

Western Harbour Tunnel Submission

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Introduction

There is a fundamental flaw in the Western Harbour Tunnel (WHT) project in that it has been promoted as facilitating city access for northern beaches residents yet the scope of this project ends at North Sydney. The WHT project as defined in this EIS is just Rozelle to North Sydney. Just why the project should direct vehicles into North Sydney when they are seeking access to the Northern Beaches is confusing. If the WHT is to gain access to the Northern Beaches then it would be more logical if the route was between Rozelle and Naremburn (where there is a much less existing major traffic bottleneck). The EIS has not identified this alternative.

The EIS is deficient in exploring options which would have a smaller environmental footprint. The EIS leaves much of the environment protection measures up to some future time to be considered in management plans. There are thousands of people living in very close proximity to the major construction sites. The EIS documents do not detail the scope of the impact on residents nor people using the roadways during the 5-6 year construction period. Traffic disruption will be massive. Parking of workers vehicles will impact local residents as experience has shown that WestConnex contractors have been unable to control employee transport modes to work sites. WestConnex construction experienced by residents has also shown that Contractors have caused considerable annoyance and hostility towards residents. The EIS fails to document the detail of how environmental impacts will be effectively managed resulting from the failure of the EIS to assess the effectiveness of the proposed controls to be deployed in the construction program.

Operational air pollution arising from WHT will cause air pollution levels to increase and further exceed accepted air quality criteria for many residents. The proposed WHT does not require the operator to control air pollution using available technology. Further, the polluter is not faced with pollution charges under the current regulatory requirements. There is no incentive for the operator to reduce or minimise air pollution. This is inconsistent with the precautionary principle.

The EIS is grossly deficient in identifying the scope and scale of the hazardous waste issues arising from dredging the trench in the contaminated sediments located on the floor of the harbour. Construction of the WHT will generate hazardous waste which has not been classified under the landfill guidelines. Whether any licenced landfills exist for this waste is unknown. Management of odours that will be generated by harbour sediments is not defined. Whether odours can be controlled to remove impacts on local residents is unknown. The St Peters landfill experience has shown that the proposal by RMS to relocate an existing landfill was ill considered and fundamentally flawed in the degree of impact imposed on residents. In addition to the waste and odour issues, the dredging of contaminated sediments will cause water pollution that will not be prevented by the two-meter floating curtain.

The WHT is understood to involve a public expenditure of nearly \$20 billion. This level of expenditure must be assessed from an equity perspective. The spread of beneficiaries of this expenditure are probably localised to the northern beaches. This project must be challenged on the basis that millions of Sydney residents will derive almost no benefit.

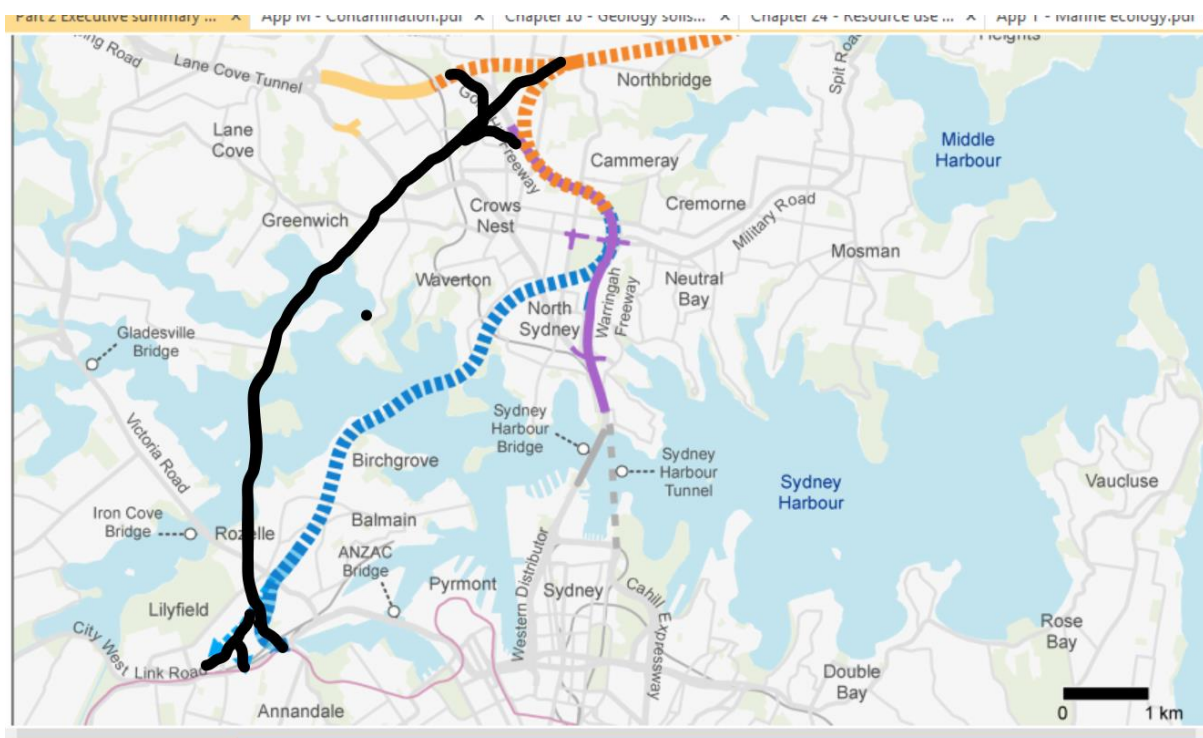
Alternative Designs

Apart from the size of the documentation, the Western Harbour Tunnel EIS fails to provide any substantive consideration of alternatives. The EIS project is presented as take it or leave it. There are

no alternatives identified. Although the WHT is supported by both Liberal/National Party and Labor Governments, that does not mean RMS is entitled to subject local residents and the environment to a level of impact that is unreasonable without considering alternative designs.

The EIS is based on just one tunnel construction option. The identified option has a massive impact on local residents and the environment. The failure of the WHT project to seriously consider other alternatives is a sign of a flawed project. RMS as the proponent has no unfettered right to impose this proposed WHT construction on the community. RMS must be held to account for the failure of the proposed WHT to encompass alternative designs and identify the reduced environmental impacts which may arise. RMS has presented this design on a take it or leave it basis. Other designs with a reduced environmental impact must be identified and assessed.

The submerged tunnels described in the WHT EIS do not seriously include any alternatives. The alternative of using bored tunnels was dismissed due to the claim that such tunnels would be too steep. This degree of critical analysis presented in the EIS is superficial. The proponent could have considered a longer tunnel route thereby giving lower grades. The claim of “too steep” needs to be fully evaluated not superficially rejected. Bored tunnels would have a major benefit of virtually eliminating water pollution and environmental impacts on the harbour aquatic environment. The need to destroy the historic Yurulbin Park would be avoided. The construction works at White Bay would be avoided.



The lack of critical environmental analysis of options is a major deficiency in the EIS which is inconsistent with the intent of the environmental planning legislation. There is no justification provided as to why the WHT must end at North Sydney. An alternative tunnel from Rozelle to Naremburn should be considered. Such a tunnel removes the argument claiming that only a floor bedded tunnel was possible. The Rozelle to Naremburn option is approximately 9.5km which is not long by other tunnels proposed by RMS. This tunnel route removes the known disturbance to heavily

contaminated sediments in Sydney Harbour. It also lessens the impact of noise from construction of tunnel sections at White Bay and removes noise impacts around the heavily populated North Sydney area. It eliminates the predicted water pollution of Sydney Harbour due to the construction of coffer dams, excavation of rock and hazardous waste issues arising from contaminated sediments and destruction of the Yurulbin Park environment.

