ARUP

Tara Shore Pty Ltd ATF John Taylor Family Trust

271-273 Alfred Street, North Sydney

Structural Design Report

Reference: 312844-ARP-STR-REP-001

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1. Introduction

This report has been prepared by Arup on behalf of Tara Shore Pty Ltd ATF John Taylor Family Trust (the Applicant) in support of a State Significant Development Application (SSDA) identified as SSD-103541730 which seeks approval for a 38-storey mixed-use housing development, located at 271-273 Alfred Street,\ North Sydney (the site).

The site is located within the North Sydney Local Government Area (LGA). The site comprises two allotments which are legally identified as Lot 1 DP 532504 (271 Alfred Street) and SP6830 (273 Alfred Street). It is rectangular in shape and has street frontages to Alfred Street to the west and Little Alfred Street to the east (both measuring approximately 23m). The existing building on the site is a three-storey commercial building. A site aerial is provided in **Error! Reference source not found.** below.

Figure 1 Site Aerial [*Source: Nearmap edited by Colliers Urban Planning*]

The proposal was declared State Significant Development (SSD) in State Significant Declaration Order (No.15) 2025 (the Order), which specified that the development detailed in EOI No.279422, including a mixed-use development located at the site be declared as SSD. The Order enables SSD-103541730 to be undertaken via the Housing Delivery Authority (HDA) pathway, including a concurrent rezoning proposal to the North Sydney Local Environmental Plan 2013 (North Sydney LEP).

The proposal involves two components: the SSDA and the concurrent rezoning of the site.
The SSDA component seeks consent for:

- Demolition of the existing building on the site;
- Construction of a 38-storey mixed use development, comprising:
  - 9 levels of basement car parking, comprising plant and bicycle storage area;

  - Commercial tenancies on Level 2;
  - Residential uses on levels 3 and above, comprising 95 apartments.
- Landscaping and public domain works; and
- Extension and augmentation of services and infrastructure as required.
- Lot amalgamation and stratum subdivision of the site.

The rezoning component seeks consent to amend the North Sydney LEP, comprising:

- Rezone the land use zone of the site from E2 Commercial Centre to MU1 Mixed Use;
- Amend the maximum building height from 13m to RL 166.5m;
- Amend the maximum floor space ratio from 3.5:1 to 13.9:1; and
- Introduce a site-specific clause requiring 15% of residential Gross Floor Area (GFA) to be used as affordable housing, and managed by a CHP for a period of at least 15 years.

For a detailed project description refer to the Environmental Impact Statement and Rezoning Report prepared by Colliers Urban Planning.

2. Design Standards and References

2.1 General

The design and documentation of the building and associated works shall comply with all relevant Australian Standards and the Building Code of Australia (BCA).

Standard Specifications or Codes of the British Standards Institute (BS) or the American Society for Testing and Materials (ASTM) are referenced only when a relevant Standards Australia publication does not exist.

Current editions of all codes and standards shall apply.

2.2 BCA Structural Provisions

The building is classified as follows in accordance with Part B1 of the BCA.

Table 1: BCA Classification

BCA Table	Classification
Table B1.2a – Importance Level of Building	3
Table B1.2b – Design Events for Safety	Annual Probability of Exceedance
Wind	1:1000
Earthquake	1:1000

2.3 Codes and Standards

The following codes and standards will form the basis for the structural design:

Table 2: Relevant codes and standards

Code	Title
AS/NZS 1170.0	Structural design actions – General Principles
AS/NZS 1170.1	Structural design actions – Permanent, imposed, and other actions
AS/NZS 1170.2	Structural design actions - Wind actions
AS 1170.4	Structural design actions – Earthquake actions in Australia
AS 1720.1	Timber Structures Code - Design Methods
AS 2121	Cold Formed Steel Structures Code
AS/NZS 2312	Guide to the protection of structural steel against atmospheric corrosion
AS 2327	Composite structures
AS 3600	Concrete Structures Code
AS 3700	Masonry Code

Code	Title
AS 3735	Concrete Structures for Retaining Liquids
AS 4100	Steel Structures Code
AS 4678	Earth-retaining structures
BS 8102	Code of practice for protection of structures against water from the ground
ISO10137	Serviceability of buildings and walkways against vibration
NCC BCA	Building Code of Australia

2.4 Computer Programs

The following programs are proposed:

- GSA - General structural analysis
- RAPT - Reinforced concrete slab, band and beam analysis
- Limcon - Steel Connection design
- Revit - Computer aided drafting and modelling
- Microsoft Excel - Computational spreadsheet
- Etabs - Gravity and lateral FE analysis

3. Design Criteria

3.1 Vertical Loading

3.1.1 Structure Self Weight

The structure self-weight is calculated explicitly in the structural analysis modelling.

