

26<sup>th</sup> August 2021

Reference: SY202243-SR01-3

SH Gosford Residential Pty Ltd,  
c/o Frank Katsanevas  
3/8 Windmill St  
Millers Point, NSW, 2060

Dear Frank,

**RE: Structural Design Report– North Tower 26-30 Mann St Gosford**

This design report is written in support for the proposed residential development at 26-30 Mann St Gosford and is written in response to clause C34 of Independent Planning Commission development consent report dated 24/08/20. This structural design report aims to provide insight into the structural systems proposed for the development which will allow the building to be constructed in accordance with the Building Code of Australia (BCA). See below for summary of the proposed structural elements and how they will achieve compliance with the BCA:

**Foundations**

The proposed foundations will include bored piers that will be found in bedrock of a suitable strata as advised by a suitably qualified geotechnical engineer. Foundations will be designed in accordance with AS2159-2009 as to comply with the BCA.

**Slabs on Ground**

The ground floor slab will be conventionally reinforced and designed as a suspended slab to AS3600-2018. This ground floor slab as per the remainder of the building will be supported on concrete bored piers.

**Suspended Slabs**

All suspended slabs are to be designed as post-tensioned slabs of varying thickness. The current layout of structural loadbearing elements throughout the tower aims to limit transfers within the building footprint and focus on achieving flat plate slab designs. All post tensioned concrete slabs will be designed in accordance with the relevant Australian standards to ensure they are structurally adequate. These slabs will also be designed to ensure they achieve the required FRL's as to be compliant with the BCA.

**Vertical Elements**

The vertical load bearing elements for these towers will consist of concrete columns and walls. These vertical loadbearing elements will be designed in accordance with the relevant Australian standards to ensure they are structurally adequate. These columns and walls will also be designed to ensure they achieve the required FRL's as to be compliant with the BCA.

**Lateral Stability**

Stability for lateral loading (wind and earthquake loads) will be achieved by utilising a concrete core in the northern 24-story tower and a concrete shearwall in the 21-story southern tower. The elements

will be designed in accordance with relevant Australia loading standards covering both wind and earthquake loading.

### **Reference documents**

Our analysis of the proposed structure was undertaken based on the following architectural drawings dated 20/08/21:

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|-------------|-------------|
| • DA101-[A] | • DA404-[A] |
| • DA102-[A] | • DA405-[A] |
| • DA103-[A] | • DA406-[A] |
| • DA201-[A] | • DA407-[A] |
| • DA202-[A] | • DA408-[A] |
| • DA203-[A] | • DA409-[A] |
| • DA204-[A] | • DA410-[A] |
| • DA205-[A] | • DA411-[A] |
| • DA206-[A] | • DA412-[A] |
| • DA207-[A] | • DA413-[A] |
| • DA208-[A] | • DA414-[A] |
| • DA209-[A] | • DA415-[A] |
| • DA210-[A] | • DA416-[A] |
| • DA211-[A] | • DA417-[A] |
| • DA212-[A] | • DA418-[A] |
| • DA301-[A] | • DA419-[A] |
| • DA302-[A] | • DA420-[A] |
| • DA303-[A] | • DA421-[A] |
| • DA304-[A] | • DA422-[A] |
| • DA305-[A] | • DA423-[A] |
| • DA306-[A] | • DA424-[A] |
| • DA307-[A] | • DA425-[A] |
| • DA401-[A] | • SK01-[A]  |
| • DA402-[A] | • SK02-[A]  |
| • DA403-[A] |             |

### **Relevant standards of performance anticipated to be utilised during design**

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|----------------------|----------------|
| • AS/NZS 1170.0-2002 | • AS 4100-1998 |
| • AS/NZS 1170.1-2002 | • AS 2159-2009 |
| • AS/NZS 1170.2-2011 | • AS 3600-2018 |
| • AS 1170.4-2007     | • AS 3700-2018 |

Yours sincerely,



**Ian McDaid**

Principal | Senior Structural Engineer