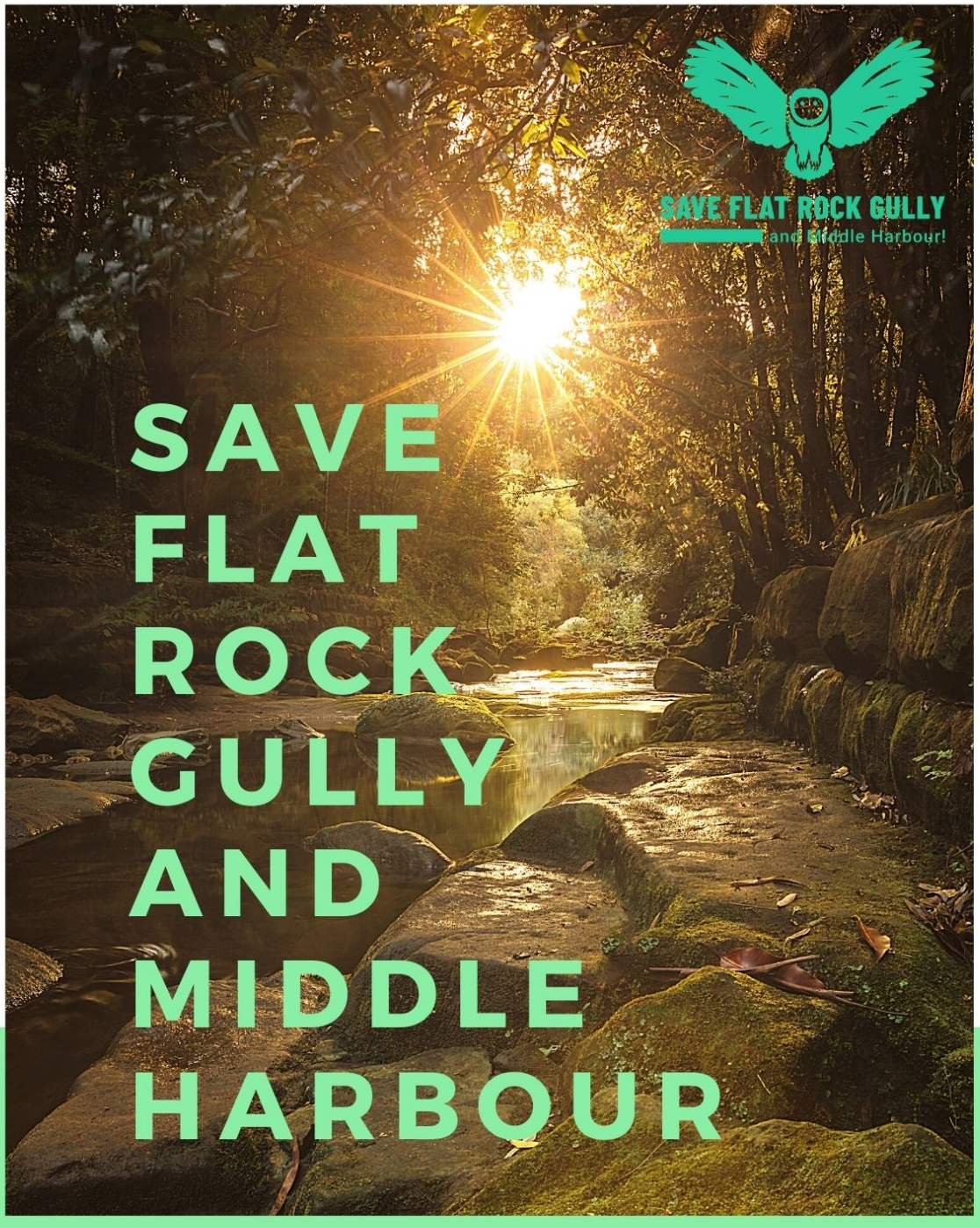
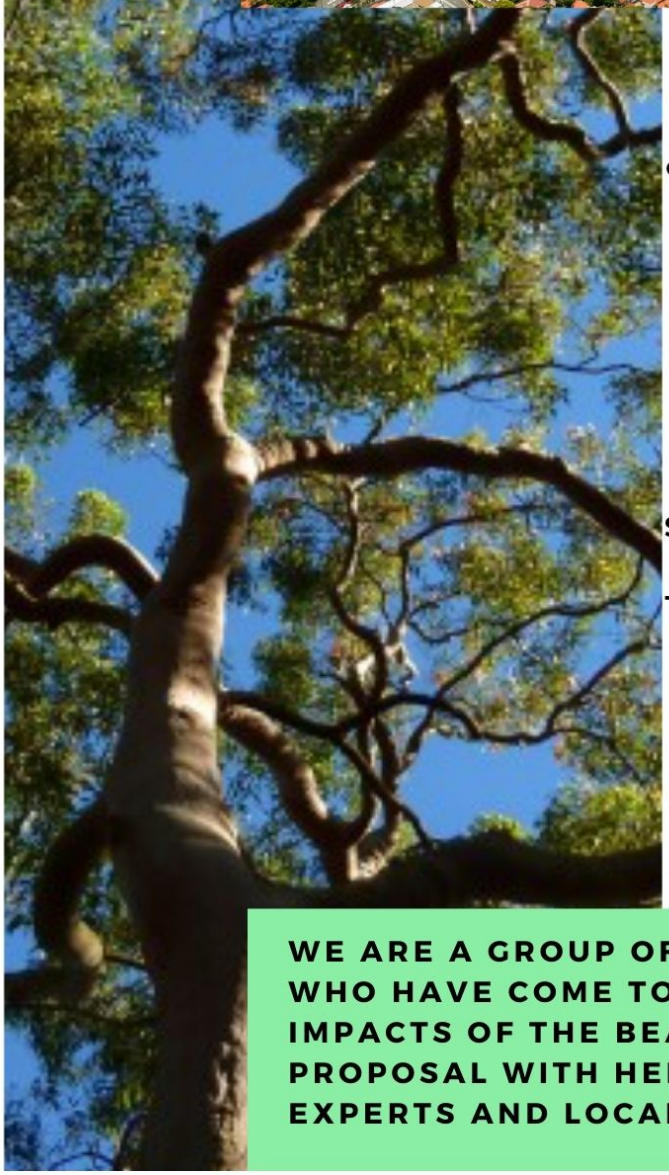