Dead loads are calculated based on the following densities:

Table 3: material densities

Material	Density
Reinforced normal weight concrete	24.5 kN / m^3
Reinforced light weight concrete	19 kN / m^3
Steel	78.5 kN / m^3
Timber (softwoods)	4.6 kN/m^3
Aluminium	27.2 kN/m^3
Glass	27.4 kN/m^3

3.1.2 Superimposed Loads

Superimposed dead loads (SDL) include ceiling, services, partitions and finishes (i.e. permanent loads additional to the self-weight of the structure). For preliminary design, the loads listed in the table below have been assumed. To optimise the structural design, the extent and type of finishes will need to be defined by the architect, including heavy duty zones in hotel and office floors and any rooms which store heavy machines or compactus. The design loads should reflect the intended use, whilst maintaining sufficient flexibility for future changes.

Table 4: Superimposed dead loads

Location	Item	Description	Super-imposed Dead Load (kPa)
Car Park	Floor Finish	none	0
	Ceiling		0
	Suspended Services		0.15
	Partitions	none	0
Retail	Floor Finish	Allowance for tiles or stone and screed	2.4
	Ceiling		0.2
	Suspended Services		0.3
	Partitions	Blockwork	2.5
Residential	General		1.5
	Balconies		1.5

Location	Item	Description	Super-imposed Dead Load (kPa)
Plant Areas	Floor Finish	50mm screed	1.2
	Partitions	Blockwork?	2.5 minimum Calculated based on arrangement
	Suspended Services		0.5

Areas where special load conditions occur shall be identified during the design process, including but not limited to:

- heavy storage/equipment;
- operable doors and walls;
- plant installation and maintenance load conditions;
- pools and spa areas;
- tanks; and
- heavy vehicle loading in areas of the basement(s);
- Tuned Mass Dampers, Sloshed Mass Dampers or Active Mass Dampers

These loads and their locations, where known, will be shown on the Arup Loading Drawings.

Deflection and Vibration Limits for specialised equipment and sensitive areas require confirmation. Independent, structurally isolated support may be specified in accordance with the manufacturer's recommendations.

3.1.3 Façade loads

The following façade loadings have been assumed:

Table 5 Facade SDL

Facade	Description	Dead Load on Elevation (kPa)
Typical Curtain Wall	Glazed curtain wall	0.6
Northern Boundary	20mm GRC curtain wall	0.9

3.1.4 Live Loads

The following tables set out the minimum live load allowance for typical and non-typical areas in accordance with AS 1170.1

Table 6 Live Loads

Area	Function	Live Load (kPa)
Carpark	Car Park	2.5*
	Medium Truck	5*
	Heavy Truck/Loading Bay	12

Area	Function	Live Load (kPa)
Retail		5
Podium	Areas with vehicular access	12
	Areas without vehicular access	5
	Construction loading	20
Plant	General Plant Rooms	7.5*
	Generator Rooms	10*
		(or derived equipment weight)
Residential	General	1.5
	Balconies	2.0
Office	General office floor	3
	Office storage	7.5*
* Indicates loads are non-reducible		

3.1.4.1 Live Load Reduction

Live loads are generally reduced in accordance with AS/NZS1170.

The following loads do not qualify for reduction:

- loads that have been specifically determined from knowledge of the proposed use of the structure;
- loads due to plant or machinery;
- loads due to storage; &
- loads in light and medium car parks.

3.2 Wind Loading

3.2.1 General

For the structural design of components, wind loading applied to the structural elements will be assessed in accordance with AS/NZS 1170.2.

Due to the height and slenderness of the tower, wind tunnel testing by high frequency force-balance (HFFB), high frequency pressure integration (HFPI) will be undertaken once the form and height of the tower have been proposed post-competition. Wind tunnel studies may be used to modify the tower geometry, reduce drag, and improve aerodynamic damping to assist in reducing dynamic effects and accelerations.

