September 3, 2014

Director Infrastructure Projects
Department of Planning and Environment
Application number - SSI 13_6136
Major Projects Assessment
GPO Box 39
Sydney NSW 2001

Dear sir/madam,

Re: NorthConnex Environmental Impact Statement (EIS)

I would like to respond to the above EIS Public Exhibition. Firstly I would like to state we **object** to the project as described in the EIS.

As a concerned citizen and resident of Wahroonga, who has spent nearly 10 years researching, and responding to EIS's and DA's, in support of a separate environmentally important stand of Blue Gum High Forest (BGHF) in the Kuringgai area, I am particularly concerned about the minimisation in this EIS of the damage to the existing stands of BGHF by the project. The Critically Endangered ecological community of Blue Gum High Forest in northern Sydney area has suffered from, and continues to suffer from, death of thousand cuts from multiple development projects, all of which have argued that this or that stand of BGHF will not impact on the remaining ecological community of BGHF because it is only "so-and-so" percentage of the remaining. The cold, hard fact is that the total BGHF coverage in the area of origin has now been cleared almost to the point of extinction, ie: less than 5%, and any further loss is critical to the survival of the biodiversity of the species.

Compared to the Land and Environment Court cases on the John Williams estate, which stopped the destruction of BGHF on that site, the projected loss of BGHF at this site is even more significant and unnecessary. By making the tunnel begin from the Hornsby industrial area, the damage would be avoided, and a whole lot of other impacts would be avoided – for instance, it would make unnecessary destroying parkland and residential areas and amenity, simply for works areas for the project. I strongly recommend that the project as currently envisaged should be deferred for modification.

On a technical level, the EIS does not address the issues sufficiently, as follows:

· Ecology impacts

The Northern Interchange Compound Site (NICS) will result in the removal of 1.14ha of Critically Endangered Blue Gum High Forest (BGHF) (Eco Logical Australia 2013) which is listed under the Threatened Species Conservation Act 1995 (TSC Act).

The 1.14ha of BGHF, which is proposed to be removed simply to establish the NCIS, is one of the largest stands of critically endangered BGHF outside of local bushland reserves (Dalrymple Hay, Sheldon Forest, Brown's Forest & Clive Evatt).

No BGHF biodiversity credit sites have been identified in the North Connex Technical Working Paper: Biodiversity. The Technical Working Paper Biodiversity fails to demonstrate compliance with the Director General Requirements (DGR) – biodiversity, and fulfill its requirements to offset in accordance with the NSW offset principles for Major projects.

The project, if approved, would require 10% or 17.52ha of all the remaining BGHF to be protected and conserved. In accordance with the Office of Environmental Heritage (OEH) principles, the project should not be approved until such time the offset of 163 BGHF Biodiversity credits can be demonstrated for the loss of 2.81ha of BGHF.

As a parent to a young girl going to school close to the tunnel, I am also very concerned about other major environmental concerns as summarised below:

· Number of stacks compared to Lane Cove Tunnel

The Lane Cove tunnel is 3.6km long and has two (2) ventilation stacks. The proposed North Connex tunnel is 9km long and only has two (2) proposed ventilation stacks. Consequently, it is considered unacceptable for such a long tunnel to only have two (2) ventilation stacks and serious consideration should be given to including at least one (1) additional ventilation stack at the mid-point of the tunnel to assist with the dispersion of pollutants over a broader area.

· Location of stacks to industrial areas

The Lane Cove Tunnel ventilation stacks are located in industrial areas of the North Shore, therefore, away from residential areas. The northern ventilation stack is in the centre of a densely populated residential area in Wahroonga, where 9,300 school children will be exposed, as well as multiple aged care facilities, hospitals, businesses and homes. As the ventilation stacks are not proposed to be filtered, they should at least be located in industrial areas. There is an opportunity to locate the northern ventilation stacks in the industrial areas of Hornsby and therefore minimise the impact on the residential areas of Hornsby and Wahroonga.