RESPONSE TO EIS
PUBLIC CONSULTATION 9TH DECEMBER 2020- 1 MARCH 2021

BEACHES LINK AND GORE HILL EXTENSION
ENVIRONMENTAL IMPACT ASSESSMENT

SSI_8862 We have not made any reportable political donations

ABOUT THE AREA

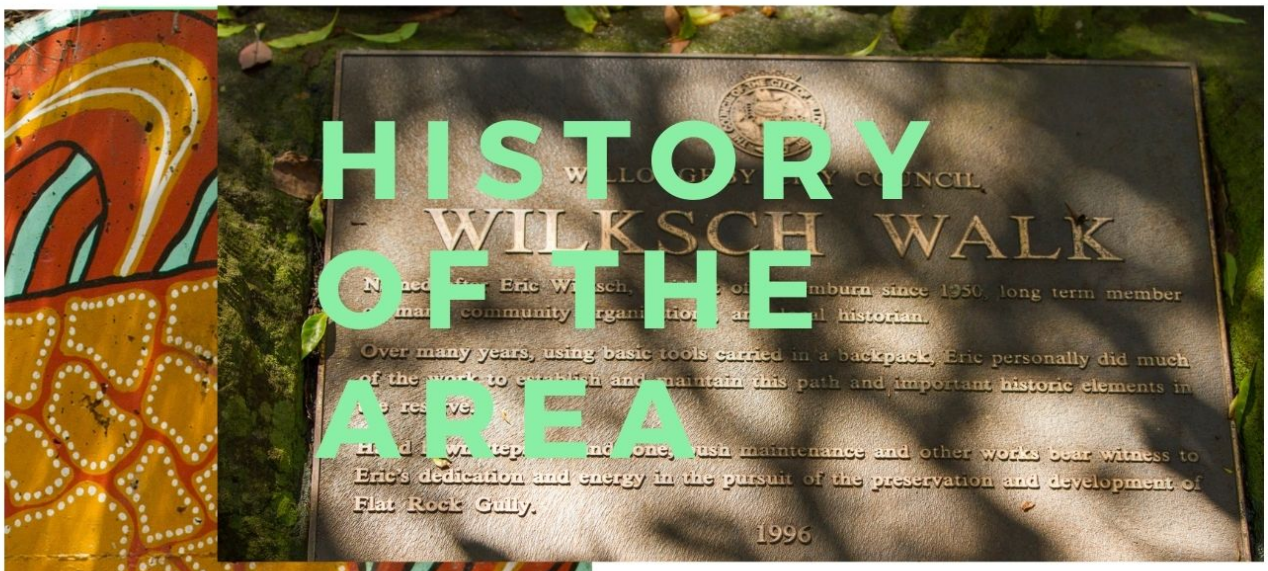


Flat Rock Gully sits within the catchment of Long Bay, a large and increasingly rare urban wildlife corridor. Flat Rock Creek is classified as a sensitive fish breeding habitat and wildlife conservation area which supports endangered species.

The catchment borders 7 suburbs, is in proximity of 5 major playing fields, contains groundwater dependent native bushland and is 5 minutes from Sydney's centre (see top right of image)

The proposed dive site is located within the catchment (bottom right of the picture above), which runs down through Flat Rock Gully, under the heritage listed Suspension Bridge and through Tunks Park to Middle Harbour (middle left)

WE ARE A GROUP OF CONCERNED RESIDENTS WHO HAVE COME TOGETHER TO ANALYSE THE IMPACTS OF THE BEACHES LINK TUNNEL PROPOSAL WITH HELP FROM TECHNICAL EXPERTS AND LOCAL HISTORIANS

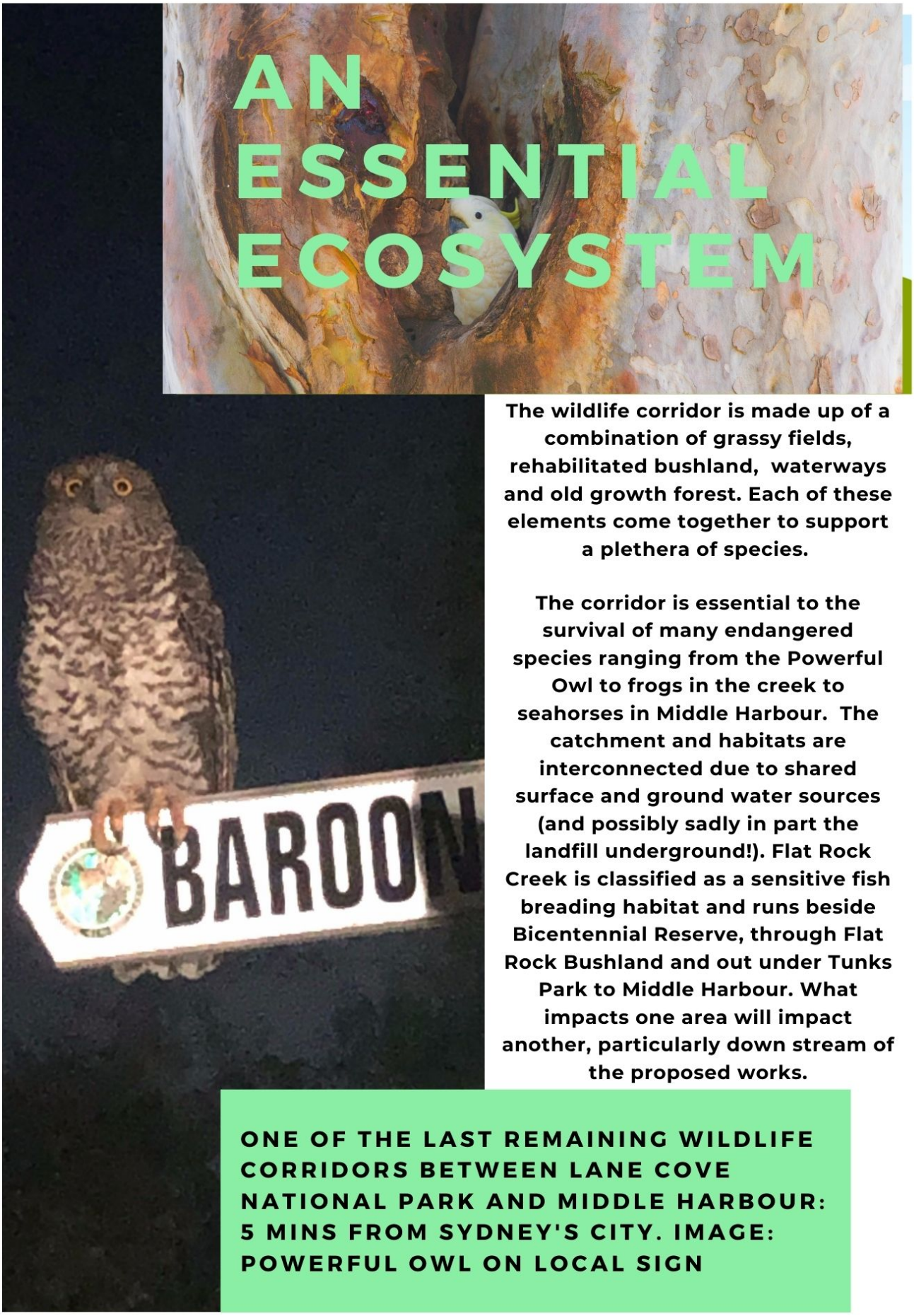


HISTORY OF THE AREA

The earliest evidence of the Cammeraygal living in the area is found in a large cave in Cammeray dating back 6000 years. There are also sites in Flat Rock and at Clive Park under threat from the project. The last known family groups living on the North Shore are known to have been at Quakers Hat and Flat Rock Gully (1870's). Land grants were first issued in 1853 and remains of Dawsons piggery (1880's) and the quarry can still be seen close to the dive site. Naremburn was the first settlement of Willoughby and the first shopping area for North Sydney.