The following design parameters have been assessed for the building in accordance with AS/NZS 1170.2:

Table 7: Wind loading parameters

Parameter	Value
Importance level of structure	3
Region	A2

Parameter	Value
Basic wind speeds: Ultimate, V_{1000} Serviceability, V_{25}	 46 m/s 37 m/s
Terrain category, TC	As calculated by direction
Variation of wind speed with height, $M_{(z,cat)}$	As calculated
Structural importance multiplier, M_i	1.0
Topographic multiplier, M_t	As calculated
Shielding multiplier, M_s	As calculated
Minimum internal pressure coefficient, $C_{p,i}$	+0.2/-0.3 generally
Area reduction factor, K_a #	As calculated
Combined action reduction factor, K_c #	As calculated
Local pressure coefficients	As calculated

3.3 Seismic Loading

Earthquake loading applied to the structural elements will be assessed in accordance with AS 1170.4 - 2024. The following design parameters apply:

Table 8: Seismic loading parameters

Parameter	Value
Importance level of structure	3
Earthquake design category	III
Annual probability of exceedance	1:1000
Probability factor, k_p	1.3
Hazard factor, Z	0.08
Site subsoil class	B_e – Rock
Ductility	$\mu = 1$
Structural system	Table 6.5(A) AS 1170.4

3.4 Retaining Walls (Earth and Water Pressures)

The basement retention will be designed for earth pressure and surcharge loads, adopting soil pressure coefficients recommended in the Geotechnical Report.

Reinforced concrete panels to support any faulting discovered in the rock face between soldier piles will be designed for a nominal design pressure of 10kPa.

Design water level above wall base: Refer to the groundwater infiltration report subject to the type of basement adopted (drained or undrained).

Surface surcharge loads unless otherwise defined will be adopted at nominally 20 kPa Live load.

3.5 Balustrade & Barrier Loadings

Balustrades and barriers are to be designed in accordance with the loads prescribed in AS/NZS1170.1.

Table 9: balustrade loading schedule

Location	UDL	Concentrated load
Retail balustrades and areas subject to crowding	3.0kN/m	1.5kN
Terrace balustrades	1.5 kN/m	0.6kN
Stairs, landings, walkways in gallery and foyer areas	1.5 kN/m	0.6kN
Offices	0.75 kN/m	0.6kN
Egress stairs, landings, walkways	0.75 kN/m	0.6kN
Maintenance walkways & stairs	0.35 kN/m	0.6kN
Car park parapets, walls, barriers		In accordance with AS/NZS 1170.1. 30 kN generally 40 kN loading dock 240 kN at base of ramps > 20m long
Delivery area columns		40 kN

3.6 Imposed Movements

The effect of imposed movements on the structure will be considered in the calculations. These include the following types of movement:

Table 10: Imposed movements schedule

Parameter	Value
Settlement	1% of footing width at allowable bearing pressure
Temperature (exterior elements)	Mean temp 20°C. Maximum range for exterior steelwork +5°C to +65°C (not painted black)
Shrinkage	As calculated for vertical structure or floor slabs
Creep	As calculated for vertical structure and post-tensioned floor slabs
Elastic shortening	As calculated for vertical structure and post-tensioned floor slabs

3.7 Blast Forces

The building is not intended to be designed for blast forces.

4. Serviceability & Performance Requirements

4.1 Building Design Life

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

4.2 Safety-in-Design

The design shall adequately consider the safety of personnel, plant and equipment during the construction of the structure and the installation of plant, equipment, fixtures and fittings.

The design process shall conform with Arup Safety in Design procedures.

A SID review will be undertaken.

4.3 Structural Deflection Limits

Where not defined below, deflection limits for reinforced concrete and structural steelwork shall be generally in accordance with AS 3600 and AS4100 respectively.