· Consider extending tunnel – residential impact

To assist with improving the ventilation stack location, tunnel gradients and noise impacts of the tunnel, consideration should be given to extending the tunnel northerly to avoid locating the northern portals near residential areas.

· Height of stacks

The height of the ventilation stacks, where proposed, is identified as being 15 metres tall. This will have a negative impact on the visual character and Heritage Conservation Area of Wahroonga.

· Background air stations and atmospheric conditions

The differences between modelled and actual terrain need to be explained, in terms of whether the simulated meteorological conditions in the vicinity of the northern ventilation outlet will change because of the data source (SRTM) and selected resolution. The comparison of modelled and measured (Lindfield) wind speeds suggests the CALMET simulation of conditions in the vicinity of the northern ventilation outlet needs further verification. A comparison between the modelled and measured (for example, James Park) wind patterns is required in order to demonstrate the CALMET output is representative of local conditions.

· Air quality assessment and ongoing monitoring

The recommended concentrations of pollutants in the in-coming air are estimated and included in the emission calculations, with ventilation outlet emission estimates updated as appropriate. Additional information is required to demonstrate the northern ventilation outlet emissions and resultant concentrations in the vicinity of the northern ventilation outlet are not underestimated because of the assumed concentrations in the intake air.
The difference between the estimated in-tunnel concentrations for North Connex and measured concentrations from other tunnels should be explained, with consideration of differences between traffic volumes, ventilation flow rates and tunnel lengths to make sure modelled emissions for North Connex have not been under-estimated. The removal of stands of Blue Gum High Forest would compound the impact on the local residents by removing the filter of the leafy canopy of particulates and gases.

It would be prudent for the Department of Planning and Environment consider the predicted ambient concentrations in light of the modelled source concentrations, if concentration limits are to be set.

With regard to ongoing monitoring of the air quality, there needs to be consideration to consent requirements for the air quality to be measured over a five (5) year period to ensure emissions are within acceptable levels. If they are outside acceptable levels, then filtering may be required.

· Construction issues

As indicated in the EIS, the project is to operate 24 hours per day, seven (7) days per week. Where there are residential dwellings in close proximity to the worksite, it is considered the working hours are totally unreasonable and should be restricted to working days, Monday to Friday, between the hours of 7am to 5pm and Saturdays 8am to 1pm.

To minimise noise, the access road off Eastbourne Avenue should not be used between the hours of 8.00 pm and 7.00 am. A suitable intersection arrangement will need to be provided at Eastbourne Avenue to ensure traffic on Eastbourne Avenue is not disrupted by construction vehicles and safety on Eastbourne Avenue is not compromised.

To minimise noise, the access road off Coonanbarra Road should not be used between the hours of 8.00 pm and 7.00 am. A suitable intersection arrangement will need to be provided at Coonanbarra Road to ensure traffic on Coonanbarra Road is not disrupted by construction vehicles and safety on Coonanbarra Road and Carrington Street is not compromised.

A road condition report is requested for Coonanbarra Road and Junction Road (between Coonanbarra Road and the M1 Motorway), to ensure any damage to Council's roads used by construction traffic for the North Connex project, during the life of the project, is identified and repaired to Council's satisfaction.

Local councils should be consulted on Construction Traffic Management Plans prior to any approval of the project.

A Construction Noise and Vibration Management Plan (CNVMP) will need to provide details and protocols for minimising and managing the risk of noise and vibration impacts from construction activity. Construction noise management and mitigation measures will have to be comprehensively covered within the CNVMP.

· Design issues

There is concern one (1) northbound lane on the M1 Motorway does not provide sufficient capacity for northbound traffic. This would result in traffic congestion back into Pennant Hills Road. An extra northbound lane should be provided at this location to maintain satisfactory levels of service.