By the 1900's the grand Suspension Bridge was open - the 2nd largest in the world at the time - and some of the earliest factories were built on the Gully's edge eg) refrigeration, cordial. Henry Lawson lived in Naremburn and was known to compose poems in the cave below, which still exists today. Wilksch, built the track down to Tunks. He documented and preserved the built, social and natural history of the area which has always been unique.

THE CATCHMENT AREA IS A MICROCOSM OF AUSTRALIAN HISTORY FROM ITS INDIGENOUS BEGINNINGS TO EARLY SETTLEMENT, INDUSTRIALISATION, URBANISATION AND THROUGH TO CONSERVATION AND RECREATION



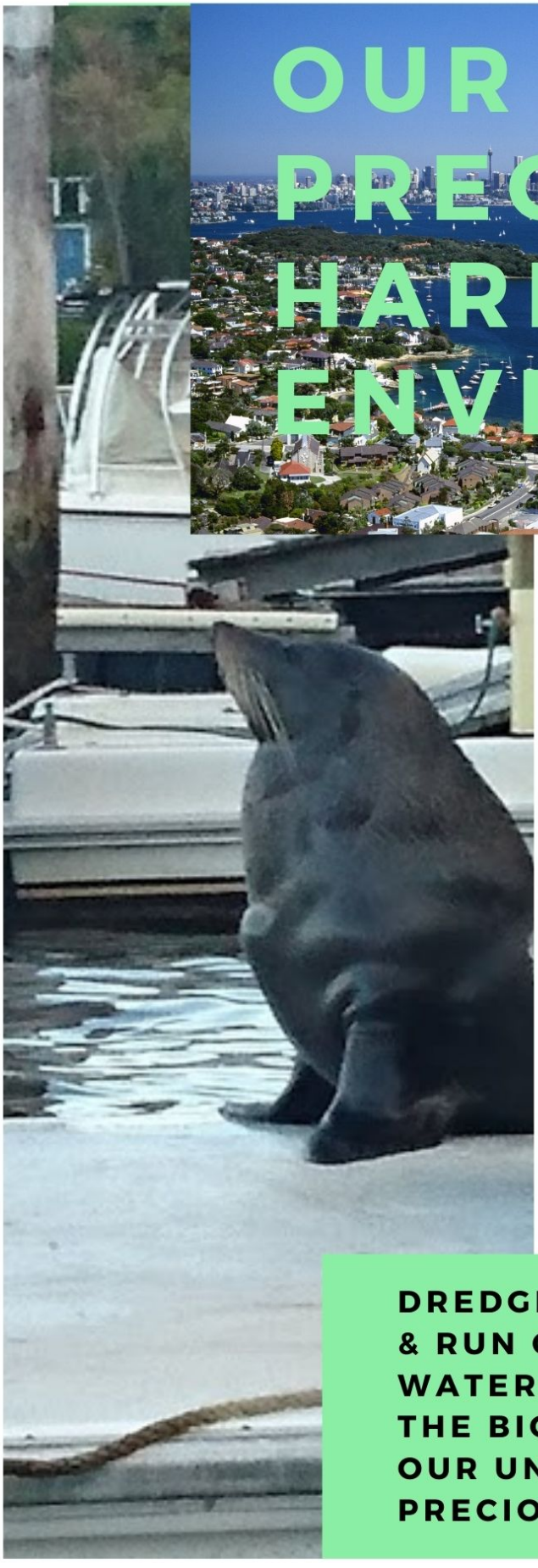
AN ESSENTIAL ECOSYSTEM

The wildlife corridor is made up of a combination of grassy fields, rehabilitated bushland, waterways and old growth forest. Each of these elements come together to support a plethera of species.

The corridor is essential to the survival of many endangered species ranging from the Powerful Owl to frogs in the creek to seahorses in Middle Harbour. The catchment and habitats are interconnected due to shared surface and ground water sources (and possibly sadly in part the landfill underground!). Flat Rock Creek is classified as a sensitive fish breading habitat and runs beside Bicentennial Reserve, through Flat Rock Bushland and out under Tunks Park to Middle Harbour. What impacts one area will impact another, particularly down stream of the proposed works.

ONE OF THE LAST REMAINING WILDLIFE CORRIDORS BETWEEN LANE COVE NATIONAL PARK AND MIDDLE HARBOUR: 5 MINS FROM SYDNEY'S CITY. IMAGE: POWERFUL OWL ON LOCAL SIGN

OUR PRECIOUS HARBOUR ENVIRONS



Middle Harbour is the breeding and fishing grounds for our precious Sydney Harbour wildlife. It's ecosystem provides just the right conditions for mangroves; which are it's filters & carbon stores and seagrasses; which provide precious habitat for seahorses and others. Sammy the Seal is a regular visitor and whales, penguins and sharks have all been spotted there.

The Beaches Link will see the harbour dredged and with that comes up the reminants of tip run off and industrial past. Contaminants dangerous to human and waterway health have been detected and the risk of more run off being added once the tip is opened up is a very real risk.

DREDGING THE SEA FLOOR & RUN OFF RISKS WATERWAY HEALTH AND THE BIODIVERSITY OF OUR UNIQUE AND PRECIOUS HARBOUR

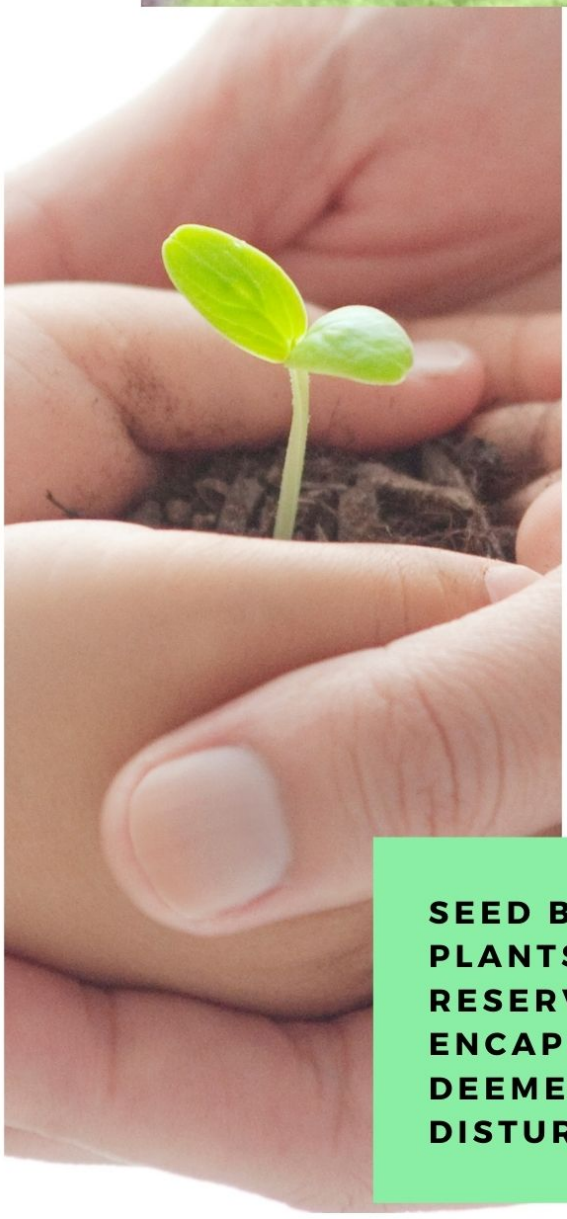
NOT OUR FINEST HOUR

We didn't just pave paradise, we tried to fill it with rubbish. The top of the Gully where Henry Lawson had once been inspired to write next to the waterfall was slowly filled with rubbish. It went completely unregulated until the bubonic plague hit and the council decided to take control.