4.4 Building Movements

Deflection limits for reinforced concrete and structural steelwork shall be as follows:

Table 11: Deflection limits

Element	Deflection (total load UNO)	
Beams and Slabs:	Spans	Cantilevers
Generally Live load only Supporting articulated masonry Supporting unjointed masonry Supporting curtain wall and glazed assemblies Transfer structures (cumulative at location of element transferred)	L/250 L/360 L/500 (incremental) L/1000 (incremental) L/500 or 18mm max L/1000 or 12mm max	L/125 L/180 L/250 (incremental) L/500 (incremental) L/250 or 18mm max L/500 or 12mm max
Roof beams under wind load (other than glazed roofs)	L/200	L/100
Wind columns	L/240	L/120
Wind sway SLS (COM)		H/400
Storey drift under wind SLS (COM)		H/300
Storey drift under seismic ULS		1.5%h
Differential settlement	L/1000	L/500

4.5 Occupant Comfort

4.5.1 Building Accelerations under Wind

Wind tunnel testing will be required to predict the expected building accelerations to assess occupant comfort.

International recommended criteria for residential buildings are dependent on the fundamental period/frequency of the building, however the expected ranges for this building are as follows:

- Annual peak RMS acceleration (ISO10137): 9.2 milli-g at 0.15Hz
- 5-year standard deviation RMS acceleration (ISO 6897): 3.8 milli-g at 0.15Hz
- 10-year peak sway acceleration (NBCC): 18 milli-g

For a reinforced concrete tower intrinsic damping level will initially be set at 1.0% of critical at serviceability limit state (SLS), and 2.0% at ultimate limit state (ULS) with +/- 0.5% variation.

It is unlikely that supplementary damping will be required.

4.5.2 Floor Vibration

Verification calculations will be conducted to the Cement and Concrete industry publication CCIP-016 `A Design Guide for Footfall Induced Vibration of Structures', and The Steel Concrete Institute publication SCI P354 'Design of Floors for Vibration: A new approach'.

A target response factor for the residential floor levels of R=2 to 4 under footfall with damping levels of 3-5% is considered appropriate depending on the final selection of partition types.

4.6 Differential Shortening

Differential column shortening assessment will be carried out with a sequential construction and creep analysis undertaken with ETABS software.

4.7 Structural Tolerances and Movements

Tolerances for general structural steel and concrete shall be in accordance with the respective Australian Standard. Higher tolerances may be required for Architectural steelwork or concrete and reference is made to the architectural specification.

Isolation and/or movement joints shall be used where required to control internal stresses or physically separate adjacent structures.

Higher than standard structural tolerances and structural movements will be compiled into a movement and tolerances report where it is necessary to inform subsequent trades.

4.8 Concrete

4.8.1 Durability

The requirements of AS 3600 will be applied to all reinforced and post-tensioned concrete. For the foundations, the concrete mix and cover to reinforcement selected will be appropriate for the ground conditions.

4.8.2 Crack Control

The degree of crack control to be provided in concrete elements will be in accordance with AS 3600.

4.9 Steelwork Corrosion Protection

The corrosion protection system for structural steelwork will be dependent on the location of the steel elements within the building. Systems will be selected in accordance with AS/NZS 2312 as a minimum specification.

4.10 Fire Resistance Levels for Structural Elements

Fire resistance levels for structural elements shall be determined in accordance with the BCA and fire engineered outcomes.

4.11 Building redundancy and disproportional collapse

Deemed to comply solutions in accordance with Australian Standards are proposed thus sufficient protection against disproportionate collapse is inferred.

5. Materials

5.1 General

The following structural materials are used in the works. Typical design properties of these materials are listed. These values are to be adjusted and enhanced as appropriate during the detailed design of the structure.

5.2 Concrete

The requirements of AS 3600 will be applied to all reinforced and post-tensioned concrete. Typical concrete properties are as follows. Refer to the drawings for specific grades.

Table 12: Concrete typical material properties

Parameter	Value
Grades, f'c	32 to 80 MPa
Short-term E	As calculated
Coefficient of thermal expansion	10×10^{-6} per °C
Basic shrinkage strain	As calculated and specified
Basic creep factor	As calculated
Poisson's ratio	0.2
Density Mass concrete Reinforced concrete	 24 kN/m^3 25 kN/m^3

5.3 Reinforcement & Post-tensioning

Reinforcement shall comply with AS/NZS 4671 and AS/NZS 4672 respectively.