The proponent has not considered any alternative tunnel locations. The claimed need for the WHT is to link to the Northern Beaches. WHT is not required to travel to North Sydney as this could readily be reached via the existing Harbour Bridge or Tunnel. Linking WHT with North Sydney will cause additional travel times due to the existing heavy traffic in the North Sydney area. By linking Rozelle to Naremburn, this route avoids placing heavy traffic from Rozelle into North Sydney. RMS needs to justify why the proposed WHT must end at North Sydney rather than the slightly longer route to Naremburn.

Scope of the WHT EIS ignores consideration of larger scale options

The scope of this EIS only includes the Western Harbour Tunnel works. When coupled with the piecemeal nature of the full scale of the WestConnex project (and its associated sub-projects), this WHT EIS is deficient because it is just a small element of the full scale expansion of private toll roads. There has been no consideration of alternatives to the overall project.

EIS lacking in detailed assessment and regulatory controls

The EIS is little more than a “concept” document. Information details are left to be developed by others after approval is granted. Construction management plans are identified by name only and do not contain details of practical pollution controls. Whether the sketchy outlines of pollution control will deliver specific outcomes is speculative. For example, a similar plant to the groundwater treatment plant operated for the Epping Chatswood Railway line has not been proposed as the groundwater quality of any discharge has not been detailed. Discharge qualities are not specified. The proposal to include 2m “pollution” skirts around dredging plant will not protect Sydney Harbour waters from pollution by disturbance of sediments for which no contamination concentrations have been provided. It is incumbent on the proponent to provide detailed information on contaminant concentrations and not leave these to mere speculation and some proposed dredging management plan. Details of the “acoustic sheds” are left to subsequent specific design. Noise levels which residents are expected to be subjected to is left to the final design or building elements. The expectation is that the environment and residents will need to cope with whatever is delivered. The lack of information does not provide the EPA with the necessary information to issue an effective regulatory environment protection licence (EPL). RMS is expecting to be granted EPLs which are open and generous towards the polluter rather than being stringent and precise in measurable outcomes. The lack of specific measurable pollution controls details in the EIS means that the EPA will need to provide the public with the opportunity to comment on any new environment protection licence sought by RMS or its contractor prior to that licence being issued.

Air pollution from WHT

1. Justification for the WHT project when air quality exceeds current criteria

The EIS states that the existing PM_{2.5} concentrations at the Earlwood and Chullora sites operated by DPIE already are close to or exceeds the 7µg/m³ annual mean health criteria. There is no evidence provided in the EIS which shows that this does not also apply to existing residential areas in the vicinity of WHT. No argument has been developed which justifies a further increase in PM_{2.5} for these residents. The documents show that there will be further increases in PM_{2.5} for large numbers of residents in the vicinity of the project. No control measures have been identified to reduce PM_{2.5} concentrations imposed on residents despite there being available technologies to do so.

2. Accessibility, accuracy and precision of RMS air quality data

The documentation refers to RMS air quality data however there is no real time public access to that data. There are no available reports relating to the accuracy and precision of the RMS data. In contrast, data from DPIE sites is accessible on-line and available to the public. The lack of a substantive body of RMS air pollution data which satisfies audited quality assurance and quality control processes should preclude any decision on this project being made until such data has been obtained. Any decision made based on data that is not publicly available in real or near real time and lacking in audited QA/QC procedures, is contrary to the precautionary principle.

3. Omission of ambient air quality data covering impacted residential sites

There is no air quality data presented for residents located close to existing major traffic routes in Rozelle and Cammeray for example that are near this project. If residents of these areas are already subjected to exceedances of air quality criteria, what is the justification for developing the WHT project? The lack of air quality data for existing residents near major roadways and transport facilities means that this project is being assessed without adequate consideration being given to existing air pollution levels.

4. Omission of developing health parameters

The EIS does not include consideration of ultra-fine particles (UFPs) on the basis that there are no existing criteria for UFPs and no ambient data. The current emission standards for motor vehicles have only just started to include particle numbers for diesel powered vehicles. The failure of the Federal Government to introduce EURO 6 emission standards in a similar time frame to that used in Europe makes the inclusion of UFPs in the environmental assessment inconvenient for RMS. This analysis is contrary to the requirement for the project to fit within the precautionary principle. In this case, where there is a lack of information, that should be used to defer consideration of the project.

The EIS also excludes consideration of Black Carbon (BC) in its assessment of the impact of the proposed WHT. It would be irresponsible to fail to include BC because there is little data and no health criteria. This also ignores the requirement of the approval process to follow the precautionary principle. BC is currently being assessed in future developments of transport infrastructure in the developed world. The failure to include BC in the assessment of this project is not justified.

5. Air quality criteria

The one hour mean WHO criteria for NO₂ is 200µg/m³ and the annual mean criterion is 40µg/m³ whereas the outdated EPA values are 246µg/m³ and 62µg/m³ respectively. The lack of a review of the NEPM criteria (due to Government inaction) should not be used as a factor to assess this or any other EIS under the precautionary principle. It would be an irresponsible Government to use lax health protection standards merely because the Government did not apply resources in a timely manner to the review of its procedures. In contrast, both PM₁₀ and PM_{2.5} criteria specified in NEPM have been more recently reviewed and are lower or equal to those specified by WHO.

The EIS documents state that existing RMS roadside stations are recording NO₂ concentrations just under the WHO criteria for NO₂ of 40µg/m³(D5.3.1). This means that residents on busy roads in the vicinity of the WHT project should not be subject to any further increase in concentrations of NO₂ as a health protection measure.

The EIS documents state that the annual mean PM_{2.5} goal of 7µg/m³ is already being exceeded at the DPIE background monitoring stations. The fine particulate concentration at residential premises on busy roads will be well in excess of this goal. Justification for further increases in fine particle concentrations from the WHT project has not been provided in the EIS.

6. Public understanding of high pollution days

The 2019-20 bushfire season has identified that the public needs to have a better understanding and warning of high air pollution days. Local residents near the proposed WHT would benefit by the disclosure of the number of hours per year when pollution levels will exceed recognised health criteria. The number of hours per year when cumulative PM_{2.5} exceeds 7µg/m³ or cumulative NO₂ exceeds 40µg/m³ would provide residents with more insight into understanding the impact of air pollution from all sources on their health at the local level. Background air pollution levels at the DPIE stations do not provide guidance for local residents near the WHT facilities. The public has a right to know what the predicted worst case air pollution will be and the frequency of occurrence of high air pollution hours. There are no tables showing how many hours of the year air quality health parameters will be exceeded in nearby residential areas. For this reason, the analysis could be improved by providing such information. This would be more helpful than just claiming the model is “conservative”.

The annual mean PM_{2.5} tables show that the existing air quality does not comply with the 7µg/m³ criterion and therefore the project will exacerbate the existing situation. It would be irresponsible for the project to be approved. The contour plots for the ventilation stacks show that the project is adding to the existing levels of PM_{2.5} in a very large area around the inner west. The justification for permitting an increase in fine particles does not fit with the duty of care placed upon the proponent to protect the health of local residents.

7. Limited existing air quality monitoring data

The proponent has identified the two existing background air quality sites operated by DPIE that are in close proximity to the WHT project. There are also sites operated by RMS (or contractors to RMS) that are referred to in the EIS however quality assurance and quality control procedures for these sites are unknown and that air quality data obtained is not made accessible to the public in real or

near real time as is the case for the DPIE sites. Hence there is a lack of independently verified air quality data from site close to the proposed WHT. The lack of air quality data means that the assessment of this project is entirely dependent on air quality modelling results to assess air quality impacts on residents adjacent to WHT facilities.