In 1934 the Walter Burley Griffin Incinerator was opened and tipping continued right up until the 70's. In the meantime the Warringah Freeway was built and Flat Rock Drive was put in as a temporary traffic measure - tipping continued to the East with reports of RNSH dumping medical waste, and others asbestos and industrial chemicals. The smell and movement of leachate down the Gully had the community up in arms. The tip finally closed in 1972 due to community pressure and the plans for recovery began.

THROUGHOUT THE 1900'S THE MAJESTY OF THE GULLY WAS FILLED IN BY SOME SERIOUS WASTE- UNTIL THE COMMUNTIY INTERVENED

RECOVERY AND RESTORATION



Once upon a time before the land became filled with our refuse children were known to fill the valley splashing in the waterfall, exploring the quarry site or setting up stumps in an open patch of land.

After much lobbying the tip was finally closed and the era of restroration began with council and volunteers working side by side for 20 years to carry seed up from the old growth forest and plant anew. Today children, visitors and wildlife has returned in great numbers to enjoy what is again a spectacular environment.

SEED BY SEED OUR NATIVE PLANTS WERE RETURNED TO THE RESERVE. WHAT WAS ENCAPSULATED BELOW WAS DEEMED NEVER TO BE DISTURBED...UNTIL NOW.

TODAYS USERS

With the restoration of the environment and a growing population has come much activity. Today the area plays host to Australia's largest Netball Club, Baseball, Soccer, Wildlife Groups, Bushwalkers, Dog Walkers, active transport users and schools. Many schools are reliant on the ovals such as Tunks Park below that receives the run off from the proposed Dive Site area.

The valley is a hive of activity on any given day whilst being a respite from the pressures of densifying urbanisation all around.

The Beaches have their beaches; Willoughby has Flat Rock.

THE CATCHMENT PLAYS HOST TO AUSTRALIA'S LARGEST NETBALL CLUB, BASEBALLERS, SCHOOLS, WATER BASED CLUBS, BUSHCARE GROUPS & WALKERS FROM NEAR & FAR.

A SPECIAL PLACE OF RESPITE

Flat Rock has alway held a special place in the communities heart. When it was filled with landfill the community fought hard for years to save it and shut down the tip.

What followed was decades of loving restoration - a seed at a time was bought up from the old growth forest to rehabilitate the land and still today teams of bushcare volunteers head out to care for it.

During Covid, Flat Rock saved the sanity of our community, a community increasingly struggling for open space. The area has suffered loss through the building of the Warringah Freeway & Gore Hill Expressways and substantial densification is creating over crowding, competing priorities and environmental damage. Protecting this catchment for future generations needs to be made an urgent priority

FLAT ROCK IS A RARE URBAN OASIS 5 MINS FROM SYDNEY THAT PROVIDES MUCH NEEDED RECREATION AND RESPITE FROM GROWING DENSIFICATION

We Object to the Beaches Link and Gore Hill Freeway Project for the following reasons:

Objection 1: Under-scoped and under-assessed Risk

- Willoughby Council State that "**Early scoping of the Project did not include impacted suburbs**, particularly in relation to route selection which has created a technical gap in terms of risk assessment." [1] Community representatives of the most impacted suburb (eg Naremburn) and the Gully have not been included in consultation sessions and groups such as the Bicentennial Reserve and Flat Rock Gully, Save Flat Rock Gully and Middle Harbour, Bushcare, Sporting Groups, P&C's and other key users have not been consulted about this area which innately carries considerable risk. During Cammeray sessions the potential impacts to Tunks Park were deemed out of scope of the discussions (despite Tunks being in Cammeray) and during the Northbridge/ Willoughby Session impacts to Naremburn were not discussed. There was no opportunity to discuss these impacts during the consultation sessions provided and many community members reported that answers to their questions were not received.

- The significant **history of Naremburn and the Flat Rock Catchment** (including the Indigenous History of the area) is under-scoped. Naremburn is the oldest settlement in Willoughby and was the first planned shopping district for the North Shore. The Long Bay/Flat Rock Catchment still contains early settlers' sites, the remanent of two quarries which reportedly barged sandstone out along the creek to build some of Sydney's finest buildings, Henry Lawsons Cave, the Heritage Listed Incinerator and the second largest bridge in the World (at the time) crosses the Gully. The Indigenous History of the area is recorded as extending back 6000 years. Flat Rock Gully and the nearby Quakers Hat Bay were home to the last known family groups living on the Lower North Shore. The project assesses a site at Flat Rock and multiple sites at Clive Park as being only at a minor risk of damage – this risk ranking seems insufficient when assessed in light of the extent of drawdown, settlement and flooding risks in Flat Rock, the vibration modelling quoted in the EIS due to Cofferdam works at Clive Park and in light of the overall significance of the area.

- Communities have **been rushed through consultation** with the release of a 12,000 paged EIS at the time schools were breaking up for Christmas after a difficult pandemic year. Community groups and schools (13) across the route requested an extension to allow proper time to consider a very complex document once school returned. The complexities of this project are compounded by the route chosen, the location of dive sites and the immersed tube crossing of a very sensitive harbour area. The route of this tunnel approaches foreshore environments which brings with it considerable risk due to surface and ground water impacts and uncertain geology. It was also disappointing to see the planning system scheduled for an extended period of maintenance over the weekend before the submissions were due and we are aware of several people who became discouraged (or simply did not have time to wait out the outage) and did not submit as a result. While the Department of Planning has allowed some submissions to be sent in up to a week after the date of close this has not been widely communicated and so the general public have been unaware of the opportunity resulting in what is no doubt a lower submission rate - than would be expected if the EIS had been published away from Christmas and the system had been operating at peak submission time.

- Willoughby Council State that **3 Heritage Listed Shipwrecks** in Middle Harbour have not been included in the assessment. The proposed Willoughby Leisure Centre development which would sit atop of the area demarked as high risk in terms of Landfill has not been assessed as a coinciding development

- Contaminants that present a **known risk to human health** (PFAS, Heavy Metals, tributyltin) have been detected via limited sampling in Middle Harbour however further testing to attain a scientifically valid sample size and quantify risk was not completed. Similarly, a desk top review identified a high risk of contaminants such as heavy metals elsewhere, but testing was not completed. Insufficient testing has been completed from the top of Flat Rock down through to Middle Harbour to accurately assess the risk, determine the possibilities (or not) of mitigation and accurately cost management and remediation.

