.

The information contained in this letter is based on initial investigations by Reeds Consulting and is generally consistent with the development requirements of City of Boroondara, VPA Engineering Design and Construction Manual (EDCM), Melbourne Water Land Development Manual and DELWP Guidelines for Development in Flood Affected Areas.

1. Existing site review

The approximately 1.6ha site is bound by Auburn Road to the east, Woodburn Road to the north, Robinsons Road to the west and Bills Street to the south. The majority of the existing site is impervious with buildings, carparks and internal driveways covering large portions the site, and narrow landscaping areas at the interface of Auburn Road and Woodburn Road.

The northern and north eastern boundaries of the site are steep with existing retaining walls managing the interface between internal site levels and Woodburn Road and Auburn Road.

Based on initial review of planning maps and contour information the site is well graded and falls in a westerly and south-westerly direction. The site sits well above Gardiners Creek and is not subject to LSIO flooding as shown in Figure 1.

Based on initial review of Council drainage MOCS information shown in Figure 2, the site is serviced by existing 600Ø and 675Ø Council drainage pipes in Robinsons Road which discharge to Gardiners Creek.

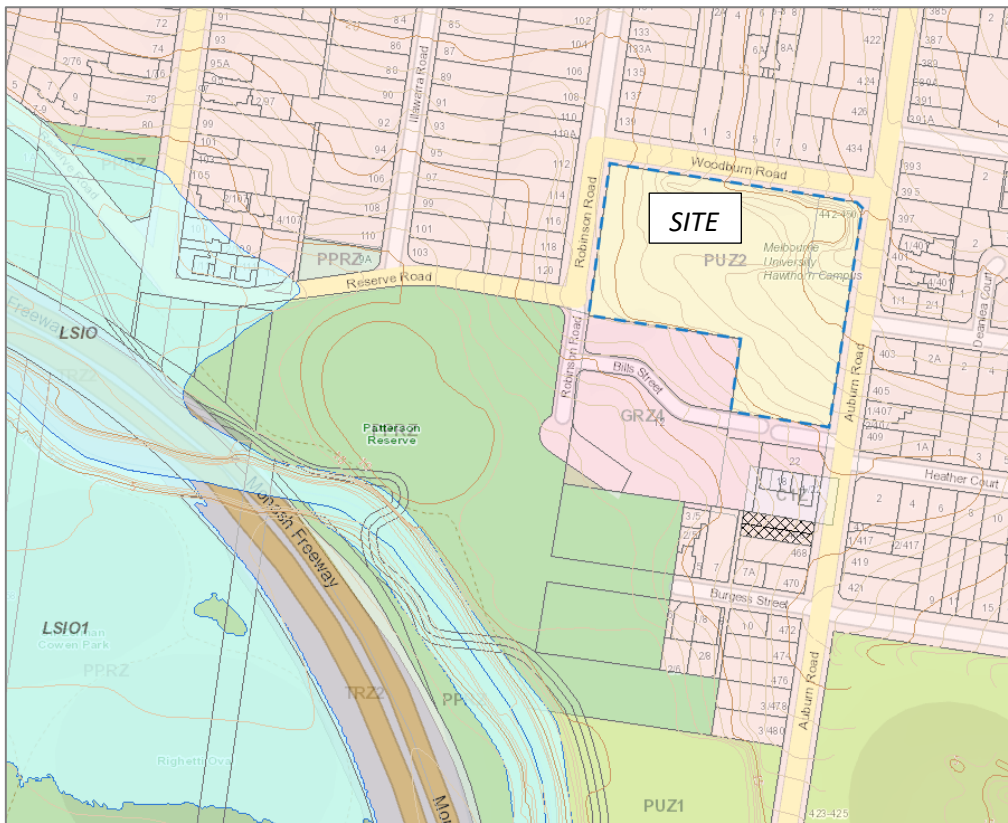


Figure 1: Locality plan

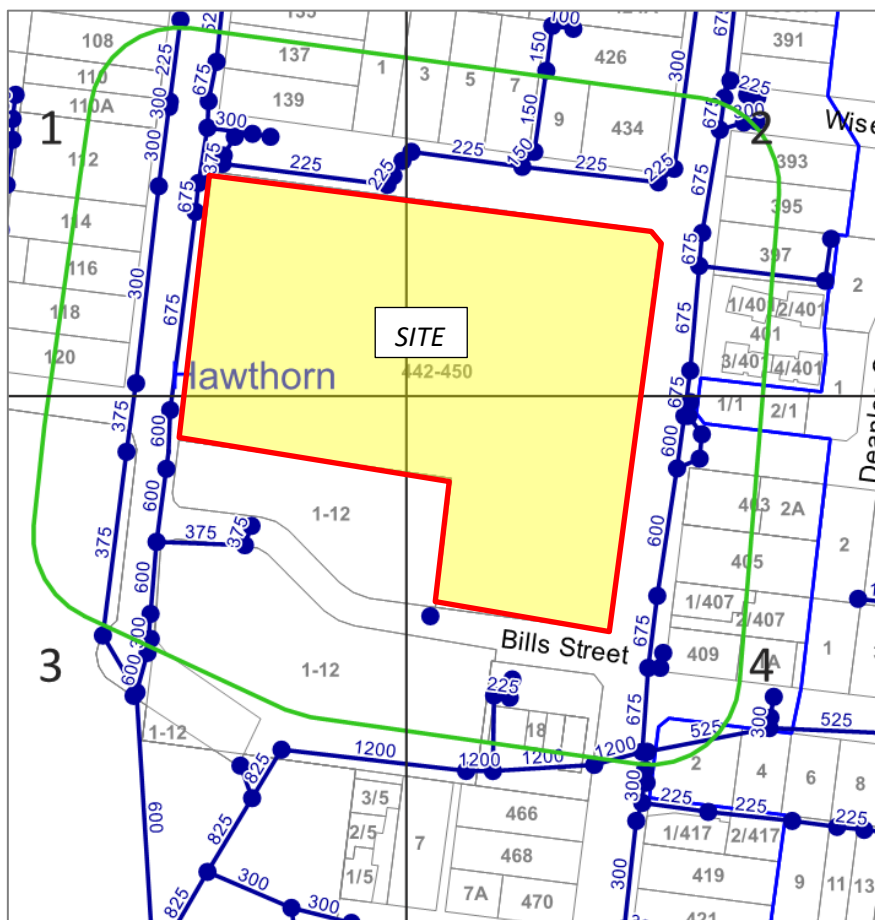


Figure 2: Council drainage MOCS plan

2. Summary of key stormwater management issues and requirements

Urbanisation leads to increased stormwater runoff and generation of pollutants which have an adverse impact on receiving waterways. It is critical to consider drainage and stormwater treatment infrastructure early in the development process to safely manage internal and external flows during extreme storm events, and to mitigate the impacts on the natural environment, receiving waterways and Port Phillip Bay.

A drainage assessment of the subject site and external catchments needs to be undertaken early in the development process to facilitate engineering masterplanning and urban design to identify the quantity of stormwater runoff to be managed during minor and major storm events. This assessment will identify the minor piped and major overland flow paths to safely convey the stormwater runoff through the site, and any need for on-site detention to retard site runoff depending on the capacity of existing receiving drainage infrastructure downstream of the site.

In addition to the drainage assessment, a stormwater treatment assessment will also be undertaken to identify sizes, types and locations of critical stormwater treatment assets to remove key urban stormwater pollutants from developed site runoff in accordance with best practice stormwater targets outlined in Table 1 below.

Table 1: Best practice stormwater treatment targets

Pollutant	Best Practice Target (% Reduction)
Total Suspended Solids (TSS)	80%
Total Phosphorous (TP)	45%
Total Nitrogen (TN)	45%
Gross Pollutants (GP)	70%