8. Air quality modelling

The air pollution modelling is based on air pollution data for European motor vehicles as provided by PIARC 2019. The average CO₂ emission intensity for new vehicles in 2015 in Europe was 120gm/km whereas the Australian emission intensity was 175gm/km. In 2008, the Australian emission intensity was 220g/km. Motor vehicle emissions in Australia are currently lagging years behind European vehicles.

Even more importantly, RMS has based its future air pollution projections on new Australian vehicles being Euro 6 from 2021. This is despite the fact that the introduction of Euro 6 for new vehicle emissions has stalled in the Federal Government. Ignoring the deferral of Euro 6 has no justification and discredits the content of the EIS. Section 6.4.1 Appendix 2 makes the comment, if Euro 6 controls are not implemented, NO₂ emission levels will be underpredicted by 26%. This comment effectively discloses the substance of the air pollution claims made in the EIS are misleading as Euro 6 standards will not be introduced in 2021 in Australia. The results of air pollution modelling need to be deleted as they are understating the magnitude of air pollution. The question which must be addressed is: what are the predicted NO₂ concentrations for residents living in the vicinity of the WHT project? What are the predicted cumulative NO₂ concentrations at these residences?

The air pollution model was run for the year 2016. The model did not include the Lindfield DPIE air pollution monitoring station even though the boundary was within a few hundred metres of this station. It would have been useful to include the Lindfield station to provide greater confidence (or not) to the model predictions. The predicted air pollution concentrations when compared with measurement data at the Rozelle station shows that there are significant errors in the model. Having a second air pollution monitoring station would have provided a second recognised comparison site.

The modelling analysis of historical measured air quality in comparison with that predicted using the model shows that some parameters had close agreement while others were very different. This inconsistency is not explained in the analysis. The inconsistency may be a sign that the analysis has fundamental errors. The use of a "synthetic background" factor means that the selection of "synthetic background" could have a significant bearing on predicted air quality. The claim that the model yields reliable predictions is overly generous.

The assumption of a continuing increase in VKT is questionable. If the Federal Government were to change motor vehicle business tax arrangements, there could be significant downwards move in VKT. Similarly, the establishment of new public transport systems for outer Sydney areas could see a shift away from private motor vehicle commuter use. The forecast growth in electric vehicles is also likely to reduce VKT. Any reduction in VKT would see future pollution levels reduce and this would change the air pollution predicted by the WHT project.

The air quality model for motor vehicles also includes a significant contribution to PM_{2.5} from non-regulated sources. RMS has not included any data to verify the claimed contribution from brake

dust, tyres, road surfaces and settled road dust. International data shows a very large variation in these non-regulated sources. RMS has also not included any justification for why these non-regulated sources of dust will be reduced in the future. For these reasons, the predicted future PM_{2.5} concentrations are speculative. Further, the claim that the model results “fit” historical data does not enable any conclusion to be made about the historical PM_{2.5} concentrations.

9. Tunnel operation and stack emissions

The EIS indicates the WHT tunnel ventilation is designed around two primary parameters. The first parameter is achieving specific maximum pollutant concentrations inside each tunnel. This is satisfied by diluting in-tunnel air with outside air. The second parameter is operating ventilation fans to “ensure” there is zero release of tunnel polluted air at portals. Given the timeframe limits specified for in-tunnel pollutant concentrations, fan speed changes and outside air damper changes can readily be made to satisfy in-tunnel pollutant concentrations (apart from the incidence of vehicle fires).

Because tunnel ventilation system operations are driven by in-tunnel pollutant concentrations, stack pollutant concentrations are purely the result of outside air dilution and, as proposed in the EIS, are essentially meaningless as a regulatory objective. This is because the proposed stack pollutant concentration limits are readily met due to the addition of outside air to satisfy in-tunnel requirements.

Instead, stack mass limits could be specified to address the magnitude of pollutant concentrations in adjacent residential areas as an environmental regulation. Imposing mass limits would place a requirement on the operator to reduce the mass of pollutants discharged from the stacks. Mass limits might cause the operator to ban smoky vehicles, might change speed limits in the tunnels to reduce air pollution from individual vehicles, might monitor each vehicle and introduce pollution tolls to discourage high pollution vehicles. Stack emission mass limits are an important element of tunnel design and can be set to further reduce air pollution in local communities and into the Sydney airshed. The failure of the EIS to consider pollutant mass limits is omitting an opportunity to reduce air pollution.

The EIS proposes that the tunnel operator should be entitled to add additional pollution that will cause local residents to be subjected to air pollution levels which exceed current health guidelines. Further, the current regulation of tunnel stack emissions permits the operator to do so without any financial penalty. This is contrary to the polluter pays principle. The recent introduction of licencing on road tunnels should include load based licencing to apply a pollution charge. An estimate of the annual load of pollutants discharge from each stack suggests that similar stacks, such as, those at the former Shell refinery were required to pay an annual load fee. A pollution charge fee system could readily be implemented for road tunnels and this would provide tunnel operators to consider pollution control systems and to operate the road network to minimise stack emissions. Existing road tunnel stack licences impose no real pollution reduction measures on tunnel operators. Road tunnel stack licences are purely a monitoring tool. For these reasons, any planning approval for the WHT should include an emissions monitoring scheme together with pollution charges.

An alternative arrangement would be to require the road tunnel operator to pay another polluter for the stack point source pollution from WHT stacks. For example, the operator could pay a subsidy to

the operator of the airport rail system to reduce taxis and motor vehicles using roads travelling to and from the airport. The WHT operator could be required to subsidise the operation of a public transport system to achieve an equivalent reduction in NO_x and PM_{2.5} by the same quantity as that discharged through the tunnel stacks. The current “free to pollute” system for road tunnel stacks enables road tunnel operators to evade consideration of air pollution costs. The internalising of those costs is an important element of the precautionary principle.

10. Regulation of tunnel stack emissions

The EIS document claims that stack emission limits are (or should be): solid particles 1.1mg/m³ NO_x 20 mg/m³ NO₂ 2.0 mg/m³ CO 40 mg/m³ and VOC/THC 4.0 mg/m³. The stack emission limits are of no effect to either the operator or nearby residents. They are of no consequence to the tunnel operator as the tunnel ventilation system is driven by NO₂ concentration to provide a maximum concentration of 0.5ppm (940µg/m³) rolling average and the use of outside air as dilution to achieve that in-tunnel concentration. Using these limits and stack air flows, produces allowable daily mass discharges up to 0.57 tonnes of solid particles, 1 tonne of NO₂, 10 tonnes NO_x and 2 tonnes of VOC/THC per day from the seven stacks in 2027. This discharge mass is “permitted” under the proposed stack concentration limits. The leniency of these limits displays considerable generosity and failure to consider the human health impacts. The EIS documents do not present any argument as to the justification of the above limits. Stringent health based emission limits must be developed and imposed upon the proponent. To use the limits sought by the proponent (and casually imposed by the regulator to date) would be a gross failure to regulate this project.

11. Exemption of stack emissions from mass discharge limits

The EIS documents do not provide any assessment of what are appropriate, stringent mass discharge limits. While it is understood the proponent is seeking an unfettered right to pollute, it is mandatory that the health of the public be protected and that pollutant mass discharge limits be set. As health protection criteria have different time scales, then mass limits must be set to reflect those time periods. For this reason, mass limits must be set for periods or rolling hour, rolling day and rolling year. The tunnel operator does have the ability to reduce NO_x and PM_{2.5} emissions by changing the operating modes and usage costs of the network. For example, imposing lower vehicle speeds or road surface cleaning may be used to influence NO_x and PM_{2.5} emissions respectively. Imposing limits on pollutant discharges should be mandatory in order to protect the health of persons exposed to the pollutants discharged.