- The Utilities assessment has not assessed the potential conflict between the tunnel and the substantial Northside Storage Tunnel which holds up to 500 Million Litres of Sewage and Wastewater in the same location (Artarmon, Naremburn, Tunks Park, Middle Harbour). A failure to assess potential impacts could lead to further health and safety risks, under costing and delays. The community has recently experienced several overland sewage spills which has

[1] https://www.willoughby.nsw.gov.au/Council/Council-meetings/General-Council-Meetings; 8th March Booklet A

impacted bushland and sports fields and resulted in a restriction on use of greenspace. A feasibility assessment should be undertaken with regard to placement of two tunnels in the same location that covers drawdown impact, vibration, tunnelling impacts etc We do not believe that it is safe or financially feasible to place both tunnels in the same location.

- Substantial drawdown and settlement has been noted within the EIS in and around Flat Rock Gully and surrounding suburbs (20 mtrs +). Given the catchment and foreshore environment, this drawdown generates large volumes of water (ie wastewater which is planned to be discharged down Flat Rock and Willoughby Creeks to Middle Harbour). The impact that this drawdown will have on vegetation, biodiversity, sports fields, waterflows, flooding, homes etc is underassessed. It is unclear, for example, what damage and de-watering of sports fields can be expected both during and after construction and what remediation will be available. Property assessment appears to be limited to the risk assessment around vibration and tunnelling and not the impacts of very considerable drawdown which can have a significant impact on properties over a wider span.

- The extent and composition of the landfill site is under-scoped. The EIS predicts that the landfill is likely building and household waste only and not putrefiable. This does not align with the historic record of the area. Putrescible and extensive industrial/ chemical waste was a feature of the tip with reports of North Shore Hospital being allowed to dump medical waste, a refrigerant factory releasing refrigerants, two quarries releasing heavy metals just as a few examples. Diagram 16-11 (Chapter 16) shows the moderate to high-risk area of fill only to the West of Flat Rock Drive however dumping continued to the East (the location of the proposed dive site) after Flat Rock Drive was built in the same manner. Appendix M identifies the Bicentennial Reserve area as high risk whereas the Reserve is designated only as moderate. This is inconsistent with regard to the historic record which saw both tipping and tip slippage on the Eastern side of the Rd. "*The sorry saga continues: After the bisection of the gully in 1968 by the extension of Brook Street which was named Flat Rock Drive, tipping continued east of this road 'to compensate for the lost space taken by the Drive', despite pleas to save the remainder of the gully. Although this was to continue for a few years only, the civic fathers felt the urge to press on with tipping down the gully to about West Street. This would in effect annihilate the gully's bushland character. The appearance of survey pegs and paint markings on rocks was the cue for the Progress Association to investigate the situation. Assurances had been given that tipping on the east side would commence in 1969 and be concluded by 1972. As the tipping and filling spread relentlessly eastward, no concern was evident regarding the appropriate dispersal of surface water from surrounding streets which spilled across the reclaimed area and quickly soaked into the filling. The result was catastrophic. Because of this water, putrescible material which had been tipped and poorly covered, resulted in a vile stench throughout the neighbourhood. Water soaking into the tipped material also produced an objectionable leachate to ooze into the creek and bushland, further polluting the waterway. Action of water on the tipped material below generated subterranean heat which in turn generated a vile smelling steam. This blew up through the loose rocks at the side of Flat Rock Drive. It was an eerie sight at night in headlight beams as these plumes of steam appeared like geysers"*[2]. Please see photo's below which evidence that the Flat Rock Reserve site was capped at the same time as Bicentennial Reserve.

- Naremburn and Flat Rock Gully have been unequally yoked by the impacts of tipping activities and road developments across time "Aid. Dr Read was said to have stated in Council that 'as Naremburn was the poorest portion of the Municipality, it was the most suitable place for a sewerage tip and incinerator'."[3] Both the Warringah Freeway and Gore Hill Expressway has fractured this area as well as the building of Flat Rock Drive. Yet again we have another road project going through the area – an area of great historical significance, social and biological value. This area receives no benefit from the projects where other areas such as Mosman receive high value with no impact. This is a highly unequally distributed project that comes at great cost to our environment, history and community.

- When Flat Rock Drive was built it was promised as a temporary road rather than a main road. The road was supposed to be removed and the space returned to the community. Additionally, when Bicentennial Reserve was planned "The reclaimed area east of Flat Rock Drive was to be developed only for passive recreation activities."[4]. The suggestion that this area can be anything but an area of passive recreation in the documents does not recognise the longstanding understanding between the Community, Council[5] and State Government about the use and importance of the Reserve Area. Not only does it provide ecological and social value in it's own right but it provides wildlife corridor links and a buffer to the old growth forest adjacent.

[2] The Naremburn Story(PDF, 22MB) - Willoughby City Librarylibraries.willoughby.nsw.gov.au › files › public › ecm page 142
[3] The Naremburn Story(PDF, 22MB) - Willoughby City Librarylibraries.willoughby.nsw.gov.au › files › public › ecm, page 134
[4] The Naremburn Story(PDF, 22MB) - Willoughby City Librarylibraries.willoughby.nsw.gov.au › files › public › ecm page 146
[5] https://www.willoughby.nsw.gov.au/files/sharedassets/public/ecm/willoughby-council-website/publications-reports-master-plans-strategies-action-plans/publications-reports-master-plans-strategies-action-plans/1-001dd99b.001.pdf,

- The understanding of the interconnectedness of the Flat Rock Dive Site to it's surrounds is not sufficiently recognised to accurately assess risk. There are cumulative risks associated with the fact that the proposed dive site sits in Middle Harbours catchment, on Flat Rock creek, in a flood zone, a previously unregulated tip site, surrounded by homes and sports fields. That risk is compounded with the admission that there is uncertain Geology in the area to contend with such as fault lines and fissures and considerable drawdown and settlement issues are expected.

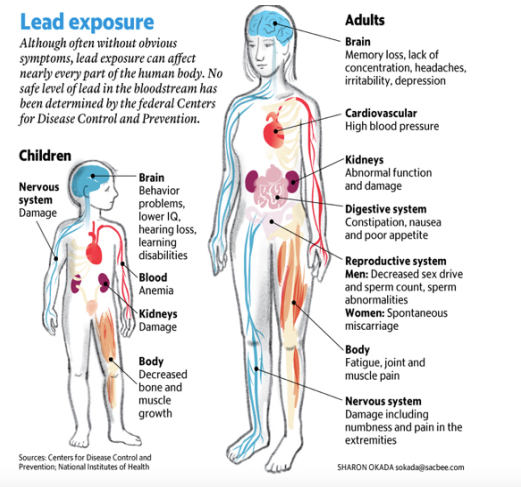
- The number of schools, their catchments and the size of sporting bodies using the surrounding sports fields has not been adequately assessed given the evident risks associated with the placement of a dive site in a landfill area. Cammeray Public School, Willoughby Girls, Northbridge Public and Cammeraygal High School catchments all either border this area directly or cross it. Australia's largest Netball club play at Bicentennial Reserve and most of the local schools use Bicentennial, Willoughby Leisure Centre, Northbridge Baths or Tunks Park for Sport. Shore Oval is also mentioned in terms of risks around noise, traffic and air quality. Tens of thousands of children stand to the impacted weekly by this project. The number of children in particular should at least be listed to provide for an accurate health impact assessment. This assessment needs to be re-issued once testing is completed and all inputs are known.

