

1 July 2022

RYDE COUNCIL
ASSESSING OFFICER

CONSTRUCTION IMPACT STATEMENT

Project Address: 8 Clermont Ave, Ryde | 12 Clermont Ave, Ryde | 10 Jennifer Street, Ryde

Project Description: Dual Occupancy Residences

1. OVERVIEW

This letter has been prepared by TQM design and construct Pty Ltd structural engineers (TQM) on behalf of Clermont Holdings Pty Ltd. It considers the comparative construction impacts in the approved designs of LDA2021/0362 | LDA2021/0363 & LDA2021/0364 and between the proposed Sec 4.55 modifications to include below ground basements.

A summary of key issues is explored further having regard to the following documents:

- Architectural Plans | Studio BD | 28th Jan 2022 | 10 Jennifer Street, Ryde (Approved)
- Architectural Plans | Studio BD | 28th Jan 2022 | 12 Clermont Ave, Ryde (Approved)
- Architectural Plans | Studio BD | 28th Jan 2022 | 8 Clermont Ave, Ryde (Approved)
- Geotechnical Report | Douglas partners | April 2022 | File 200861.00.R.003.REV1
- Geotechnical Report | Douglas partners | April 2022 | File 200861.00.R.002.REV1
- Geotechnical Report | Douglas partners | April 2022 | File 200861.00.R.001.REV1
- Architectural Plans | Studio BD | 20th June 2022 | 10 Jennifer Street, Ryde (Sec 4.55)
- Architectural Plans | Studio BD | 20th June 2022 | 12 Clermont Ave, Ryde (Sec 4.55)
- Architectural Plans | Studio BD | 20th June 2022 | 8 Clermont Ave, Ryde (Sec 4.55)

2. GENERAL STRUCTURAL DESIGNS

(approved)

The proposed structural design of the dual occupancies can be summarised as concrete strip footings with strategic placement of concrete piles to achieve building stability.

(Sec 4.55)

The proposed structural design of the dual occupancies can be summarised as bulk excavation of basement layout to the required depth with placement of slab on ground.

3. EXCAVATION VOLUME

(approved)

A reinforced concrete footing design & piles for the approved design will require excavation of clay & shale according to Douglas Partners investigations.

(Sec 4.55)

A bulk excavation methodology for the proposed Sec 4.55 design will require excavation of clay & shale according to Douglas Partners investigations.

Plans	Volume of material Lot A&B m3	Truck Movements
Approved Plans (Footing & Piles)	125m3	13 Truck & Trailer (27t load)
Sec 4.55 Modification (Basement)	630m2	63 Truck & Trailer (27t load)
	+505m3	+50 Trucks

4. DISPOSAL OF FILL

We are advised that the excavated material will be VENM (Virgin Excavated Natural Material) and will be reused as compacted fill highly sought after by civil contractors, thus reducing the requirement to dispose of at landfills. 100% of the material will be reused/recycled.

5. CONSTRUCTION PERIOD

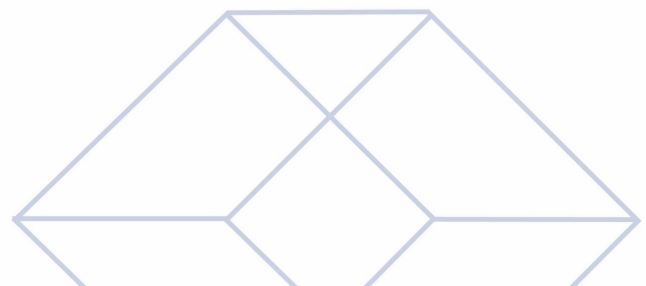
This section discusses the proposed construction periods for each design and the limitations accordingly. As each design varies the size of machinery is limited to what can be used, below is a proposed methodology.

Approved Plans	Result
Excavator Size	5 tonne excavator
Days to excavate strip footings	4
Days to drill piles	2
Total Days	6

Sec 4.55 Mod Plans	Result
Excavator Size	30 tonne excavator & 5 tonne
Days to excavate bulk	1
Days to detail footings	1
Total Days	2

Due to the differences in what size machinery can be used for each design, the Sec 4.55 Modification design results in a faster timeline as a much larger machine can be used to conduct the works which in turn is able to excavate a larger amount of volume per day.

The net result is a 4-day faster construction programme for the basement design which improves disturbances to neighbours and limits the impacts



6. NOISE MITIGATION MEASURES

The results identified in the Douglas Partners report suggest the following:

6.3 Excavation

Excavation for the basement level to depths of about 3 – 3.5 m is expected to be through fill, residual soil and weathered rock with some low to high strength ironstone bands. Excavation in fill, soil and extremely low to very low strength rock should be readily achievable using conventional earthmoving equipment such as hydraulic excavators with bucket attachments.

Excavation in the low strength and stronger bands may require the use of ripping equipment or hydraulic rock hammers. It is noted that the stronger rock within the anticipated excavation zone appears to be present in bands which may aid extraction.

The use of rock hammers will cause vibrations that could possibly result in damage to nearby structures. It is suggested that vibrations be limited to a peak component particle velocity (PPVi) of 8 mm/s at the foundation level of the adjacent buildings to protect the architectural features of the buildings and to reduce discomfort for the occupants.

We anticipate little to no requirement for hydraulic rock breakers as noted above, generally most of the excavated material will only require removal via bucket. To avoid potential acoustic disturbance to neighbours we recommend limiting any rock breaking attachment use as follows:

- Monday – Friday 8am – 3pm
- Saturday & Sunday (Not Permitted)

CONCLUSION

The above comparison in the proposed structural designs demonstrate a clear construction time advantage for the basement design when compared to the non-basement design, this methodology expedites the programme and reduces impacts on surrounding neighbours.

Whilst the basement design produces an increase in volume of earth to be excavated, measures such as recycling the fill and the ability to utilise larger equipment minimises the proposed section 4.55 modification impacts thus resulting in a superior design.

Yours faithfully,



Maroun Taouk
Managing Director
TQM Design & Construct