In reviewing the EIS documents, it is apparent that the proponent is unable to declare what, if any, mass emission limits should be applied to its stacks. While it is understandable that the proponent seeks no encumbrance on its pollution of the local atmosphere, it is appropriate that the regulator imposes a mass and flow concentration limit which reflects the need to protect the health of local residents. The projections claimed in the EIS need to be backed up by imposed pollution emission limits.

12. Tunnel and tunnel portal design and modelling

The EIS documents claim that the tunnel portals will emit no local air pollution under any circumstances. The claim is that the ventilation system will always deliver air flow into the tunnel. To

achieve this objective, the tunnel fans would need to be able to change air flow rates to capture all outwards moving air. According to the EIS documents, tunnel portals are designed to have an inflow velocity of 1m/s. Air velocities inside tunnels are limited to a velocity of 10m/s (S4.2.1). Using the tunnel portal area for a 3-lane portal, the inflow design (Table 6.2) would supply 106 m³ in one second. If three cars (frontal area 2.5m² each) were to exit the tunnel at 60kph at the same time, in a simple fluid model, the plug of air in front of the vehicles would be 125 m³ in 1 second and this would be insufficient for all the pollutants to remain within the tunnel. This very simple analysis suggests that the claim made by RMS that there will be zero portal emissions is speculative and needs a much more rigorous evidentiary basis.

The documents do not provide any indication of the operation of the tunnel ventilation system and its transient response. It is assumed that VSDs will be used on the main exhaust fans. These relatively large fans have considerable inertia and tunnel air velocity changes are expected to take minutes to take effect. This means that the tunnel ventilation system needs to be operated ahead of when vehicle exits at tunnel portals take place to achieve zero portal emissions. The tunnel ventilation also provides for decoupling airflows from a tunnel in one direction to the counter direction tunnel. There is no indication provided in the EIS on how the ventilation system will be operated to achieve zero portal pollutant emissions.

The one-dimensional model used for pollutant concentration analysis is also questionable as air flow in the tunnels will not be one dimensional. The appearance of zero peak hour pollution levels in some of the model outputs is a cause for concern about how the model has been used. RMS has had many years to do comprehensive analysis of air flows in tunnels and tunnel portals. Interpretation of the simple one-point results obtained in the Lane Cove tunnel should be considered with caution. No reference is provided in the EIS to a peer reviewed paper relating to its Lane Cove tunnel air pollution investigation. The predictive capability of a single sample point on a statistical basis contains a wide range of error. The air sampling methods specified for testing of air emissions from stacks require multiple measurement points across a measurement plane. Stack testing requirements are well known to RMS. It is incumbent on the proponent to provide quantified error analysis with the EIS not be based on information with unknown errors.

The inertia of the rotating mass of large fans would not enable air pollution from within the tunnel being drawn outside the portal when those vehicles are leaving the tunnel. Practical operation of the tunnel ventilation system to deliver zero portal emissions must be detailed in the EIS.

13. Tunnel design and the NSW Chief Scientist Reports

The Chief scientist air emission data stops at 2009. The Chief Scientist reports have not been updated to reflect the latest motor vehicle emission data. Reliance upon historical claims is not satisfactory when there is more recent data or the historical data has now been found to be deficient.

14. Management of road traffic network for better air quality

RMS operates the road traffic lights network on the basis of encouraging vehicles to use toll roads. This control network should be changed to minimise stop/starts and encourage continuous traffic flow speeds – though these may be lower. Changing the road traffic network would deliver a

reduction in motor vehicle air pollution. The EIS should consider this alternative as a means to reduce air pollution for all residents.

Noise Pollution from WHT construction– water based

The construction of WHT project will inflict major noise annoyance on many residents.

- No quantified noise assessment for water-based construction activities

The EIS does not propose any assessment criteria for water-based activities. The failure of the proponent to identify an appropriate noise assessment criteria must be addressed. It is my view that the background plus 5d(A) as applied by the NPfI (2017) does form a reasonable basis for assessing noise from largely stationary sources which take place over many years even though the noise source is related to construction noise. For passing noise sources, the enHealth 2018 publication proposes a criterion of 55dB(A) night-time criterion. The EIS provides no estimates of noise levels caused by water-based plant and equipment. This is not satisfactory. The EIS infers that residents must accept whatever the noise levels are and claims that there is no basis for any noise complaint. The documentation is largely silent on specifying detailed noise reduction measures that will be imposed on the contractor. Experience with RMS contractors on the WestConnex project has demonstrated that its contractors are largely unresponsive to legitimate complaints made by seriously affected residents. The strategy sought by RMS of leaving compliance up to the discretion of the contractor has been shown to be ineffective in delivering an acceptable environmental outcome.

The Ports Authority within RMS is responsible for regulating shipping noise. Should the WHT proceed, the Ports Authority (with the same Minister as RMS) would have regulatory responsibility. The Ports Authority has been ineffective and largely inactive in regulating noise from shipping. Any approval of water-based activities must remove the Ports Authority from any regulatory responsibility and establish an effective regulatory agency.

Noise pollution from WHT construction- land based

- What is feasible and reasonable?

The EIS documents provide details of the acoustic performance of different types of “acoustic” sheds that are proposed to reduce noise levels from construction activities at different sites. Building construction materials are specified which reduce noise levels by different amounts in different octave bands. What is not discussed is the site specific application of “feasible and reasonable.” For example, if a building element is specified with a noise reduction of 35dB at 63 Hz at the noisiest site, why is this performance not specified at less critical sites? Just because the construction noise guideline allows specific maximum noise levels, it does not follow that reasonable and feasible noise controls should be applied at a specific site to reduce construction noise levels below the maximum allowed. Further, using the PNfI, it is also reasonable that residents should not be subject to such construction noise exceeding the PNfI levels over the years as required for this project. Construction noise limits are a concession for the typically shorter duration of construction work. Imposing the maximum “allowed” noise is not a right. It is reasonable that more stringent noise limits are applied when there are available means to reduce construction noise to levels determined using PNfI.

- Acoustic sheds

The EIS provides performance noise reduction for 5 different types of construction all claiming to be “acoustic” sheds. It is my view that claiming a “tin” shed to be an “acoustic” shed is misleading. The rightfully claimed acoustic shed is only that providing a 35dB reduction at 63Hz octave band. My observation of existing “acoustic” sheds constructed by RMS contractors is that they do not have this level of noise reduction. Open entrances would not achieve this level of noise reduction. Whether such noise reduction is able to be achieved by RMS contractors in the future is an open question. It is essential that there is an independent evaluation of each “acoustic” shed prior to construction activities being permitted. The reports must be made available to the public and corrective measures applied and re-tested prior to any construction activities taking place.

The specification of the “acoustic” sheds do not make any reference to the performance of any ventilation system nor the provision of access for employees, plant and equipment. Ventilation is anticipated to be required and is assumed to be provided by mechanical plant. The performance of such equipment together with duct silencers must be provided. Access to the inside of such sheds must also be specified. None of the EIS documents make any reference to access arrangements and the acoustic performance of the “acoustic” sheds when being accessed. For this reason, air locks and door closing systems must be assessed and operating arrangements specified for each “acoustic” shed rather than being left up to the contractor to determine. It is essential that performance testing be performed and witnessed compliance testing be achieved prior to any activities being commenced.

- Noise level exceedance

The EIS documents show that there are hundreds of sites where the emitted noise will exceed current noise guidelines. The EIS documents are quite explicit at stating that residents will have to put up with the noise pollution. Construction noise levels as high as 92dB(A) (Cammeray) are predicted at the nearest residences. Offers of compensation for the distress caused and effective acoustic treatment on all properties where residents are subjected to noise pollution are made in vague and non-committal terms. The proponent makes heavy reliance on the “reasonable and feasible” clause in the EPA’s noise policy to evade its fair and reasonable responsibility to compensate all residents subjected to noise pollution. The use of “reasonable and feasible” to evade responsibility where predicted noise levels will exceed noise guidelines is a gross overexercise of this policy. Fair and reasonable compensation provides a means for the polluter to pay for the pollution generated and also for the cost of that externality to be internalised.