Table 13: Reinforcement and post-tensioning typical material properties

Parameter	Value/Designation
Plain 'R" bars	R250N
Deformed 'N' bars	D500N
Welded wire fabric	D500L & D500N
Young's modulus	205×10^3 MPa
Post-tensioning strand (superstrand)	∅12.7mm fpb = 1870 MPa ∅15.2mm fpb = 1790 MPa (min)

5.4 Structural steel

Table 14: Structural steel typical material properties

Parameter	Value
Steelwork density	7850 kg/m^3
Yield stress	fsy = 250 to 450 MPa
Young's modulus	205 x 10^3 MPa
Poisson's ratio	0.3
Coefficient of thermal expansion	11 x 10^{-6} per °C

5.5 Sustainable Design

The following aspects of materials selection will be considered where appropriate:

- Concrete mix requirements – specifically Portland cement and natural aggregate replacement with industrial waste products;
- Carbon capture processes for in-situ and precast concrete;
- Steel reinforcement – recycled content and prefabrication; &
- Structural steel – recycled content and design for disassembly.

6. Element Design

6.1 Retention / Shoring

Temporary and permanent retention will be required on all boundaries. Assuming a 1:150 verticality tolerance and +/-50mm install tolerance for the piles, a shoring zone outside of all useable floor has been allowed for on all boundaries for a drained retention system subject to future design and approvals. This width is intended to allow for:

- Secant/Soldier Piled Wall: A combination of 600mm diameter bored piles down to basement level B3, transitioning to vertically cut rock face with rock bolts as required by the geotechnical engineer.
- Shotcrete Facing: Applied between soldier piles to provide lateral support.
- Internal 50mm drained cavity with blockwork for a drained basement
- Temporary Anchors: Installed at 2.5–3 m vertical spacing, progressively de-stressed as floor slabs are constructed. Maximum length to be confirmed during detailed design.

The excavation of the basement is consistent with typical Sydney sites and is well within current practice with manageable impacts on surrounding assets.