The internal stormwater management system will be designed in accordance with development requirements of City of Boroondara, VPA Engineering Design and Construction Manual (EDCM), Melbourne Water Land Development Manual and DELWP Guidelines for Development in Flood Affected Areas to authority satisfaction.

3. Initial stormwater management advice

The subject site will be serviced by an internal minor piped drainage system typically sized to 10% AEP capacity based on the proposed land use. Continuous internal overland flow paths will be provided to allow for safe conveyance of 1% AEP major overland gap flows through the development with appropriate consideration of external catchments.

The internal drainage system will discharge to a Legal Point of Discharge (LPOD) which will be confirmed by City of Boroondara. Based on review of MOCS information the LPOD is likely to be to the existing 675Ø/600Ø drain located on the east side of Robinson Street.

Given the high imperviousness of the existing site a detailed assessment of the capacity of existing Council drainage system in Robinsons Street will need to be undertaken to ascertain whether any on-site detention will be required to service the ultimate development in consultation with City of Boroondara. As part of this assessment we will undertake a first principle review of pre and post development impervious areas and site runoff to determine if detention may be required, noting that the existing site is of a highly impervious nature.

A stormwater treatment system will be integrated into the ultimate development layout, internal minor and major drainage systems, and landscaping and architectural designs to ensure the ultimate development achieves best practice stormwater treatment targets prior to discharge to Council drainage system, Gardiners Creek and Port Phillip Bay, as outlined in Table 1 above.

The proposed development layout provides ample opportunities for a well-integrated stormwater treatment system located in the Woodburn Common central open space which will be designed to suit ultimate landscape and architectural proposals and may incorporate proprietary treatment and/or integrated stormwater harvesting opportunities in coordination with any ESD initiatives.

This memo confirms that the site can be developed in accordance with DELWP requirements to support the Planning Scheme Amendment.

Further details of stormwater management proposals will be provided in a separate Stormwater Management Strategy based on the ultimate masterplan for the site.

For any queries regarding this matter please contact the undersigned or Sam Ravida of our office.

Yours faithfully,
for REEDS CONSULTING PTY LTD

SASHA JELICIC
Senior Drainage Engineer / Engineering Associate

Disclaimer

The information contained within this report has been obtained from various servicing Authorities either verbally or in writing however, until such time as formal applications made and the applicable written conditions, statutory permits and all relevant approvals obtained it should only be used as a guide. Any party wishing to use the material contained within this report should make their own inquiries to satisfy themselves to the accuracy of the information.