Where there are gross exceedances of noise limits, the EIS does not include any options to reduce the magnitude of noise pollution or to reduce the number of residents exposed to that pollution. The EIS appears to have adopted the position that the project as described is the best solution. The imposed impact of the project on affected residents, needs to be recognised and costed. Compulsory acquisitions or offer of full rebuild would be one measure that would internalise the costs on the proponent. The cost of such acquisitions would also have the effect on internalising the noise pollution generated. If such an approach were required, the proponent may have provided alternative routes for the project. The impact on the Cammeray residents would be avoided had RMS offered the alternative route of Rozelle to Naremburn as I have previously described. The simplistic policy behind the described project is that the residents must accept whatever noise

pollution the proponent generates. The proponent maintains that the impact of the project's construction and operation must be borne by affected residents. This approach is not consistent with the precautionary principle in terms of the accounting for the economic cost of environmental impacts.

- Considering noise reduction

The EIS document makes reference to the proponent "considering" various noise controls. This does not equate to the proponent actually applying a particular pollution control measure. This aspect of the EIS is not acceptable as it effectively equates to a "do nothing" option. Where there is any exceedance of a particular noise criteria, then noise controls must be applied. For example, "considering" the use of an upgraded acoustic shed, is meaningless. Hence the wording for acoustic treatment used in the EIS is lacking in precision and detail. The noise controls "offered" in the EIS do not represent that achievable using proven available technology and do not reduce the impact of the project on residents to that readily achievable. This is unacceptable.

Another example of unsatisfactory noise pollution control is to "as far as practicable, limit heavy vehicle movements..." This type of noise control option is lacking in credible noise reduction. There is no definitive statement provided as to whether truck operations will be 24 hours a day or not. Sleep disturbance and intermittency noise weightings must be assessed in the EIS. This type of "noise control" provides no indication of what noise is being assessed and the criteria that must be satisfied. All such "offers" must be removed and replaced by definitive statements so that the noise emitted from construction works is properly assessed. Leaving this assessment to some future "noise management plan" means the public has had no opportunity to reflect and comment on the impact of the project.

Limiting the use of the concrete cutting saw where feasible is another example of an ineffective noise control measure. It is not consistent with requirements of the NPfI. Due to the extensive use of concrete saw cutting, the project has the scale to develop and utilise fully enclosed acoustic sheds that are moved around the sites when saw cutting is required. The sheds should incorporate lighting and capture of polluted water from dust control.

The noise control method involving "site hoarding" is yet a further example of optional noise control. To consider a wire mesh fence as a construction standard for noise control is frivolous. The proponent needs to include in the EIS details of what noise controls will be used and the resultant noise levels that will impact affected residents. Without detailed information, residents are uninformed on the extent to which they will be impacted. Further, the proposal that the proponent will determine what noise controls will be used at some later time means that residents are exposed to the unknown. The function of the EIS is to enable residents to make an informed decision about the level of impact on their amenity not to hope they will not be impacted.

The "consideration" of open graded asphalt (OGA) as a noise control option is included as an option in the EIS but identified as being subject to a host of other factors. The referencing of this option without identifying the roadblocks does not provide a transparent process for the decision which the proponent will take at some future time. This type of noise control cannot be used to gauge the impact of the project. It must be assessed on the basis that OGA will not be used.

The construction noise guideline requires the proponent “where all reasonable and feasible practices have been applied and noise is more than 5dB(A) above the noise affected level, to negotiate with the affected community.” Experience with the WestConnex project has demonstrated that RMS has little willingness to adhere to effective community negotiation practices. The current Covid-19 crisis could have caused RMS to extend the WHT approval process to permit more effective community consultation but has decided not to do so. Any effective community negotiation during the Covid-19 crisis would be impossible.

- Night-time construction work

The proponent fails to consider the option of no night-time work throughout the years of project construction when predicted noise levels exceed guidelines. This option should be costed. The “benefit” to the proponent must be compared with the “cost” transferred without charge to affected residents. Given the benefit gained by the proponent by having night time work, residents should reasonably expect a comparable level of compensation. The failure of the EIS to address the internalisation of its 24-hour noise pollution costs is a major flaw in the EIS.

A particular example where the EIS fails to address the noise pollution involves timber dwellings that it claims “cannot” be acoustically treated to reduce noise pollution caused by the project. This claim is false. These dwellings could be acoustically treated however it would involve the proponent having to pay for the relocation of the residents and the rebuilding of the residence as a complete package. The proponent should be required to negotiate the process with residents so affected. The cost of such demolition and rebuilding should be borne by the proponent as it equates to internalising the cost of the project’s noise pollution. This solution is not complex. It just requires the proponent to be directed to do so. While it is recognised that the project has had challenges with negotiating with residents in the past, this should not be used to relieve the proponent of responsibility for conducting future negotiations with residents. Because the proponent has not explored other route options, the proponent should not be granted an exemption from future negotiations to deploy reasonable and feasible noise reduction measures for its “preferred” solution.

Emitting 24-hour construction noise levels of 75dB(A) at residences will force many residents to sell or find alternative accommodation. This noise level is not acceptable unless the proponent internalises the cost of the generated noise. The noise control option of “consider respite offers” identified in the EIS for construction noise pollution is rather tokenistic. Considering respite offers does not require the proponent to give “respite offer” anything more than a fleeting thought. This does not constitute “reasonable and feasible” noise control in any shape or form. Experience has shown that the imposition of prosecutable conditions on the planning approval will be a serious challenge for the approving authority if the public is to obtain protection from excessive noise pollution. As a minimum, the approval conditions must specify acoustic treatment of all residential properties where construction noise levels are 10dB(A) or more above the project specific noise level at any given residence. To compensate residents where acoustic treatment is not practical, a generous monetary compensation must be provided. This is to ensure that noise pollution costs are internalised. Given that the WHT project is multi-billion dollar, the respite offer must be generous and reflect the noise excess particularly for night-time works and where shift workers are involved. A figure of \$2-300/night would be reasonable.

- Noise management level

The EIS documents refer to the term “noise management level” or NML. The definition of NML is somewhat elusive as it does not appear within the EPA’s Noise Policy for Industry (NPfI) or the Interim Construction Noise Guideline. The NML appears to be a “hoped for” noise level as it does not include weightings for annoying factors as specified in the NPfI. On this basis, the NML is misleading. It appears that the proponent “hopes” that all equipment and machinery used during construction and operation will not require additional weighting for the character of emitted noise. On this basis, the EIS document is inconsistent with the NPfI requirements. Claims about the level of impact of activities are potentially understated. There is a need for the noise assessment to be revised so that modifying factors are identified, applied and the assessment amended.

The EIS documents provide octave band noise levels of various fans and substations. Octave band noise levels are not sufficient to determine whether a tonal weighting applies. If a tonal weighting applies, the noise assessment provided in the EIS will have understated the noise impact by 5dB(A). The specification and responsibility for tonal noise weighting must not end up being borne by residents. To avert this, transparency and independence of any compliance reporting is essential.