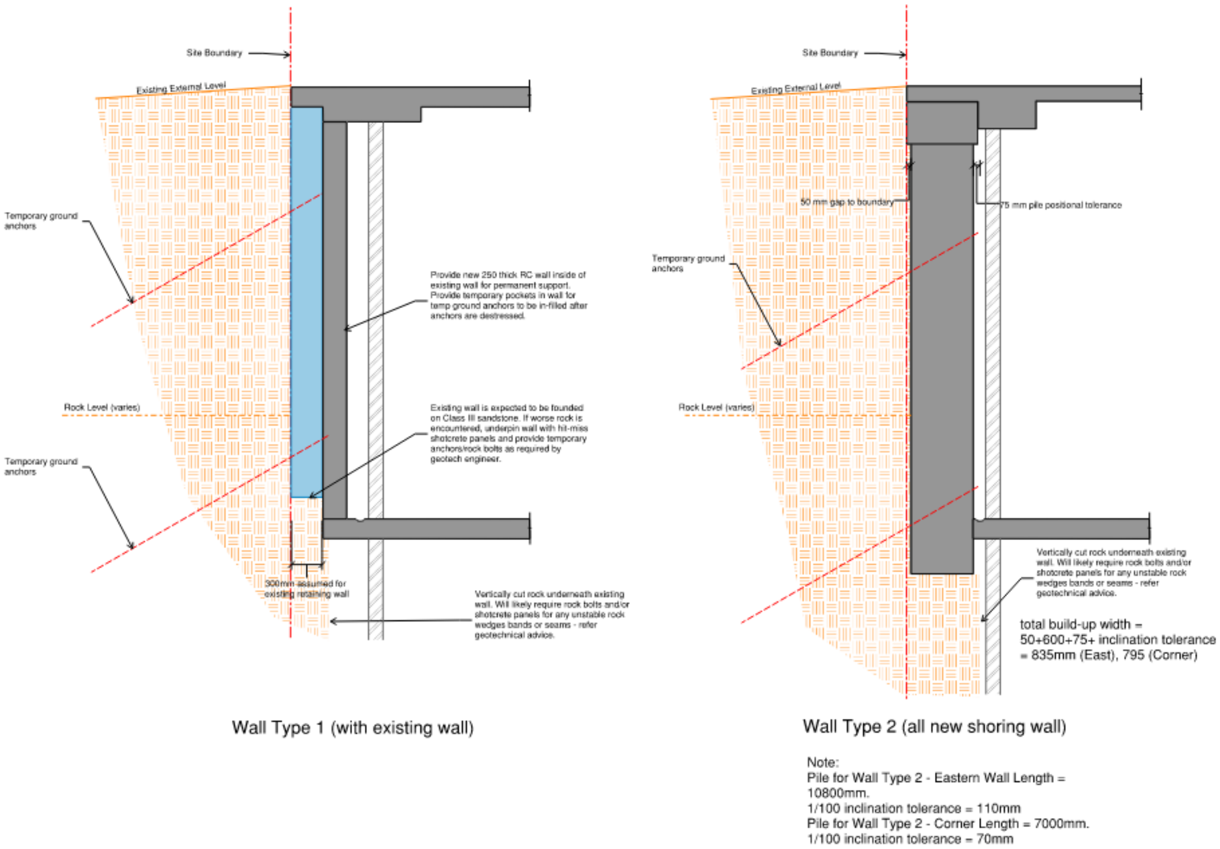

Figure 1 - Proposed Temporary Retention Structure

6.2 Little Alfred St Boundary Excavation

The property boundary extends into little Alfred street and the development proposes to excavate up to this boundary. There are multiple solutions that may be used to achieve this. Arup have developed a conceptual undercut solution avoiding excavation in Little Alfred St, consisting of pipe jacking and temporary propping as below.

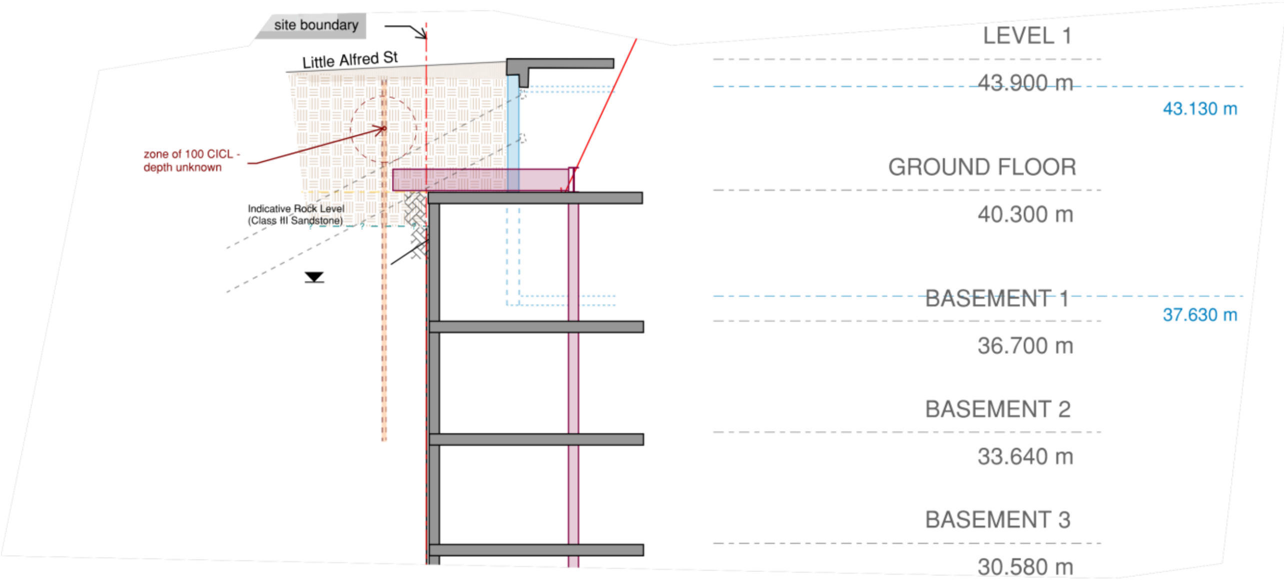

Figure 2 - Little Alfred St Undercut Shoring

Sequencing

- Install anchors to restrain existing retaining wall (anchors located to suit the pipe jack arrangement);
- Install plunge columns;
- Core/bore and jack pipes at nomonal 1200 centres (or as advised by geotechnical engineer) through existing wall and into rock;
- Install primary beam between plunge columns supporting pipes prior to excavation below Ground level. Add necessary plan bracing at this level to restrain plunge column heads;
- Grout/concrete between pipes if required to retain any loose material;
- Proceed with excavation under the temporary pipe supports including vertical rock cut at the boundary. Install any shotcreting and rock bolts to the vertical cut typical of Class III and better sandstone excavation in Sydney;
- Complete excavation (install temporary bracing to plunge columns as needed depending on design);
- Construct foundations and new columns at boundary and internally and proceed with the permanent works. Edge columns to be designed for the full rock mass and road surcharge of Little Alfred St. Plunge columns may be used for for permanent condition if design and planning allows.