Before Approval

- Re-scope the areas of the EIS covered above and re-issue for public comment. In particular fully assess the proposed dive site area at Flat Rock Reserve in regard to contamination, community and historic importance, relationship to surrounds, conflict with utilities and other projects.
- Reconsider the route, methods and cost/benefits of the project based on a re-assessed risk profile and costing.
- Complete a detailed alternative mass transit study that demonstrates the superiority of this project over a mass transit solution.
- Release the business case to the public ensuring all costs are accounted for e.g.) contamination mitigation, utilities, remediation, coinciding development risks, health and environment.

Objection 2: Significant Contamination Risks in a known area of sensitive receivers and environments supporting endangered species

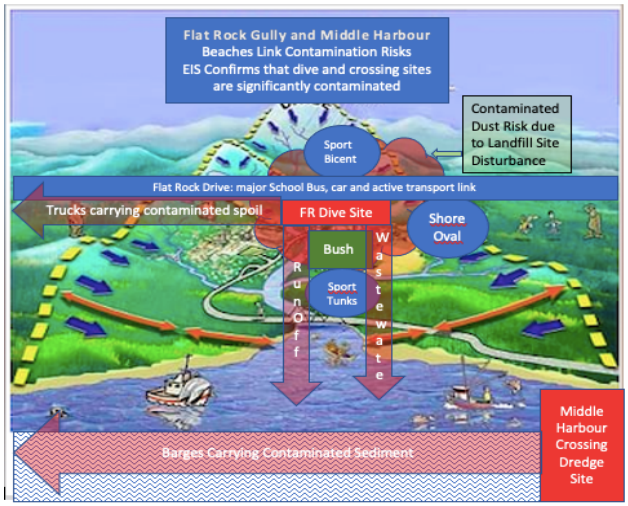
- **Confirmed Contaminants:** Contaminants have been found in groundwater upstream of the proposed dive site - within the boundaries of the legacy landfill site that both sites sit on. There is a risk identified in the EIS that disturbance at the dive site area may move contaminated leachate downstream. This would impact the area of old growth forest and potentially Tunks Park and Middle Harbour.
- **Excessive volumes of Wastewater:** Large amounts of wastewater will be produced from both construction and operational activities. Wastewater will be treated and discharged down creeks for example 711,000 L per day will be released down Flat Rock Creek, 308,000 L per day will be added to the Creek from the Punch St site (which runs down to Tunks Park) and 296,000 L per day will be released down Willoughby Creek, Cammeray. Both creeks run past sports fields (which regularly flood) and discharge to Middle Harbour.
- **Risk to Workers:** The risk to workers coming into contact with the contamination is rated as moderate to high and the EIS states more testing is needed to quantify the risk. Workers have not been considered in the Health assessment.
- 500m3 of **stockpiled spoil** is permitted outside the shed at Flat Rock according to the EIS; 4500m3 is permitted outside the Cammeray Golf Course Site. The EIS states that dust is "difficult to contain" even with mitigation measures in place. This is a considerable risk to the thousands of children playing sport nearby at Bicentennial, the Baseball Diamond, Shore Oval and Cammeray Oval. But it is also a risk to workers at the site both from a contamination and silicosis perspective. Bushland and waterways can also be impacted via a reduced rate of photosynthesis and dust carrying contaminants across a wide area.
- **Contaminated Samples in Middle Harbour**: The results of the sediment sampling in Middle Harbour indicated a range of guideline exceedances including mercury, zinc, silver, lead, heavy metals, PAH, TRH, tributyltin (TBT) and OCP. (Chapter 16). "One PFAS compound (perfluorohexane sulfonic acid) and dioxins were detected above laboratory levels of reporting in sediment samples collected from Middle Harbour. PFAS and dioxin analysis was not carried out on sediment samples collected from The Spit." (Appendix M, pg 64). PFAS removal and disposal has held up the West Gate project in Victoria – creating considerable cost and legal issues as well as risk to local community. Insufficient sampling has been completed to determine the scale of risk or appropriate mitigation/ remediation measures.



- **Risk to Human Health:** These are chemicals which are dangerous to human health and biodiversity further testing was not completed to determine the extent of risk. The Immersed Tube proposal carries with it additional risks at a contaminated site due to the volume of sediment to be removed and the extent of "on water" works which are open to human error and tidal flows. Silt curtains are not a fix all as they direct the water column rather than removing the contaminants and there is a risk that contaminants may become resuspended ie) no longer connected to the silt rendering the curtain ineffective. Curtains should also be full length not only in the top section of water to afford the greatest protection.
- **10,000m3 of contaminated sediment** is to be barged out from the site and under the Spit Bridge (with special opening hours). The drying location to prepare the spoil for road transport to Kemps Creek has not yet been determined. This carries the risk of spoil either being dried out near beaches (evaporation, spills, odour risk etc) or barged past them e.g. Balmoral, Clontaff and Chinaman's Beaches. The risk of a spill has not been assessed in terms of waterway or human health and the marine and health assessments do not include an assessment of a worst-case scenario i.e.) spill, release of leachate/ run off etc
- Some **children's playgrounds** such as Dawson's and Hallstrom Park have not been included in the health risk assessment and the very large volume of children visiting the area each week is not noted. Given that there is considerable risk in and around these areas and the sensitivity of younger children to pollutants "visitors" to the area should be included in any risk assessment. Similarly, the peninsular of Northbridge and Northbridge Baths has not been risk assessed in terms of Human Health. Given the peninsular sits between two contaminated sites, an area where acid sulphate soils are known to be located and will eventually sit between four unfiltered ventilation stacks (Seaforth, Balgowlah, Cammeray and Artarmon) a health risk assessment is warranted. Chapter 13: Human Health states: "There would be no issues related to construction that have the potential to result in significant safety risks to the community." It is misleading to make this statement in the absence of appropriate scoping, an analysis of sensitive receivers/children in the area and the fact that the EIS continually calls for more testing to be done to "quantify risk". This statement does not correlate with other chapters of the EIS which identify clear risks to Human Health.
- **The site does not fit the criteria for a Grant of Water supply:** NSW Environment Protection Authority has notified contaminated sites have been identified as relevant to the project under the description of contaminated sites in

Schedule 3 of the Water Sharing Plan. “A water supply works approval must not be granted within 250 metres of contaminant plumes” or up to 500 mtrs if needed to protect the water source and users. Given the under-scoped risk and lack of recognition that the proposed dive site was part of the original tip it is likely that further contamination will be found. There is a strong history of liquid leachate at the site. A considerable grant for water supply is required at this site (over 1M Litres per day of potable water is required). The EIS states that “approval can be granted for water supply works within the specified distance of contaminated sites as long as the water source, dependent ecosystems, and public health and safety are not threatened” (Chapter 16). The Save Flat Rock Committee and community firmly believe that both ground water ecosystems and public health and safety are threatened by this project and therefore the site does not meet the criteria for a Grant of Water Supply.

- **The risk of contaminants moving down from the tip site** as the capping and groundwater is disturbed and pockets of leachate are released has not been assessed in terms of risks to Human Health but yet the EIS acknowledges the risk of run off to surrounding waterways and Middle Harbour. The EIS acknowledges the risk of workers coming into contact with contamination but does not quantify that risk, detail mitigation measures or assess the potential of bushwalkers, sporting groups, sailing clubs, school groups etc coming into contact with contaminants. There is no provision for compensation should illness or injury result.