- Blasting

The dismissal of the Australian and New Zealand Environment Council 1990 guidelines for blasting noise requires further explanation and discussion. The proponent claims “the blast vibration criteria....are considered too conservative and not practical for application to this project.” While it may suit RMS to write off the application of this blast overpressure guideline, the guideline was developed based upon extensive experience with human response to blasting activities in Australia. Human response to overpressure blast energy has not changed. The equipment used to measure overpressure levels is now widely available. Blasting activities move around a mining site and may be closest to a particular resident for just 3-6 months and then move further away. In this respect, blasting has a short-term aspect to a particular resident and the situation for tunnel construction is similar. The issue for RMS is that there are thousands of residents near the tunnel and this suggests an even greater need for a conservative approach rather than the simplistic dismissal of an inconvenient criteria posed by RMS.

What is confusing is that the EIS also claims that blasting only might be used. No details are provided of exact locations where blasting might take place. The EIS also claims that blasting is expected to be inaudible at any residential premises. Why is RMS seeking higher blasting noise levels? With such little information in the EIS, if any blasting is proposed, it should be subject to a comprehensive site assessment and be open for public comments and negotiation.

- Windows in residential premises

Although the EIS uses the claim that internal noise levels are reduced by 10dB(A) with a window being 20% open, this is only a guide. This is a very generous noise reduction in a light timber framed construction which is the case for many residences in the area of the WHT. Increasing night-time (and daytime) temperatures with climate change, demand that windows be left fully open. Residents can reasonably expect to keep their windows to be left open throughout the summer period. The external wall causes a 3dB increase in noise level and then to subtract 10dB for an open window is

very optimistic for a fully open window. Typical construction noise has impulsive and/or tonal and/or intermittency annoyance weightings which cause the claimed 10dB noise reduction to disappear due to the necessary adjustment for modifying factors. Experience shows that the claimed noise reduction of 10dB(A) will not be met in practice. For this reason, the estimates of the number of affected residents given in the EIS represent a significant understatement of the magnitude of construction and operation noise of the WHT project.

- Noise monitoring for noise reduction

The EIS documents state the proponent will perform noise surveys and hope to reduce noise levels. While the offer to reduce noise levels is welcomed, the need to further reduce noise levels should be addressed prior to approval of the project. If all “reasonable and feasible” noise controls have been applied at the design stage, then it should not be possible to further reduce noise levels by noise monitoring. The noise monitoring offer suggests that the proponent recognises that noise levels far exceed what is reasonable. The offer of noise monitoring should be dismissed and imposed by regulation. The regulator should impose the requirement for a noise monitoring network be installed with 24-hour noise level results made available and on-line accessible to the public.

- Excessive ground borne vibration noise levels Louisa Road and other sites

The noise levels inside houses are predicted to exceed 50dB(A) throughout the drilling program. This noise level throughout the night is excessive and is unreasonable. This noise could be avoided if an alternative tunnelling route involving was selected.

- Underwater noise pollution

The proponent has included very little predicted noise levels of underwater noise levels caused by construction of coffer dams or the dredging and excavation of the channel for placement of the tunnel concrete sections. It is essential that the proponent be required to assess the impact of underwater noise and not permitted to use whatever it chooses. Underwater noise is harmful to aquatic species and can cause behavioural change. The type and duration of underwater activities requires this issue to be addressed and critically assessed. The proposed criteria for human impact, need to be expanded to include effect upon aquatic species.

Water pollution and management

The EIS documents state that the details of pollution controls will be developed at some future time. This approach is not acceptable. The limited water quality results that is contained in the EIS shows that waters (both surface and groundwater) are polluted. If the proponent intends to discharge any polluted water into the environment, then an environment protection licence will be required to be obtained for each discharge point. Without such a licence, any discharge of polluted water is an offence under the Environment Protection Operations Act. The information contained in the EIS is of such limited detailed that it is not possible to assess the project. No details are provided of what activities will be the subject of a licence.

In contrast with air pollution, water pollution is absolute and there is no cost benefit consideration under the POEO Act. This means that the polluter must treat any polluted water that is proposed to be discharged (unless it possesses a Licence and complies with the condition of that Licence.) Cost of

treatment is not a consideration. The “offer” of different treatment systems given in the EIS does not reflect the terms of S120 of the POEO Act.

Water pollution from tunnel construction

The method of tunnel construction will cause significant water pollution and impact on benthic organisms inhabiting the floor of the harbour. The EIS describes tunnel construction as a low risk, low water pollution option. Disturbing the floor of the harbour, filling the deep depression off Long Nose Point will cause serious water pollution. The “pollution control” offered is merely to provide a “skirt” around dredging activities. Background turbidity in the vicinity of the “tunnel” is established to be 1-3NTU. Pollutant concentration data in Harbour waters have not been provided. Turbidity alone suggests that the river waters are of very high quality. Any pollution of these waters will cause an impact on the local ecology. However, dioxin concentration for example is unknown so there is a lack of information on existing harbour water quality.

The hydrodynamics report provides a statistical assessment of dredging plumes. This analysis shows that sediment plumes will be generated and cause water pollution. Percentile values are derived from modelling and do not relate to determining the existence of pollution of waters under NSW legislation. The test for water pollution under the POEO Act, is to cause a change in the water quality. The dredging program will generate extensive pollution of waters of Sydney Harbour and cause fine particulate matter containing hazardous pollutants to be dispersed far and wide after being disturbed by dredging activities. The EIS proposes to use a yet to be developed dredging management plan to determine its dredging activities. This is unacceptable as it is lacking in public scrutiny and accountability. It is my view that the proposed dredging works will involve the disturbance of known hazardous chemicals. If RMS want to proceed with this project knowing the extremely high risk of water pollution, it is up to the proponent to accept that extreme risk of prosecution for breaches of environmental regulation for which other businesses are subject to.

The report claims that “stronger tidal current disperse the sediment by dredging” highlights that the proponent supports the illogical claim that “dilution is the solution.” The proponent has not recognised the fact that alternative methods of tunnel construction ie TBM, would eliminate the water pollution caused by dredging. The “submerged” tunnel is a destructive option that will pollute waters using the method proposed by RMS.

From a regulatory perspective, the environmental regulator must impose stringent water pollution monitoring and set enforceable licence limits. The statistical modelling results are not an appropriate regulatory tool (unless the Regulator determines this dredging activity should be undertaken exempt from effective regulation). Regulation of dredging in the form of upstream and downstream turbidity and current monitoring network with real time results accessible on the internet by the public and specific limits would at least provide the public with some confidence that this project was subject to regulation. While this would be an effective regulatory tool, it would also show that the dredging proposed by RMS was bound to breach S120 of the POEO Act.

A major issue not clearly identified in the EIS is heavy rain events during the construction period and sites that are located immediately adjacent to waterways. Each of the work sites pose a very high risk of water pollution. The comment in the EIS that construction works will have a negligible impact on achieving water quality objectives is at best optimistic and reliant upon no heavy rain events.

Experience in construction works shows that sediment ponds frequently do not have sufficient capacity or become compromised by physical site constraints. The WHT project is being constructed in an area where land values restrict the necessary size of the sites. Given the failure of the EIS to include any details of the physical sizes and layouts of surface water management during construction, including the handling of contaminated groundwater, the claims made in the EIS are highly optimistic. The regulatory practice of site inspection during high rain events will confirm that the EIS is based upon ideal conditions rather than hard learnt experience. It would be prudent for this project not to be approved until all the details of site management are provided. This will provide the proponent with the opportunity to extend the boundaries of work sites to accommodate the necessary surface water management infrastructure. The cost transferred to the environment by water pollution events must be internalised to the project by requiring pollution control infrastructure to be properly sized and provided for to prevent water pollution.

The proponent claims that it will reuse contaminated water for dust suppression and wheel washing. The use of contaminated water for “other uses” needs to be subject to regulation. It is not acceptable to irrigate contaminated water without an environmental assessment of what is being irrigated and where. It would be negligent of the construction contractor to do so. However, to prevent that from taking place, any approval of this project must require the submission for approval of any “reuse” of contaminated or polluted water. From the EIS document, the proponent is not intending to be subject to any regulation of the “reuse” of polluted water. This is not acceptable.