In the northbound carriageway, under existing Edgeworth David Avenue / Junction Road bridge, there are currently three (3) northbound lanes with associated shoulders between the bridge abutment and the central bridge support. It is difficult to see how four (4) northbound lanes, nominal shoulders and a separation space could be accommodated without major modifications to the abutments and central support at the Edgeworth David Avenue / Junction Road bridge. This has not been identified or analysed. Modifications to the bridge would have significant impacts to Edgeworth David Avenue, Junction Road and the Regional Road 2043 route between Roseville and Hornsby.

· Heritage impacts

The EIS assesses four (4) potential impacts to heritage items as confirmed by this review. They include:

1. vibration impacts,
2. settlement impacts,
3. visual impacts and
4. impacts from acoustic treatments.

In summary the following can be summarised:

Vibration impacts – The EIS does not define the scope of vibration monitoring works to be undertaken. In particular, how impacts would be addressed if they

arise. The assessment does not take into account the fabric of the property in its assessment. The vibration assessment on page 78 of the EIS notes the individual features of the property need to be factored into impact assessments. This should be considered to confirm potential degree of impact and ensure adequate measures are put in place to protect the properties.

Settlement impacts – The EIS determined some properties have the potential to be subject to, at most, minor cosmetic damage. However, the assessment did not take into account the fabric of the property in its assessment. The vibration assessment on page 78 of the EIS notes the individual features of the property need to be factored into impact assessments. This should be considered to confirm potential degree of impact and ensure adequate measures are put in place to protect the properties.

Visual impacts – The EIS, as confirmed by our review, has determined the majority of visual impact to heritage items would be negligible due to the plan for the replacement of noise walls and revegetation once construction is completed. However, it is noted for 4 Burns Road, the potential visual impact described in the EIS will not be screened by neighbouring properties, as these properties are marked for acquisition and demolition. The EIS should be amended to address this potential impact.

Acoustic treatment impacts – The EIS for heritage recommends one property for potential acoustic treatment. The reasons for the selection of this property and the exclusion of neighbouring properties is not stated in the heritage chapter of the EIS and is not made clear in the noise chapter of the EIS. Community consultation has raised the possibility acoustic treatment is being considered for other properties. If this is the case, the appropriate heritage assessments should be carried out.

The heritage chapter of the EIS has inconsistencies and in some cases uses out-dated significance assessments as the basis for investigation of impacts, but the general thrust of the document is considered to be accurate. The project will avoid direct impacts to heritage properties and the Heritage Conservation Area. However, the potential for impacts has not been adequately addressed.

The EIS has left many aspects of future planning to detailed design. This has created confusion and uncertainty in the community and has made it difficult for the community to understand the ongoing process. In addition, the low legibility of the document, cross referencing to technical papers that are not interpreted and difficult to read maps has made it difficult to clarify points of confusion.

- Noise impacts

Additional noise monitoring should be carried out to determine representative background levels (RBLs) for the revised noise catchment areas (NCAs).

Additional noise monitoring should be carried out, where required, to determine existing traffic noise levels for the revised NCAs.

Further information should be provided regarding the Northern Ventilation Facility and tunnel portal jet fans and a review of potential sleep disturbance from the operation of the Northern Ventilation facility.

Details should be provided to clarify how the study area was derived (i.e. how was it calculated the Project adds no more than 2.0 dB(A) to the total noise level) and the boundary of the study area should be defined.

Operational daytime LAeq, 15hr and night-time LAeq, 9hr traffic noise contours should be provided.

Details should be provided to clarify what receiver heights were assessed as part of the operational assessment. Confirmation will be required if this affects the outcomes of the noise barrier assessment.

More information is required as to how the open graded asphalt (OGA) corrections for the M1 southbound carriageway were derived.

With regard to pavement corrections, it should be clarified whether the corrections were applied equally for each vehicle emission string (car exhaust/engine; car/truck tyre noise; truck engines and truck exhaust) or just for the car/truck tyre noise emission string.