- There was a **Declaration of Remediation Site** under the Contaminated Land Management Act in 2003 in relation to Tunks Park due to contaminated fill material, sediment and groundwater posing a danger to human health. This contamination presumably originated upstream ie leachate from the old tip site under Flat Rock Reserve and Bicentennial Reserve. Disturbance of the tip site further risks this important sports field and the Harbour.
- **Current EPA Declaration**: In response to the EIS, Willoughby Council has notified the EPA under the Contaminated Lands Act that the groundwater upstream of the Flat Rock Reserve (at Bicentennial Reserve) site is contaminated. The EIS recognises the risks of this leachate moving downstream once the site is disturbed. Further notifications will be required upon confirmation of dive site contamination.

Before Approval

- Reissue the EIS for Public Consultation following a full phase 2 contamination assessment: All further testing mentioned in the EIS should be done now and the results released. The revised EIS should be exhibited so that the public can comment on the adequacy of proposed management strategies and the likely impact to the community.
- The assessment should include a landfill gas study in compliance with Hazardous Ground Gas Guidelines for construction and operation of tunnel (PDF page 78 Appendix M). It is noted the nominated guidelines have been superseded.
- The EPA to be formally notified, as required under the Contaminated Lands Act, of the possibility of contaminated land contaminating neighbouring land ie North Sydney Council: Tunks Park and Middle Harbour. Should contamination be confirmed in Flat Rock Reserve, (gas, spoil, surface water etc) a further notification should be made.
- Flat Rock Reserve should be classified as a high-risk site as per the historic record, references and photo’s provided
- The health risk assessment needs to be re-consideration based proper testing and scoping of sensitive receivers/ users
- Employ the General Principles of Prevention and the Precautionary Principal and reconsider the placement of the primary temporary dive site away from the bounds of the Flat Rock Catchment to avoid the spread of contaminants.

Conditions of Approval

- All contaminants are to be immediately and safely removed from the Flat Rock Site and not stockpiled
- No stockpiling to be allowed outside of sheds under any circumstances and trucks properly covered. Each load should be checked and an independent inspector allocated to ensure compliance with all dust control measures.
- Real time/ Alert Style Air Quality Monitors at Bicentennial Reserve to alert the community to air quality risks born from dust, gas, disturbance or diesel. Technology should be updated as it develops. Consider personal devices for workers.
- Real time/ Alert Style Water Quality Monitors in Flat Rock Creek and Northbridge Baths to allow the community to subscribe to alerts and make decisions about attending the areas in question in the event of poor results
- Wastewater to be treated via a method other, or in addition to, sedimentation to ensure that the full range of dangerous chemicals identified are removed. Water quality should be improved overall and objective and ongoing measurement evidencing this should be made available to the community.
- Complete a further flood study which includes the risk and proposed mitigations around contaminants being spread
- Condition that full length silt curtains are to be used with regular testing and inspection to confirm effectiveness
- Groundwater contamination is at risk according to the EIS, including Flat Rock Gully, Quarry Creek, Tunks Park - ground water quality monitoring should be undertaken both during and after construction. Results should be made public.
- Local sporting groups, P&C’s and Flat Rock groups should be consulted with and communication channels set up to inform them of any contamination risks immediately.

Objection 3: The scale of Groundworks in and around Sydney's Foreshore which would result in an unreasonable level of disruption and damage

- **A very large amount of spoil** will be removed in and around dense residential areas, school zones and sporting fields ie) 3 M Tonnes of spoil to be removed across the project. At Flat Rock 900 additional vehicle movements per day will be required. The only access route is along a major local traffic corridor which cuts through a bushland area, adjacent to properties and sports fields (Flat Rock Drive/ Brook St). There is considerable conflict with school bus and active transport routes, sporting traffic and residential zones. Noise across the valley will be considerable over 5 years.
- **153,000 m3 of sediment will be dredged** from Middle harbour and disposed of at sea. Another 10,000 m3 of contaminated sediment will be removed and dried out before land-based disposal at a licenced facility. The works on Middle Harbour will extend across 4.5 years and noise is modelled to be considerable across most foreshore areas surrounding the dredging site. The installation of Cofferdams and Immersed Tubes will be particularly noisy, and vibrations may impact property and historic sites. The works will require respite periods and, in some instances, will create noise of up to 75 dB significantly impacting both residents and marine life.
- **Drawdown will be a significant issue for this project:** the EIS estimates that the drawdown in Northbridge as a result of the project will be 28m, in Flat Rock reserve 21m and at Willoughby Leisure Centre 22m, resulting in water stress/death for plants, grass and trees and potential settlement damage.
- **Groundwater dependent ecosystems** are located at the upper reaches of Flat Rock Creek & Quarry Creek such as the rare turpentine scrub and these will be impacted. Groundwater dependent ecosystems further down the gully may also be impacted due to the considerable extent of ground water changes and drawdown. The EIS states that "tunnelling works could potentially lower the groundwater table within poorly consolidated fill….at this location, the tunnelling works could drain the groundwater, currently 'ponded' within landfill in the former creek" (23.2.3 p 23-14). Pfautsch's (2015) study notes the implications of changing groundwater levels owing to mining can potentially extend beyond the boundaries of a mine: "Where the water table had fallen to 19 metres below the surface, water use of trees was much lower compared to trees where the water table remained unchanged at around six metres below ground level. The tight connection between water use and the growth of trees implies that a reduction in water use will lead to a reduction in growth. In extreme cases trees can die of thirst"
- The **changes in the groundwater level,** because there is a tunnel underneath, has the potential to spread contamination around and downstream from the site. (Appendix N page 88 lists potential for further contamination as works can create contaminated plumes etc)
- **Natural Flow Rate Reduced.** There will be 39% reduction in the natural flow of Flat Rock Creek which will impact ecosystems. The area is classified as a sensitive fish breeding habitat – changes in the flow rate can impact this.
- **Water drawdown** is estimated to flow into tunnel at a rate of 1.39L/s/km. 711,000 L from the tunnelling will be discharged down Flat Rock Creek each day during construction. It is not clear if the water will be adequately treated for the full range of chemical contaminants which have been identified in the risk assessment and whether the current creek and stormwater system can cope with the volume of inflow.
- **Potential damage to property due to settlement:** the EIS defines 50mm (building and structure settlement classification chapter 16 page 29) as only being slight yet this amount of settlement can cause considerable cracking. This definition in the EIS needs to be reconsidered particularly in light of the fact that the tunnel passes as relative shallow depth below Naremburn's Conservation Zone which presents a risk to heritage. In addition to drawdown, vibration is set to impact 27 homes in the conservation area and there is a cumulative risk from the Warringah Freeway works and the extent of truck movement on Brook St. The assessment that heritage may only be minorly impacted needs to be reconsidered due to the known age of the buildings, the current ground stability and extent of all impacts.
- **Severe settlement at Flat Rock Reserve:** (table 50-75mm is moderate, greater than 75cm is severe). Settlement at Flat Rock Reserve is considered category 5 and up to 85cm which is categorised as severe settlement (p29-32 Chpt 16).
- **Risks to heritage sites** have been identified at Clive Park (several incl. Aboriginal), Flat Rock Gully (1 Aboriginal), Cammeray (1 Built) and Artarmon due to vibration
- **The flood study fails to** assess downstream impacts and recognise that water and sediment may be from a contaminated source. "The Flat Rock Creek catchment drains in an easterly direction from the Pacific Highway in Artarmon and has a total catchment area of about 3.9 square kilometres (390 hectares) at Willoughby Road" (Chapter 18: Flooding). The proposed dive site is within the Creek area where flooding occurs, and this will highly likely affect downstream habitats. There appears to be little assessment of flooding impact on the Flat Rock dive site and downstream habitats, parks and waterways. The flood study limits the Flat Rock Creek assessment to the upper reaches around Gore Freeway. Given the size of the catchment, the location of the dive site in and around the diverted creek and in a flood zone it would be appropriate to continue the flood study around Flat Rock Gully and down into Tunks. This information should inform the health risk and waterways assessment. The original Plan of Management for the area noted that the culverts under Tunks Park were of insufficient capacity to avoid the flooding of Tunks Park which occurred approximately three times per year. Anecdotally this appears to occur at the Western end of the park more frequently after heavy rain.