6.3 Northern Boundary Excavation

It is noted that the neighbouring building basement is proposed to be excavated to the boundary at a similar time to this development. Currently, the design allows for a shoring build-up including a retention of the existing basement retaining walls.

Further investigation of the excavation of this boundary should be undertaken by the developer, builder, architect, structural and geotechnical engineers at the next stage, including options for sequencing of works with and without the neighbouring basement, or in parallel, to optimise the space and safety of both developments.

In these situations the first building should consider one of two options to future proof their building during excavation of the neighbour.

1. Extend retention full height on the shared boundary
2. Install precast panels to the shared boundary during permanent works construction that provide protection during excavation of the second development.

Considerations at the southern boundary will be similar, pending the resolution of the Southern building basement design.

6.4 Foundations

Sandstone bedrock is anticipated to be of high quality at the bulk excavation level.

- Pad and strip foundations founded on Class II or better Sandstone will be utilised across the site.
- Discrete piles from the retention system will be extended below bulk excavation where needed to carry building loads.

The design of the lateral system for the towers may require permanent vertical ground anchors and/or tension piles to take tension loads due to the lateral sway of the building.

6.5 Basement Structure

The basement structure will consist of reinforced concrete columns supporting reinforced and/or post-tensioned band beam floor plates.

Coordination of tower vertical structure with the basement planning has been undertaken and is ongoing in order to minimise and alleviate transfer or realignment of tower columns, and minimise the construction cost, complexity, time, spatial, and sustainability implications.

The floor plates of the new basement will ultimately provide permanent lateral support to the shoring walls; therefore, no permanent horizontal anchors are proposed across any boundary.

6.6 Columns

The columns are generally optimized for structural efficiency targeting 1.2% vertical reinforcement for gravity columns and generally adopting concrete grades from 40MPa to 80MPa.

Typical column sizes vary over the height of the building. For example, from B8-L5, columns are in the order of 500mm x 1000mm and reduce to 300mm x 800mm on upper floors. Columns could be insitu or precast.

There is scope to utilise precast panels, both loadbearing and non-loadbearing, along the Northern boundary adjacent to the neighbouring building.

6.7 Core and stability system

The lateral loads (wind, seismic, and notional) are resisted by the primary lift and stair cores, supplemented by additional blade walls located to the south of the core to increase the effective structural width in the north–south direction.

The building is relatively slender in the North-South direction and the building core is eccentric with the centre of rigidity offset to the North. The building will be sensitive to dynamic winds and crosswind response from the east and west wind directions. As this will impact occupant comfort, we recommend undertaking structural wind-tunnel testing during the design development phase.

Due to the small building footprint and constraints with the basement ramp planning, the lifts and stairs for the tower floors are currently required to transfer between Ground floor and L2. This transfer is achieved via transfer walls and diaphragm floors between B2 and L2.

The core wall thicknesses range from 600mm at the lower floors, to 250mm at the upper floors. Engaged columns at the north of the core have been designed as part of the vertical and stability system and will require an approximate section size of 2500 x 500 with coupled reinforcement down to foundation level.

