29 Torrens Way

North Boambee Valley

NSW 2450

COMMENTS ON THE COFFS HARBOUR BYPASS ENVIRONMENTAL IMPACT STATEMENT of September 2019, dated 31 July 2019

References:

A. Environmental Impact Statement (September 2019), dated 31 July 2019
B. The Pacific Highway Upgrade, Coffs Harbour Bypass State Significant Infrastructure application report of May 2016

Firstly, I am pleased with the quality and considerations included in the Coffs Harbour Bypass Environmental Impact Statement (EIS, Reference A) and the overall improvements to the Coffs Harbour Bypass design.

The additional RMS effort on the bypass Initial design will provide substantial enhancements to the bypass and reduce the impact on the local community. However, from the perspective of a resident of the Lakes Estate, Noise Catchment Area (NCA06), I remain concerned about the following and request that my comments are considered during the production of the Final EIS and Final Design for the bypass.

1. Englands Road Interchange and Isle Drive Industrial Estate and Access to Tip

a. I am disappointed about the design and complexity of the Englands Road Interchange and the potential safety implications and traffic flow difficulties for trucks and other vehicles entering or departing the Isles Drive Industrial Estate. In addition, the introduction of traffic lights at the England Road–Pacific Highway intersection will cause further delays to local through-traffic, especially at morning and afternoon peak periods.

b. The EIS (Ref. A: Vol 1B, paragraph 8.4.2, Network changes and permanent road closures) states that … "There would be no access to Isles Drive from Englands Road. Traffic bound for Isles Drive would gain access via the existing intersection of Isles Drive and the Pacific Highway" and … "Minor modifications to the left turn from the Pacific Highway to Isles Drive may be needed to permit B-doubles to access Isles Drive".

   I believe that this proposed modification will cause a substantial increase in the traffic movement at the Isles Drive-Pacific Highway intersection causing increased delays and increased accident risk to road users and pedestrians at the extremely busy hospital intersection.

c. Access to the Coffs Coast Resource Recovery Park (Coffs Harbour's main waste management facility) via Englands Road will be affected. However, I could not determine from the EIS how access to the waste management facility will be managed during the Project and after Project completion.

2. **Construction and Operational Noise**

a. I am concerned about the Noise and Vibration Assessment component (both air and ground-borne), documented in the of the EIS (Vol 1B Chapter 9 and Vol 4A, Appendix G) and the future impacts of noise and vibration upon my family, my property and the local environment.

Although major important changes have been included in the bypass design, i.e. re-introduction of tunnels, lowering of road gradients, use of low-noise payment and considerations for at-property mitigation, the outcome will still create a disturbing and unhealthy environment for the future as both the Coffs Harbour population and traffic numbers increase.

b. **Noise Sources.** Once the project is operating new traffic noise would be introduced into areas with existing low noise background levels. It is anticipated this would be amplified to the east of the project alignment due to the topography of the Coffs Harbour Basin in reference to the location of the bypass, reference B (Pacific Highway Upgrade, Coffs Harbour Bypass State Significant Infrastructure application report of May 2016), paragraph 4.4.2 refers.

This ''amphitheatre effect" factor need to be highlighted in the EIS (Ref A: Vol 1B, Chapter 9, Noise and Vibration) and included in any noise mitigation assessments being undertaken, especially for the at-property mitigation.

c. **Noise Monitoring Locations.** The noise monitoring locations for the Lakes Estate, noise catchment area NCA06 (Ref A: Vol 4A, Appendix G, Sub-Appendix B, Map page – 02, locations 2 and 3), will not provide a representative noise levels at the Lakes Estate. However, it is noted that some current measurements at these locations, i.e. even before the bypass is constructed, already exceed the acceptable noise values (refer Ref A: Vol 4A, Appendix G, Sub-Appendices C and D). It should be noted that this exceedance was previously predicted during the development and assessment of the route options for the project, and documented in reference B paragraph 4.4.

I suggest that future noise assessments/measurements for the Lakes Estate are located centrally within the estate, to provide a more representative measure.

d. **Health impacts from operational noise.** Without mitigation there are a number of areas where noise levels will exceed the operational noise criteria described in the EIS which are designed to be protective of health

The EIS (Ref. A: Vol 1B, Chapter 9.4.2) states that "the most significant exceedances of the Noise Criteria Guidance (NCG) are in NCA16, NCA19, NCA18, NCA15, NCA02, NCA24, NCA06, NCA07, NCA08, NCA10-NCA14, NCA19-NCA21, NVA23 and NCA26-NCA29. Predicted noise increases in these areas are at least five dBA above the criteria and have the potential to result in unacceptable risks to human health in terms of cardiovascular health, noise annoyance and sleep-disturbance. As such, where noise mitigation is not implemented there is the potential for unacceptable health impacts at some properties in these NCAs".

The EIS adds that "Not all at-source noise mitigation measures would adequately address the increased noise levels. As such, there would be the need for some at-property treatments".

It is noted that the assessment of health impacts from construction and operating phases was largely qualitative, with some quantitative assessment included to determine what noise increases are considered to cause unacceptable health impacts (refer Ref. A: Vol 1B, Chapter 9.1). However, more emphasis needs to be applied from a health perspective to the long-term outcomes when selecting the bypass route and providing at-property mitigation actions.

e. **Noise Survey Measurement Results.** The "Operational noise result'' tables shown in the EIS (Ref. A: Vol 4B, Appendix G, Sub-appendix G1) are incomplete as they do not allow a reader to associate this data with specific properties shown in the "Operational noise contour" maps of the EIS (Ref. A: Vol 4B, Appendix G, Sub-appendix G2). Hence, the impact on each individual property cannot be established. I have raised this anomaly with the RMS Project representatives at Coffs, including the "Noise Engineer", and they agree that the table is incomplete and that a future issue of the EIS will correct the omissions.

f. **Noise Survey Results – Interpretation.** A problem with noise measurement is that the associated Noise Model may not properly represent the actual area under assessment, and results are typically provided as an average over an extensive period of time, and then validated after construction is complete. However, people do not respond to the average value but to the individual peaks and troughs of noise, such the instantaneous peak noise value caused during truck braking. The end result being that the results, although reasonable from an engineering perspective, are not characteristic from a Human perspective.

