MEMORANDUM

Document Type:	Detail Design Review
To:	Alana Travis, APP
From:	John Piechowski, Indesco
Date:	Wednesday, 7 October 2020
Project Number:	7391
Project Name:	Queanbeyan Civic & Cultural Precinct
SUBJECT:	**ON SITE DETENTION TANK REVIEW**

Dear Alana,

As per previous correspondence Indesco has been engaged to provide a review of the stormwater arrangement for the Queanbeyan Civic & Cultural Precinct (QCCP). The purpose of the review was to investigate the use of tanks regarding the compliance with On Site Stormwater Detention Rules as outlined in *QPRC Development Design Specification D5: Stormwater Drainage Design*.

The redevelopment of the QCCP covers a site area of approximately 6,500m² and includes development of a multi-storey commercial precinct and a central landscaped area.

Per Section D5.15 the redevelopment of a commercial development allows for a peak discharge rate not exceeding the 20% and 1% AEP of the existing development.

Per Figure 1 the existing development consisted of predominantly impervious area. The impervious area was calculated to be approximately 95%. Per Figure 2 the proposed development increases the pervious area by approximately 1,000m² by providing a central landscaped area. The impervious area was calculated to be approximately 85%.

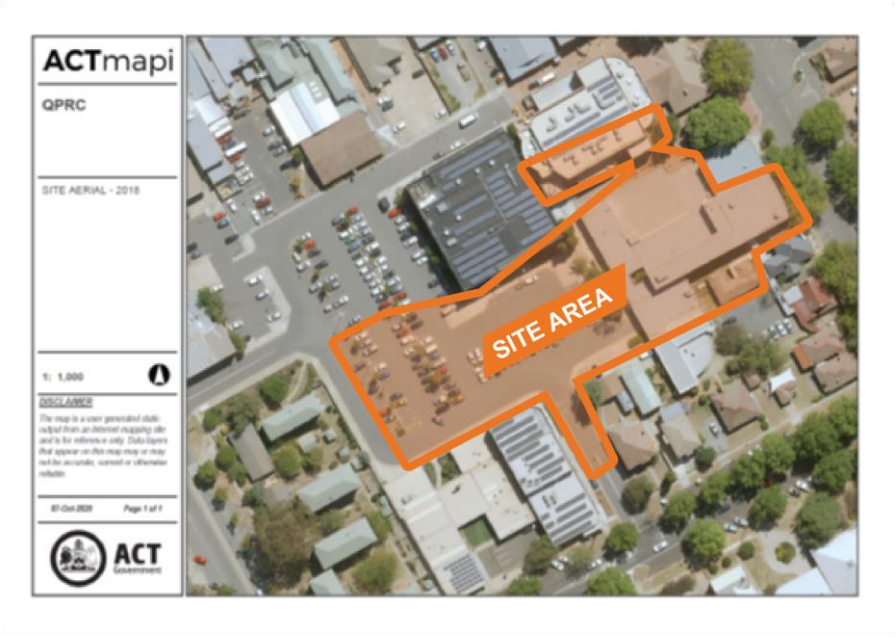

Figure 1: Aerial Imagery of Existing Development (ACTmapi, 2018)

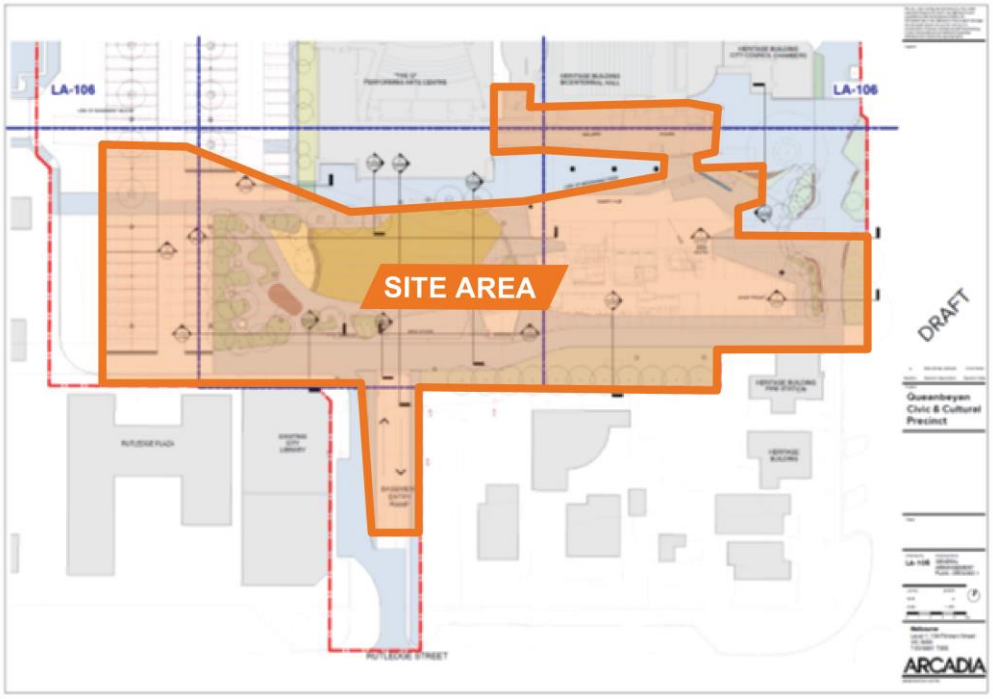

Figure 2 Proposed Development of QCCP precinct

A DRAINS model was developed using the above parameters to investigates the 20% and 1% AEP peak flow rates. The results of this model are in Table 1 below:

Table 1 DRAINS model results for peak flow

Node	20% AEP (m^3/s)	1% AEP (m^3/s)
Pre-Development	0.145	0.309
Post-Development	0.132	0.287

With the results in Table 1 the increase in previous area proposed by the redevelopment decreases the peak discharge to below the existing development. Therefore, further on site detention measures are not required per the Design Specification.