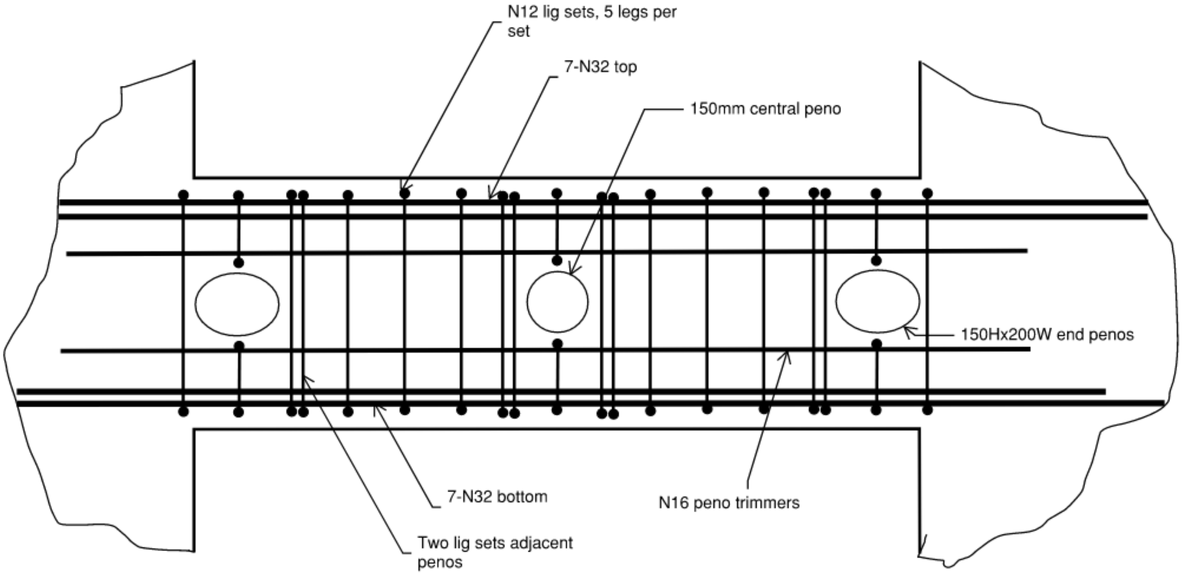

Figure 3: Link beam penetrations

6.8 General

The building superstructure generally consists of the following elements

1. Vertical structure: Reinforced concrete columns and walls
2. Horizontal structure: Reinforced and post-tensioned concrete slabs
3. Lateral stability system: Reinforced concrete core walls

6.9 Typical Floors

6.9.1 Generally

The typical tower floor is 200mm thick PT flat plate. This floor structure will typically span up to 8.2m between columns and cantilever up to 2.5m beyond. For larger spans the floor plate will be required to be proportionately thicker where necessary.

Set down areas where located sufficient distance from columns are proposed at 180mm thick (see fire rating comments below) with flat soffit formwork retained. Where there are set downs at wet areas and balconies the slab will be folded. Balconies typically have a 100mm set down (minimum 70mm plus 30mm falls) thus the balcony soffit is 130mm lower. Slab overlaps of 1200-1500 will be required in these instances to allow post-tensioning to be continuous.

Floors with higher loading such as plant, BOH and retail require thicker floor plates.

Floors associated with and offset column transitions require thicker structure of typically minimum 250mm thickness.

6.9.2 Fire rating

AS3600:2018 prescribes detailed advice in the design of flat slabs to meet fire rating demands. To achieve a fire resistance period of 90 mins the minimum flat slab thickness is 200mm. This minimum slab thickness is required over a rectangular area extending 0.16 of the larger spans either side of a column in each direction. For example, say the maximum floor span adjacent to a column is 8.0m then no top surface recess (that thins the floor below 200mm) is permissible within 1.3m of a column.

AS3600:2018 goes further to state that this cannot be reduced by calculation methods such as using the Eurocode method in EC2.

This means no bathrooms requiring a set down in a 200mm slab within approximately 1.3m of a column are permissible unless a soffit set down is incorporated to maintain a 200mm minimum slab thickness in this zone.

6.10 Transfers

There are some gravity column transfers required over the loading dock and entry ramp, proposed to be achieved through a series of storey high transfer walls within the plant room.

There are some gravity column transfers between Level B2 and L2 which are achieved via walking and/or overlapping column transitions. Concrete strengths will range from 40MPa to 80MPa in the columns and walls, and 32MPa to 40MPa in the slabs with some localised puddling required in high stress areas of the slabs.

6.11 Stairs

Conventional in-situ reinforced concrete stairs cast in proprietary permanent metal forms are envisaged.

6.12 Internal partitions

High differential pressures are likely on inter-tenancy walls, particularly if opening windows are specified. Measures to manage the potentially high pressures are the adoption of snap-shut windows, pressure tap modelling of the façade pressures and high strength partitions such as Speed-panel. Consideration of high pressure demand on partition connections to floors will be necessary.

Appropriate detailing of partitions is required to accommodate building drift and avoid noise and damage. Experienced practitioners should be consulted for system design and installation.

Appendix A – Structural Sketches