It is not clear why the southbound carriageway of the M1 Motorway has assumed to be resurfaced with open graded asphalt (OGA) for the No Build Opening year and Design year scenarios. This would imply the resurfacing is not project related and has perhaps already been undertaken post EIS noise monitoring (i.e. after December 2013).

Details should be provided to clarify whether Australian Road Research Board (ARRB) corrections or any other calibration corrections and safety factors have been applied to operational traffic noise predictions.

More detailed assessment of maximum noise level impacts associated with the Northern Interchange should be provided.

A reasonable and feasible noise barrier analysis in accordance with Environment Noise Management Manual (ENMM) -Practice Note (iv) should be conducted for Lucinda Avenue properties (including IDs 1617, 1626, 1648, 1656 & 1661) which are located north-east of the on and off-ramp portals.

The Environment Impact Statement –Noise and Vibration (EIS-NV) needs to provide more information to ensure the receivers affected by the Northern Interchange, where noise barriers are to be replaced, are provided with replacement noise barriers of at least the equivalent performance of the existing barriers.

A cumulative noise assessment should be included in the EIS to address operational Northern Ventilation Facility - portal noise and operational traffic noise.

Details should be provided to clarify whether the property treatments identified within Table 59 of the EIS are applicable to the ground floor and/or first floor of multi-storey dwellings.

The EIS-NV should include a commitment to provide a road surface with similar acoustic performance to OGA when the road is resurfaced in future.

· Traffic issues

The use of the compounds in Ku-ring-gai will have a significant impact on local traffic conditions. They need to be managed to reduce the impact on the local community. There are local schools in the vicinity of these compounds and road and traffic safety will need to be included in any consent conditions. This needs to be heavily consulted with Council and representatives of the local schools to ensure the safety of school children.

· Construction vibration impacts

Tunnelling work under the properties in Lucinda and Eastbourne Avenues will have an impact on the structural integrity of the properties. A dilapidation survey is required for all properties within a 100 metre zone of any construction work. The proposal to undertake tunnelling work 24 hours per day is expected to cause vibration to properties. Any activity should be limited to standard working hours. This needs to be addressed in the Construction Noise and Vibration Management Plan.

In summary, as I drive on Pennants Hills Rd every working day during peak hours, I am well aware of the need for a good solution to the traffic build up. This project does not appear to be a good solution. Almost every tunnel built in Australia has gone broke in recent years, often leaving state taxpayers to pick up the pieces. Yet almost all these tunnels are now equally choked with traffic, solving little of the traffic congestion except for avoiding a few traffic lights at intersections. The detail on how this new tunnel will solve these problems is deficient on any independent analysis. Nor does the current EIS suggest that the environmental issues have been thought through properly, especially on important issues of BGHF protection, and the pollution from the proposed stacks.

To address these concerns I request that the following actions are undertaken:

1. The Critically Endangered ecological community of Blue Gum High Forest must be protected, and the tunnel entrance moved back to Hornsby to avoid any need for works on current BGHF sites.
2. The air quality and human health impact assessment need to be revised to address the issues raised above.
3. An independent options assessment process should be undertaken to assess alternative locations for the ventilation stack and portals.

4. To undertake a Life Cycle Analysis and assessment for the provision of filtration
5. A long term health study on children and residents in areas impacted by stack discharges be included as part of the conditions of approval.
6. A comprehensive air quality monitoring program is developed and implemented.
7. An independent review of the ventilation system is undertaken to ensure that NorthConnex's claim of no portal emissions is justified.
8. Portal emissions from NorthConnex in the future are banned.
9. The Submissions Report/Preferred Project be exhibited to allow the community to respond to the revised information contained in the report.
10. The Department does not approve the project in its current form, as it clearly does not meet the principles of Ecologically Sustainable Development as required by the Environmental Planning and Assessment Act.

Yours sincerely,

[redacted]