Water pollution from tunnel operation

The EIS only provides a general indication what water pollution control system will be used. The claims in the EIS are somewhat speculative and do not reflect worst case analysis. The EIS provides insufficient information to issue a regulatory enforceable EPL as there is a lack of details on specific pollutants, equipment, the discharge and influent flow monitoring requirements.

The EIS documents contain very limited information about the actual performance specification of each of the groundwater treatment plants. Tunnel infiltration is based upon the assumption that rates will be similar to other tunnels in the Sydney area. The fissures in sandstone under Sydney Harbour could cause infiltration rates to be much higher. The proposed tunnel treatment to reduce infiltration is questioned. The sizing and performance of groundwater treatment is really an unknown. Further, the likelihood of seriously contaminated groundwater and salt water intrusion has been raised but not quantified. Should these scenarios occur, what treatment system will be provided? Will the proponent simply seek more lenient limits on its Licence?

Groundwater treatment of fire sprinkler water that will be generated in tunnels has not been identified. This “black” water is highly contaminated. The collection of road runoff will cause tunnel generated water to become further contaminated. Without specific knowledge of each of these parameters, it is not possible to design the necessary groundwater treatment plant. Experience with tunnel operations shows that poor project scoping delivers high cost outcomes.

The EIS document proposes to produce “treated” water with a mean annual percentage reduction in TSS, TP, TN and gross pollutants. These treatment “objectives” bear no relationship to the requirements of the POEO Act and the definition of “pollution of waters.” The health risk assessment states that “discharges would not worsen water quality in the receiving waterways.” Based upon

these “design” objectives, the EIS documents are of little assistance in determining what is the necessary design of the treatment plant is to satisfy Section 120 of the POEO Act. It is suggested that the proponent be directed to resubmit this section of the EIS with details of each treatment plant design and performance. The ability of any proposed treatment plant to treat the range of pollutants expected including saline water must be provided. The siting and timing of treatment plant operation must be provided to phase in with construction and operation activities. It is apparent that the proponent has only a vague idea of something that represents a water treatment system.

The reference to Australian Water Quality Guidelines is very generalised and non-specific. The proposed regulatory parameters have not been nominated as there is very limited ambient water quality data. What are the pollutants of concern under the AWQGs? Under the AWQGs, pollutants of concern would be expected to include: turbidity, TSS, pH, heavy metals, nutrients, BTEX, dioxins and so on. The EIS does not sufficient ambient water quality data to determine which pollutants need to be controlled at each proposed discharge point. Each discharge point needs to be identified in the EIS together with a comprehensive list of each pollutant of concern under the AWQGs.

The EIS proposes the only following discharge water quality parameters: TSS -85% minimum reduction of annual average load; TP – 65% reduction of annual average load; and TN – 45% reduction of annual average load. These parameters and criteria are unenforceable. They do not include all pollutants which may impact the waters of Sydney Harbour and cause a change in water quality. If a licence was worded around that proposed in the EIS, the polluter would be given an almost unrestricted licence to pollute waters. With no pollutant concentrations, no volume limits, no monitoring requirements the proposed regulatory requirements form the basis of an unrestricted licence to pollute waters. Under such as licence, the likelihood the “treatment plants” protecting harbour water quality is speculative. The design of a treatment plant to treat Megalitres of water per day is not a minor project. The omission of specific contaminant concentrations and flow volumes from each treatment plant from the EIS is a fundamental flaw. It is apparent that the St Peters leachate treatment plant was not designed with to treat the volume and analysis of the effluent produced. This type of fundamental flaw must not be repeated merely because it was inconvenient for the proponent to develop specific treatment plant designs.

Waste management and contaminated site management

The EIS documents lack any details of the testing and analytical results of contaminated sediments. There are no details of the number and locations of samples, the test methods and results. Sediment analysis is discussed in many of the expert reports but all reports fail to disclose any results. Sediment contamination is fundamental to enable an informed evaluation of the extent and degree of contamination and to identify treatment procedures to enable hazardous waste to be disposed of. Simplistic claims of sediments “being similar to” is insufficient. Without any analytical results, it is not possible to determine which, if any, landfill has an existing licence to receive bottom of the harbour sediments. To suggest that this can be left to determine at some future time is not acceptable. The EIS infers that RMS will do “whatever is necessary” to dispose of contaminated sediments lawfully. The EIS presents a generalised analysis of potential site contamination and waste management issues.

Under the Contaminated Land Management Act, RMS has a duty to notify the EPA should it “discover” contamination levels above certain concentrations. Whether RMS has exercised this responsibility or not is unknown. It is a criminal offence to fail to do so.

The potential odour issues that may arise from the handling of contaminated sediments have not been adequately assessed. Failure of odour controls like that evidenced at St Peters Tip has not been considered. Other options have not been considered. Regulatory enforcement criteria have not been proposed. The volatilisation of odorous wastes was previously evidenced by the incineration of sediments that took place at Rhodes in the 1990’s. This previous example of hazardous waste disposal shows that RMS should be much more cautious in its simplistic dismissal of odour concerns.

The EIS claims that its contractors will address the hazardous waste management issues in the future. The demonstrated inability of a previous RMS contractor to address site contamination was recently displayed by the example of the St Peters Tip. The EIS for that work claimed it would not present any serious environmental issues. This claim was false. Apart from the financial cost, the community was subjected to a serious health risk from the odour and volatilisation of a solid waste landfill with known poor waste management practices. To suggest that the construction contractor was unaware provides an example of poor project design and possibly incompetence. The failure of the contractor to minimise odour issues by daily covering the active face with cover and minimise the area of the work face displays poor skills at landfill management. The contractor’s poor management was compounded by secrecy of chemical analysis results with respect to air and water quality. This “action plan” was a failure in construction management. The EIS documents highlight that a similar contaminated site “discovery” would repeat the same mistakes and inflict the same type of impact on local residents. This is not acceptable.

The EIS documents propose to use some open storage of contaminated wastes, including asbestos and acid sulphate soils. While it might be convenient to do so, given site constraints and the difficulty in controlling polluted runoff, it is more appropriate for contaminated wastes to be housed in bunded storage sheds at all times. The relative cost of erecting a storage shed is minor. Storage sheds would be much more effective at delivering pollution control than the use of water sprays for dust control or tarpaulins to prevent water pollution. Risk management considerations suggest that storage sheds should be mandatory.

The EIS that hazardous wastes will be transported in cover trucks. This method of transport of hazardous waste is not acceptable. Hazardous waste must be transported in sealed and fully enclosed vehicles. “Spadeable” wastes become liquid when being transported and leak through the rear seal onto the roadway. I have issued penalty notices for this type of pollution. Moving hazardous waste by road vehicle is a high risk activity and should not be accepted for the quantity of hazardous waste predicted to be generated by the submerged tunnel harbour crossing.

The EIS documents do not disclose details of the measures that will be used to make sure that waters are not polluted during the construction period and particularly when handling contaminated sediments. This is the only opportunity the public has an opportunity to comment on how polluted water will be treated prior to being discharged into the environment. The White Bay site is located immediately adjacent to a major waterway. The risk of pollution of waters is very high. The description of how the proponent intends to prevent pollution of waters is inadequate. The documents suggest the proponent might apply for an environment protection licence. An EPL for the

management of hazardous waste as described in the EIS should be refused. The EIS documents are deficient.

Greenhouse Gas Emissions

The EIS analysis confirms that the greenhouse gas (GHG) emissions from tunnel construction will never be recovered in the operation of the WHT. The project fails to deliver any significant relative reduction in GHGs. The GHG modelling suggests there is virtually zero benefit in terms of GHG reduction. On this basis alone, how can this project be justified as being environmentally sustainable?

