

UNSW

Structural Summary Statement

UNSW Health Translation Hub

Issue | 22 February 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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Arup
Level 5
151 Clarence Street
Sydney NSW 2000
Australia
www.arup.com

ARUP

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Document Verification

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1 Introduction

1.1 Structural Summary

The UNSW Health Translation Hub (UNSW HTH) is a multi-storey building over a single storey basement to be constructed in the UNSW Randwick campus. The proposed primary construction comprises post-tensioned band beam floors supported on reinforced concrete columns and a cast in-situ reinforced concrete stability core up to and including the Level 8 floor structure with subsequent floors formed of modular mass-timber construction. The core and columns are to be supported on spread pad footings and founded in the sandstone sub-strata.

1.2 The Project

Site conditions

The site is currently cleared and vacant. Sandstone substrata is inferred to be at variable depth of between 1.0m to 5.0m below the surface. A site-specific geotechnical investigation will be carried out.

Basement retention

The basement retention proposed is typically soldier pile walls. In the temporary state during construction the shoring piles will be designed to cantilever or be supported with temporary anchors.

Foundations

The columns and core will be supported on spread pad footings founded in the sandstone sub-strata.

Structure

The podium structure comprises a reinforced concrete primary stability core, reinforced concrete columns and typical post-tensioned concrete band beam floors.

The tower structure is of mass timber framed construction with hybrid steel and concrete alternative options to be reviewed in detailed design.

1.3 The Site

The UNSW HTH site is bound by Botany St on the west, High St on the north, proposed Sydney Children's Hospital Stage 1 and Children's Comprehensive Cancer Centre (SCH Stage 1 and CCCC) on the east and Integrated Acute Services Building on the south.

2 Design Standards and References

2.1 Codes and Standards

The structure will be designed to comply with the current National Construction Code (NCC 2019) and the relevant Australian loading and design standards of revision current at the time of DA approval.

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
AS1170.4: 2007	Earthquake actions in Australia - Part 4
AS 1720.1	Timber Structures: Design Methods
AS 2121	Cold Formed Steel Structures Code
AS3600: 2001	Concrete structures
AS3700: 2001	Masonry structures
AS4100: 1998	Steel structures
NCC 2019	National Construction Code

2.2 Building Design Life

The structural elements of the proposed building shall be designed and detailed for a design life of 50 years.