Taylor Thomson Whitting (NSW) Pty Ltd Consulting Engineers ACN 113 578 377
48 Chandos Street St Leonards NSW 2065 PO Box 738 Crows Nest NSW 1585
T 61 2 9439 7288 F 61 2 9439 3146 ttwsyd@ttw.com.au www.ttw.com.au

16 June 2016 141211

JBA Urban
Level 7
77 Berry Street
North Sydney NSW 2060

Attention: Kate Tudehope

WENONA ARCHIMEDES BUILDING
STRUCTURAL STATEMENT

Dear Kate

Site
It is anticipated that there will be rock at maximum 3 metres below ground.

Shoring
We anticipate that there will be contiguous piled walls on the Miller Street, Elliot Street and 54 McLaren Street boundaries. These shoring walls will require temporary anchors. The Northern boundary separating 267 Miller Street and our site will require the installation of temporary soil nails, shotcrete and permanent rock bolts. The final arrangement for the shoring will be established during bulk earthworks following assessment by the geotechnical engineer.

Structure
The structure will comprise a prestressed concrete frame. It will include transfer portals across the pools with intermediate levels hanging from the roof beams to minimise the depth of the suspended floors.

Lateral Stability
The lateral earthquake loads will be taken by walls on the northern boundary and the stair cores.

The Existing Building
There is a structural joint between the new and the existing buildings. However the areas around the lift and stair cores which are being re-built will be connected to the new building. This is done to allow the cores to provide lateral stability to the new building.

Link Bridge
The structure will comprise precast concrete beams with a structural concrete topping. The bridge will span over Elliot Street and be supported to the east by the existing building and to the west by the new building. The bridge will have a clear span of approximately 20m with no intermediate supports.

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Structural
Civil
Traffic
Facade
Engineers

TTW Group

Directors
RT Green BE Hons MEngSc FIE Aust
D Carolan BE Hons MEngSc MIEAust
R Mackellar BE Hons MIEAust
B Young BE Hons MIEAust
M Eddy BE Hons MIEAust
R McDougall BE MIEAust
Technical Directors
P Yannoulatos BE Hons Dip LGE MIEAust
D Genner BE Hons MIEAust
S Brain BE Hons MIEAust
D Jeffree BE MIEAust
N Burdon ME(Civil) MIPENZ MIEAust
H Nguyen BScEng MIEAust
R Pratikna BE MConstMgt MIEAust
Associate Directors
S Schuetze BE Hons MIEAust
M Rogers BSc Hons MIEAust
D Taylor BE Hons MIEAust
J Tropiano BE MIEAust
P Lambley BE MIEAust
J Haling BE Hons MIEAust
D Mayne MEng Hons MIEAust
K Berry BE Hons MIEAust
G Fowlie BE Hons MIEAust
W Alexander BE Hons MIEAust
R Milsted MEng Hons MIEAust
Associates
S Nixon BE Hons MIEAust
N Biason BE MIEAust
N Hallam BE Hons BCom MIEAust
M King BE Hons MIEAust
J Miles BE Hons
G Petschack JP
M Raddatz
Manager Facade
N McClelland BSc BE Hons MBA MIEAust

Summary of Design Assumptions

The building will be designed in accordance with the following Australian Standards:

- AS3600 – Concrete Structures
- AS4100 – Steel Structures
- AS1170.0 – Structural Design Actions – General Principals
- AS1170.1 – Structural Design Actions – Permanent, Imposed and other Actions
- AS1170.2 – Structural Design Actions – Wind Actions
- AS1170.4 – Structural Design Actions – Earthquake Actions in Australia
- AS4678 – Earth-retaining Structures

Design Criteria for Classrooms and Offices
- Superimposed DL – 1.5kPa
- Live Load – 3kPa

Design Criteria for Corridors
- Superimposed DL – 1kPa
- Live Load – 4kPa

Design Criteria for Landscaped Areas
- Superimposed DL – 10.8kPa
- Live Load DL – 4kPa

Wind Loads
- Vr = 46m/s
- Region A2
- Terrain Category – 3

Earthquake Loads
- Design Category 2
- Site Sub-soil Class – Be

Yours faithfully
TAYLOR THOMSON WHITTING (NSW) PTY LTD

MARK ELLERINGTON
Associate Structural Engineer

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