Social Impacts of the Project

The EIS documents do not include any reference to the additional impact of an unwanted large-scale transport infrastructure on the local community. WHT is being operated for profit. It is not being developed as a piece of public community infrastructure. The community consultation events were stage managed by RMS in a manner which generated hostility towards the project rather than trust. RMS has demonstrated its arrogance towards local community by removing the pedestrian and cycleway routes at the Victoria Road – West Link Road intersection without providing a replacement route. RMS has a reputation for removing trees without regard for the local impact as demonstrated by the Victoria Road – West Link Road intersection. The public is rightly concerned that RMS will eliminate all trees from Yurulbin Park if it given approval to engage in construction works on that land. The EIS contains no details of any restrictions that RMS will consider before removing all trees on any work site.

Perhaps the biggest question that RMS must address with this project is the equity issue. The EIS (Appendix U p67) states: “Equity refers to a fair distribution of the resources that allow residents full participation in their community.” No where in the EIS is there an acknowledgement that the taxpayers of NSW will commit \$20 billion to this project. The beneficiaries of this project are predominantly residents of the northern beaches of Sydney. The benefit is not shared widely. Public discussion of the equity issue has not taken place.

The social issue which RMS has not addressed in the EIS is gaining a social licence from the local community for this project. RMS has generated considerable community anger by its arrogance and in ability to listen to reasonable complaints. Cumulative impacts arising from multiple construction projects in the Rozelle area are likely to exacerbate community harmony. The proponent has offered no options to address cumulative impacts. Construction traffic is a major issue that has been glossed over in the EIS on the basis that it is only for short time. However, residents find closed streets and the lack of parking due to contractor staff parking causes a serious loss of amenity. Experience with WestConnex has shown that RMS has been unable to regulate parking of contractor vehicles. Louisa Road is a major issue with lack of parking space and a narrow road. This issue would be eliminated if all land access was banned for RMS contractors to sites with water access. It would be the responsibility of RMS to develop travel arrangements using watercraft.

The unfiltered tunnel stacks represent a major visual imposition on the local community. The EIS includes many carefully worded statements about air quality impacts arising from the proposed unfiltered pollution stacks with no stringent pollution limits or charges. The case for not installing

21st century pollution controls on the stacks has not been made against the polluter pays principle and the precautionary principle. Hence the social licence has not been obtained for this project.

Health Impact Assessment

The proponent claims that the construction and operation of WHT will have almost no health impacts. Health impacts for motor cyclists using the tunnels appear to be zero however the proponent has evaded making any conclusion on how the health of motor cyclists will be protected under all tunnel operating conditions given the know issue with NO₂. The banning of motor cyclists should take place to protect cyclist's health as a fiduciary duty placed on the tunnel operator. This cannot also be ignored by in the approval process.

The EIS acknowledges that air pollution levels will increase for some residents. These residents have not been identified. As residents, they have a right to their health being protected as air quality at these residences will exceed current air quality guidelines. The EIS has attempted to write off the health of these residents as being unimportant. The proponent has a fiduciary duty to protect their health and must be required to act upon that responsibility not by stating that it is inconvenient to do so.

The comments on health assessment in relation to air quality need to be corrected as the air quality assessment was based upon tougher motor vehicle emission standards being introduced in 2021. No date has been set for these new standards. Further, the air quality assessment uses the obsolete NEPM values for NO₂ which ought to have been updated to the more recent WHO criteria. Taking these two facts into account, the health assessment for air quality is somewhat misleading and needs to be regarded as being deficient. The health of impacted residents must be accurately assessed and residents who will be subjected to poorer air quality not discounted as sought by the proponent.

The health assessment is based upon regional air quality where "region" is undefined. It appears to include a large area well beyond the WHT project. This means the WHT is diluted by the size of the "region." Using this methodology, effects on local residents will be offset by an "improvement" in air quality for residents away from the WHT. Hence residents within 500 metres of the WHT are just collateral damage to the project. This type of methodology would deliver the same result if changes were made to the road network which caused vehicles to emit less pollution. For example, an improvement in engine technology, a reduction in vehicle stop - starts, or 30% of the vehicle fleet being electric vehicles would deliver the same result. The so-called air quality health risk assessment is deficient when subjected to critical analysis. While these options would not have addressed travel time claims, these options would have reduced the health risk imposed on local residents caused by motor vehicles.

The EIS air quality risk assessment relies upon an older (obsolete) risk assessment criteria. The use of older criteria is not satisfactory as the most recent risk assessment criteria should be applied. Public Health England (PHE) has developed more recent criteria that should be used to assess NO_x and PM_{2.5} health effects in terms of mortality. The PHE and COMEAP (2015) methodology for NO_x (2.5% 10µg/m³ change relative to 1.9% used in EIS), and PM_{2.5} 6.0% 10µg/m³ change relative to 5.8% used in EIS) that is more conservative and reflects more recent data analysis on mortality. While this approach acknowledges uncertainty in mortality effects, it is appropriate to use the latest criteria

rather than using the obsolete criteria. Applying more recent criteria will lead to a different conclusion relation to the importance of reducing PM_{2.5} and NOx.

It is apparent that the EIS document authors appear to be unaware of documents originating in the EU and UK relating to the heightened need for action to address NOx and PM_{2.5} pollution. A sample of this type of assessment is titled “Health Impact of Air Pollution in Bristol” February 2017. This is available on the web at:

<https://www.bristol.gov.uk/documents/20182/32675/Health+Impacts+of+Air+Pollution+in+Bristol+February+2017/4df2fce5-e2fc-4c22-b5c7-5e7a5ae56701>

In terms of noise health effects, it needs to be stated that the WHT has no absolute maximum noise levels under the NPfl. The reason there are no absolute maximum noise levels is that noise limits are conditional upon what controls are “reasonable and feasible.” The limit to human health impact is unrestricted provided all reasonable and feasible noise controls are applied. This is not a satisfactory approach to protecting the health of those residents living in the immediate vicinity of a 5-6 year construction program for the WHT. The health risk assessment presented in the EIS has not addressed the unlimited nature of noise levels and 24 hour construction activities.

The health risk assessment arising from the disturbance, processing, transporting and disposal of hazardous sediments is not addressed satisfactorily. It is noted that sediment samples were only collected in some areas, only some contaminants tested for and all details of results have remained secret. All details of sampling and analytical protocols are also secret. Without detailed knowledge of contaminants and concentrations, treatment processes and the location of landfills licenced to receive hazardous waste (if any), the health risk assessment is grossly deficient. To claim that the EIS contains a “health risk assessment” on sediments is false due to the lack of verifiable and credible evidence.

Conclusion

The EIS document released for public comment contains serious deficiencies with respect to its description of the scope and magnitude of environmental impacts arising from the construction and operation of the WestConnex project. In relation to water pollution, there is insufficient detail provided to make an informed opinion of the extent of environmental impacts. The air pollution impacts of the project are subject to major flaws in terms of modelling of future emissions and the assessment of air pollution arising from the project. The noise assessment fails to accurately describe the magnitude of community reaction to the offensiveness of projected noise levels and the “offered” noise controls do not take the expected community response seriously. The EIS document, although voluminous, does not contain sufficient detail to disclose the flaws in its superficial content. So much of the environmental impact is left to be addressed by future management plans. For this reason, the EIS requires more detailed information to be provided to enable a comprehensive assessment of the environmental impact and to address the need for certainty in the protection of the environment should the proponent decide to proceed with the project. The WHT as proposed by RMS must be rejected in its current form. Other options must be developed which have a lower environmental impact and which will protect residents and the environment from excessive pollution.