

At the Council meeting on 18 December 2017, Council considered Notice of Motion No. 74 and resolved:

That Council:

1. Resolve that the following information provided in a report to the Confidential Issues Briefing on 9 October 2017 and declared confidential by the Chief Executive Officer, is no longer confidential information, pursuant to Section 77(2)(c) of the Local Government Act 1989:
 - a) Section 3.4 of the report, entitled Boronia Basketball Stadium – Condition Assessment;
 - b) Section 3.5 of the report entitled Drainage;
 - c) Section 3.6 of the report, entitled Boronia Park Open Space; and
 - d) Section 3.7 of the report entitled Asset Summary.
2. Direct Officers to release the information outlined in resolution 1 above, to supplement the report ([Item 13.1 - Knox Basketball Infrastructure](#)) [tabled at the Ordinary Meeting of Council on 23 October 2017.](#)

In accordance with the above resolution, following is an extract from the report regarding Boronia Basketball Stadium presented to the Confidential Issues Briefing on 9 October 2017:

3.4 Boronia Basketball Stadium – Condition Assessment

The Boronia Community Centre was established on the Boronia Park site in the mid-1970's with the construction of a basketball stadium/community centre and meeting rooms.

A second stage was added to the stadium and a library was constructed shortly after. The library shares a common wall with the stadium.

A retarding basin was built in 1984/5 as Boronia Park is a naturally, low-lying area.

During 1997, cracks were detected in the Stadium wall and movement was observed in the floor. Formal monitoring of the structure followed where:

- construction joint movement;
- separation of a window mullion;
- severe cracking to east and west walls of the kitchen (function room area), and
- external brick wall movement and cracking to north (function room area) were observed.

In May 2001, Burns Hamilton and Partners (structural engineers) were engaged to undertake investigative works, predominantly for the Function Room area and Coffey (geotechnical engineers) were engaged to investigate soil conditions on site (bore holes, test pits, load testing, etc.).

The investigations concluded that:

- the soil has high plasticity, which is reactive and prone to shrinking and swelling due to moisture changes;
- the site contained substantial fill material;
- the footing design for the perimeter walls was inadequate;
- there was inadequate soil preparation under the floor slab;
- the adjacent trees had some effect on the moisture in soil;
- there was inadequate construction of control joints in the floor slab; and
- structural steel movements were found to be acceptable.

Remediation works began in 2006, including foundation improvements, replacements of sections of the floor slab, repair of cracked walls and carpet replacement at a total cost of \$150,000.

In February 2011, a major rainstorm event occurred, resulting in severe flooding of the building, including the office block and court surfaces which required one court (court 3) at the southern end of the building to be replaced after it severely buckled (by approximately 300mm) and the remaining courts (5) to be dried, sanded and recoated.

Court 3 was out of use until September 2012 (20 months later); courts 4, 5 and 6 were unusable for 6 weeks and courts 1 and 2 were restored, some 2 weeks after the event.

Since the February 2011 storm, floor tiles in the amenities toilet block have lifted and brick walls to both the toilet block and function room have cracked.

Etlis Consulting was engaged in 2013 to assess the further building movement and recommended that the amenities block, adjacent to the Function Room, be closed to public use and the cracks monitored.

Monitoring followed and in November 2015, it was observed that the width of the cracks had increased substantially (from 1.5mm to 15-25mm), together with some structural deterioration.

A further structural report was commissioned in December 2015 which found:

- an inadequate/old drainage system;
- possible leaking/blocked pipes to storm water/fire services;
- the foundation works required underpinning;
- slab joint needed to be rebuilt;
- brick wall needed to be rebuilt;
- a probable rebuild of the amenities block;
- possible roof structure remediation, and
- recommended an investigation of root barrier system of various trees adjacent to the affected building structure and/or removal of trees (given the presence of large mature trees within 5-10m radius of affected section of the building).

Nuttall Engineering Consultants (structural engineers) and Geotesta (geotechnical engineers) were then engaged to identify the extent of the movement, causes and remedial works required.

The Consultants found:

- There was a differential settlement of the floor (up to 116mm from the northeast corner of the meeting room, relative to the southeast corner of the foyer – reflects footing movement).
- The relative movement on the surface was much larger than that expected for the type of sub-soil under the building – suggests footings have been impacted by other ground conditions.
- The damage to the building ranged from very fine hairline cracks to elements requiring substantial repairs.
- The structural issues were caused by differential settlement of the footings due to:
 - Soil shrinkage.
 - Relatively high moisture in the sub-soils, resulting in low bearing capacity.

At the time of the investigation, it was estimated that \$260,000 - \$350,000 would be required to address the issues, otherwise the building could be expected to continue to deteriorate, as there were indications of ongoing movement.

3.5 Drainage

Boronia Park is a naturally low-lying area and the floor levels in the buildings are below the flood-line (the flood water line on the building was 1 to 1.5 metres above ground level following the 2011 storm event).

The Park (including the basketball stadium/library) is subject to flooding due to a number of factors which impact the site to varying degrees of severity and frequency.

As a flooding mitigation measure, the Park contains the Boronia Retarding Basin, which was recently upgraded at a cost of \$1,374,000 (following the 2011 storm event) and is an essential element in the management of the stormwater collected by Catchment 911 (an area of 170 Ha.).

Although the retarding basin had a significant increase to its storage capacity, as part of the recent upgrade, it is still be unable to contain the volume of stormwater produced by the upstream catchment during peak rainfall events.

To reach the desired capacity, the retarding basin needs to be increased by approximately 50% in order to offer greater flood protection to Pine Crescent and the adjacent buildings during a 100-year storm event.

3.6 Boronia Park Open Space

Boronia Park Masterplan was adopted by Council in 2004 and the Park is the only substantive area of open space in the precinct (bounded by Dorset Road, Boronia Road, Scoresby and Blind Creek).

Should the Stadium and Library be relocated, it would provide an opportunity to revisit the Masterplan for the Park, with a view to further improve its amenity as a valued and functioning open space.

This matter will be further considered in the Boronia Renewal Project, currently in development.

3.7 Asset Summary

Given the history of structural issues, the findings of various geotechnical engineers and the prevailing stormwater situation in the precinct, the future viability of the Basketball Stadium and the Boronia Library, and the potential for mitigating flooding in the wider catchment needs to be considered.

Further, the stadium is 40 years old and has had a number of structural issues since 1997 (19 years) which are still not fully resolved and are likely to remain so, given the unknown soil profile beneath the buildings and ongoing stormwater issues.

Since Council received the 6 September 2016 briefing, a number of actions have been taken:

- The Boronia Renewal Project has begun;
- Root barriers and tree works have been undertaken for those located close to the building;
- The perimeter drainage of the building has been upgraded, and
- The Stadium function area roof cladding and other programmed roof maintenance works ie. replacement of roof ridges over the courts and associated roof drainage system works (gutters/downpipes, etc) has been completed.

Council should note that costs estimates for the maintenance and renewal of this facility (forecast over the next 10 years) is estimated at \$6.2M.

The drainage issues within the precinct and the structural issues associated with the basketball stadium are significant constraints, and likely to determine the future suitability of the library in its current location. The future redevelopment of the Boronia Library in its existing location would therefore need further consideration by Council and there are significant opportunities within the Boronia Park and Boronia Activity Centre precincts to create a substantially upgraded or new library facility to form a core component of an integrated community hub/civic precinct. This work will form part of the future investigation of the Boronia Renewal Project.