Council Responses to IPART– Traffic

1) *The CP application includes $6.5 million for undergrounding of power lines. Could you please:*

a. Confirm what these costs cover: the works schedule suggests it is to facilitate road widening along Naree Rd / Frenchs Forest Road, but the AECOM report mentioned as a source for this amount describes a different project (to underground cables along Rabbett St, Frenchs Forest Rd, and Wakehurst Parkway to improve development potential in the CP area)

b. Provide any additional information you have to support nexus for the costs and that the costs are reasonable.

Response

1a Item R4 is road widening of Naree Road from Rabbett Street to the eastern boundary of 21A Forest Way. Item R5 is road widening of Frenchs Forest Road West, from Bluegum Crescent to Rabbett Street. The road widening for both Items R4 and R5 will necessitate the undergrounding of the existing 33kV powerlines.

Attached are the two cost estimates for:

- Road widening of Frenchs Forest Road West, from Bluegum Crescent to Forest Way (excerpt from the Mitchell Brandtman QS report, 2021); and
- Undergrounding of the existing 33kv powerlines along Frenchs Forest Road West, from Wakehurst Parkway to Rabbett Reserve (AECOM Report, Appendix E - Indicative Cost Estimate 2019).

The ARUP Transport Strategic Design Report 2021 identifies the need to widen Frenchs Forest Road West, from Bluegum Crescent to Forest Way, to provide an additional traffic lane on the southern side of Frenchs Forest Road West. Frenchs Forest Road West results in a five lane highly trafficable corridor.

Under the requirements of Austroads Guide to Road Design – Part 6: Roadside Design, Safety and Barriers (Table 4.1, p15), a clear zone of between 4.5 and 5 metres is required from the outer travel lane in each direction.

Due to the existing 33kv powerlines in this section of Frenchs Forest Road West, the undergrounding of these powerlines and the removal of the poles (as part of the overall road widening works) will be necessary to achieve the safety requirements within the clear zone.

Council considered the following engineering control methods to achieve this safety outcome:

- redirective kerb and gutter (pedestrian hazard in a high pedestrian activity area zone),
- physical barrier of several types (zero deflection potential).

The above methods were discounted as they will not meet safety requirements.

The only outcome to meet the clear zone requirement is to underground the 33kV powerlines and replace the existing large timber poles with frangible slip base lighting poles only. This will reduce the number of hazards and improve the crash hazard assessment outcomes by >50% in errant vehicle impact outcomes.

In 2018, Council commissioned AECOM to investigate the feasibility of undergrounding the 33kV powerlines from Wakehurst Parkway to Rabbett Reserve. AECOM prepared the Concept Design and Feasibility Study for Undergrounding the 33kV Powerlines at Frenchs Forest Road West (2019). This report includes a concept design for the undergrounding works and an indicative cost estimate.

1b The size and number of 33kV poles over a 940m distance create a road safety impact that can only be addressed by undergrounding this infrastructure. It will also allow further consolidation with other vertical elements required to manage the transport network in the

precinct through the installation of multifunction poles enabling signage, signals, and streetlights to be installed on one vertical element.

The total length of the undergrounding in the AECOM concept design is approximately 940m and extends from the intersection with Wakehurst Parkway to Rabbett Reserve. Of this length, approximately 300m (32%) is adjacent to the proposed road widening of Frenchs Forest Road West (Items R4 and R5). However, undergrounding of this section cannot be undertaken in isolation. Undergrounding of the full length from Wakehurst Parkway to Rabbett Reserve is required due to Ausgrid design requirements and therefore 100% of the costs have been apportioned to the contributions plan.

The AECOM report and concept design is informed by Ausgrid advice and design requirements including the location of conversion poles and joint bays which are restricted by their proximity to high pressure gas mains. The Ausgrid advice in Appendix C to the AECOM report (section 3.2, p4) stipulates the following requirement:

> *Ausgrid requires that the proposed UGOH on the eastern end of the proposed undergrounding is located such that Ausgrid will be able to access the UGOH without the need to obtain a Road Occupancy Licence (ROL) from RMS. Proposed locations for the UGOH should be supplied to Ausgrid for confirmation prior to detailed design being commenced.*

The only possible access location that will not require a ROL is the pole on the corner of Wakehurst Parkway. Additionally, the pole on the corner of Rabbett Street will require removal to achieve the required clear zone. This will require undergrounding for a span up to the southern end of Rabbett Reserve.

2) *It seems that the calculation on number of daily visits in the original schedule was based only on AM trips, my analysis adds the PM trips and also considers the reduction in residential demand due to few project dwellings. – see attached spreadsheet.*

Response

The traffic modelling is based on the peak hourly rate of generation and not on the AM or peak total traffic generation. Whilst there is a greater total number of journeys in the PM peak there is a broader spread of traffic throughout the network across a longer duration compared to the morning peak period. This is why the modelling is based on the AM generation over a condensed period.

The modelling is done on the sum of the combined generation for both the residential and non-residential uses in stage 1.