



TaylorThomsonWhitting

24 February 2015

141191

Health Infrastructure
c/o Aurora Projects Pty Ltd
Level 2, 55 Clarence Street
Sydney NSW 2000

Attention: Ms. Simone Sharp

GOSFORD HOSPITAL AND HEALTH AND WELLBEING PRECINCT STAGE 1 STRUCTURAL AND GEOTECHNICAL ENGINEERING REPORT

Dear Simone

As requested, Taylor Thomson Whitting have reviewed the proposed structures for the Gosford Hospital Redevelopment.

The works primarily comprise:

- a major new “L” shaped building to the north west of the current main hospital buildings, consisting of 10 levels with a new helipad structure
- new operating theatre extensions over the current main entry area
- significant areas of refurbishment of the existing hospital buildings. We note the buildings were constructed in a number of different stages, from the 1970's onwards. Existing structural drawings have been made available by the hospital
- a new carpark and entry structure to the east of the site between Holden Street and Showground Road. This will comprise a multi-deck carpark to accommodate the steeply sloping site

Structural

Civil

Traffic

Facade

Engineers

1. GEOTECHNICAL WORKS

A preliminary study of available geotechnical reports was carried out by Douglas Partners in July 2014. A further detailed geotechnical and ground contamination investigation was carried out by Douglas Partners in late 2014. A copy of these reports are attached to this report as Appendix A.

In general the ground conditions encountered comprise residual clay material over a sandstone bedrock.

No issues have been identified in relation to slope stability or acid sulphate soils, or items that would affect the proposed development. It is proposed to found the new structures on the sandstone bedrock, using either pad footings or bored piers, as was carried out in the most recent 2004 building, for which TTW were structural engineers.

2. STRUCTURAL WORKS

Due to the size and importance of the new hospital facility, this building will be designed for an Importance Level 4 (Post Disaster Facility) in accordance with the BCA.

The carpark will be designed for importance level 3 in accordance with the BCA.

TTW Group

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M Raddatz

Manager Facade

N McClelland BSc BE Hons MBA MIEAust

Additionally the building will be designed in accordance with the following Australian Standards and the requirements of the BCA:

Number	Edition	Title
AS/NZS 1170.0	2002	Structural design actions Part 0: General Principles
AS/NZS 1170.1	2002	Structural design actions Part 1: Permanent, imposed and other actions
AS/NZS 1170.2	2002	Structural design actions Part 2: Wind actions
AS 1170.4	2007	Structural design actions Part 4: Earthquake loads
AS 2159	2009	Piling – Design and installation
AS 3600	2009	Concrete Structures
AS 3700	2001	Masonry Structures
AS 4100	1998	Steel Structures
HI Design Guidance Note 1	Rev A 22 Oct 2012	Structural Design Criteria Guidelines

Typically the main building and carpark structures will comprise a reinforced concrete frame, braced using reinforced concrete walls to the lift and stair cores. The carpark will require shoring walls where excavation below ground.

Floor slabs are expected to be post tensioned banded slabs, designed to allow for future flexibility in accordance with Health Infrastructure guidelines, to allow for flexibility in future use.

We confirm that the proposed design is feasible and able to be designed in accordance with the requirements of the BCA.

Refurbished areas of the hospital will be checked for design loadings in accordance with their usage and AS1170:1 SAA Loading Code.

3. SUMMARY

We confirm that the proposed redevelopment at Gosford Hospital is able to be designed and constructed in accordance with the requirements of the BCA and the relevant Australian Standards.

Geotechnical conditions have been reviewed by Douglas Partners, and the foundations for the new buildings will be onto the bedrock.

No issues relating to slope stability or acid sulphate soils have been raised.

Yours faithfully

TAYLOR THOMSON WHITTING (NSW) PTY LTD



ROBERT MACKELLAR
Director

Appendix A – Geotechnical and Contamination Report by Douglas Partners

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