It is noted that the EIS noise tables do not consider the impact of wind direction and speed in their modelling (refer Ref. A: Vol 4A, Appendix G, Section 4.5).

g. **Noise Impact on Residents.** The EIS (Ref. A: Vol 4A, Appendix G, para 4.7) states that … "Approximately 60% of the total number of noise sensitive receivers (residential and non-residential) identified within the study area qualify for consideration of additional noise mitigation. Generally, noise catchment areas located further away from the existing Pacific Highway (e.g. NCA06 to NCA20) will experience a greater change in the sound environment as a new sound source would be introduced. The change in noise level varies on a case-by-case basis as the exposure from each receiver to the project relies on specific features in the terrain, including tunnels, as well as shielding from adjacent buildings."

As a resident of the Lakes Estate, I am especially concerned about the noise and pollution impact on the local neighbourhood and the Bishop Druitt College on North Boambee Road. The noise results shown in the EIS (Ref. A: Vol 4B, Appendix G, Sub-appendix G1 Operational noise results tables) and Sub-appendix G2-4 (Mitigated with Low Noise Pavement and Noise Barriers – 02), shows that the operational noise levels will still exceed the NCG levels even after the inclusion of low noise pavement and noise barriers. This is primarily due to the close proximity of the bypass to the Lakes Estate and the Bishop Druitt school, and [I add] the "amphitheatre effect", which is the outcome of selecting the Inner South 1 (IS1) route around the southern part of the Coffs Harbour bypass instead of the less intrusive Inner South 2 (IS2) option.

h. **Bishop Druitt College.** The EIS (Ref. A: Chapter 14.3.2) acknowledges that … "the noise criteria would be exceeded at the school by 2034, which may cause nuisance which would impact upon the learning environment. TfNSW will continue to engage with Bishop Druitt College to determine appropriate mitigation to address this".

From my interpretation of the noise contour maps in the EIS (Ref. A, Vol 1B Chapter 9, Figure 9-4-02), the college environment, and parts of the Lakes Estate, will exceed the NCG criteria even after the noise pavement and noise barrier migration actions are implemented.

i. **At-property treatment.** The EIS (Ref A: Vol 4A, Appendix G, para 4.8.3) states: "At-property treatments would be considered at sensitive receivers where low noise pavement and noise

barriers do not result in the NCG being met" (Ref A: Chapter 9). At this this stage in the assessment, the identification of at-property treatments is indicative only".

The mitigation actions may reduce the excessive noise levels inside the property building but the external environmental noise with remain above the NCG levels. This is especially important for the school sites as student will be outside for a large percentage of their school day and subjected to the negative excessive noise levels.

It is noted that further investigation and additional mitigations would be investigated during detailed design with further traffic and noise monitoring and modelling being undertaken to confirm requirements for additional mitigation including at-property treatments.

j. **Bypass Route.** I note that during a "Value Management" workshop to consider the shortlisted Inner Bypass options IS1/IS2 and IN1/IN2 held on 2-3 August 2004 (refer Ref B, paragraph 2.3.2), that the workshop analysed the options against the project objectives and their functional, socio-economic and environmental performance. The assessment recommended a combination of Option IS2 and IN2 as the preferred due to the options:

- *Providing the most effective physical separation from existing residential communities*
- *Least impact on planned urban development areas*
- *Least traffic noise implications*
- *Lowest visual and landscape impacts and provide greatest opportunity to mitigate adverse effects.*

Despite these recommendations, the workshop further reviewed the preferred route recommendation, from a cost and route construction perspective, and then the IS1 route was selected rather than the initial preference for the IS2 route.

I request that you ask your team to reassess the implications of selecting the Inner South 1 (IS1) route around the southern part of the Coffs Harbour bypass and consider altering the route to the Inner South 2 (IS2) option, or combination of IS1 and IS2 where the bypass route initially moves further to the west and then returns to enter the proposed Roberts Hill tunnel entry point. This proposal will provide a long-term benefit to the community and reduce the requirement for some at-property mitigation.

3. Construction and Operational Vibration

a. There is potential for construction and operational vibration impacts on nearby buildings, particularly in the vicinity of the tunnels.

The EIS (Ref. A: Vol 4A, Appendix G, Section 4 and 5) tends to focus on noise and provides minimal information on construction and operational vibration and the immediate and long-term effects of the construction vibration (e.g. structural damage from blasting, etc) and road vibration from daily operating traffic, such as sleep disturbance and structural building damage.

b. **Vibration Summary**. It is noted that the EIS provides limited comment on "Structural damage" (refer Ref. A: Vol 4A, Appendix G, paragraph 3.2.5.2) and then summarises that "Operational vibration due to the project is therefore not expected to be above perceptible levels at any of

the sensitive receivers" (refer Ref A: Operational vibration, Vol 4A, Appendix G, para 4.10). This comment is provided without enough substantiation.

I suggest that information provided on the impact of vibration during the construction and operational phases of the project be expanded. And, that from a construction viewpoint, that the project considers a reduction of the gradient between England Rd and Roberts Hill ridge tunnel (Construction Zone 1) to reduce the impact of long-term operational noise and vibration on the Lakes Estate/Bishop Druitt College (NCA06) area.

Thank you. Please review and provide feedback to my comments.

Yours sincerely,

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