Before Approval

- Provide to the public an additional study to confirm the importance of the ecosystem to local community. The assumption that the area is not worth considering as it is already contaminated undervalues the area and it's relationship to surrounding ecosystems considerably
- Provide an independent assessment of the historical importance of the area including an independent and appropriately qualified assessment of Indigenous History in the area.
- Extend the Flood Study to Flat Rock Reserve and a study of the impacts on the Gully as a whole
- Consider a deeper alignment or alignment away for Naremburn's conservation area to minimise potential heritage impact
- Reconsider the Immersed Tube crossing due to the considerable vibration, noise and contamination impacts around Middle Harbour.
- Assess safety and water ingress issues related to the tunnel being below sea level under Northbridge

Conditions of Approval

- Ensure the tunnel is fully lined to minimise drawdown
- Assess alternative routes that do not result in significant drawdown under homes and parks and cross uncertain geology
- Provide a pre-inspection survey for all homes and assets in the drawdown range (Fig 16-13) and provide rectification and/or compensation to owners and councils who experience damage to homes, buildings, bushland or sports fields.
- Provide Stage 2 contamination study results to the EPA to assess the safety of the water supply
- Provide pre-condition surveys to all homes in the Naremburn Conservation Area and homes more than 100 years old. Prioritise immediate rectification of damage to these homes to ensure heritage value of the area is retained
- Employ an appropriate independent expert to supervise works and protect indigenous sites
- Fully assess the potential conflict with the Northside Storage Tunnel (Sewage and Stormwater) to prevent damage, delays, community health risks and scope creep.

Figure 16-1 Regional Geological Context i.e.) uncertain or difficult geology which contributes to greater project risk

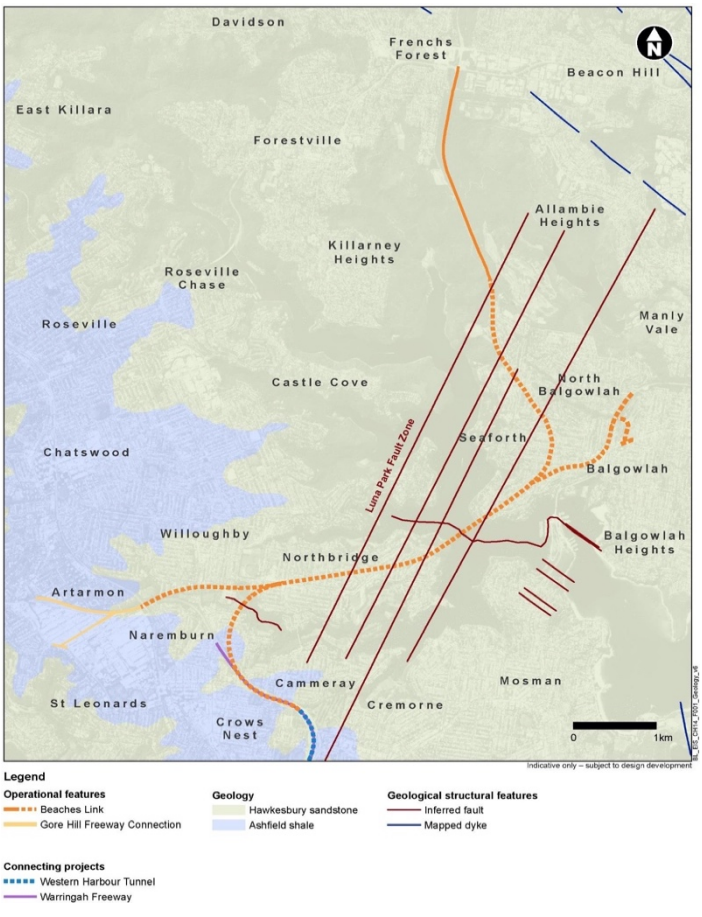
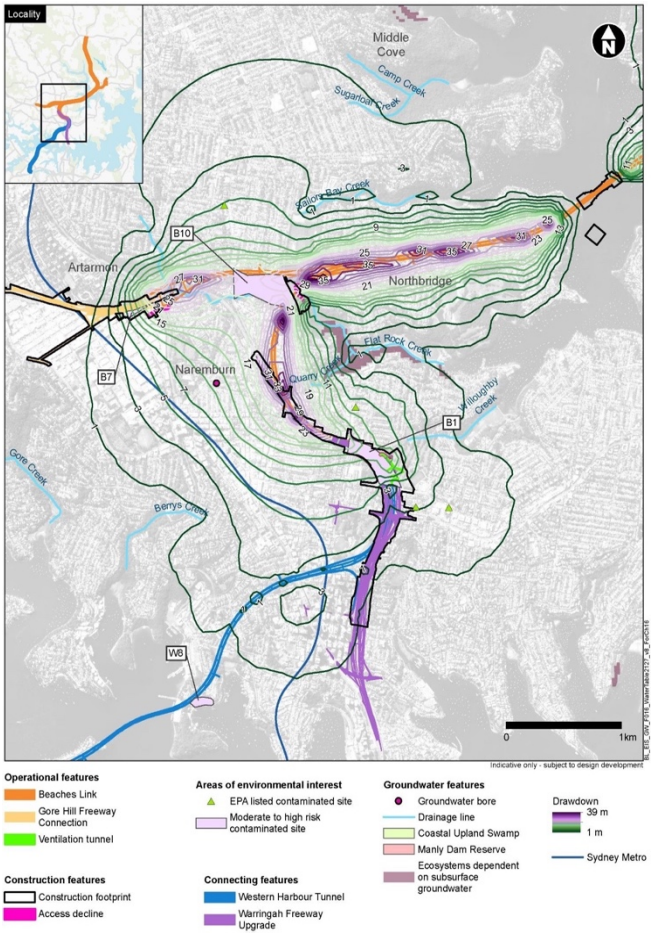


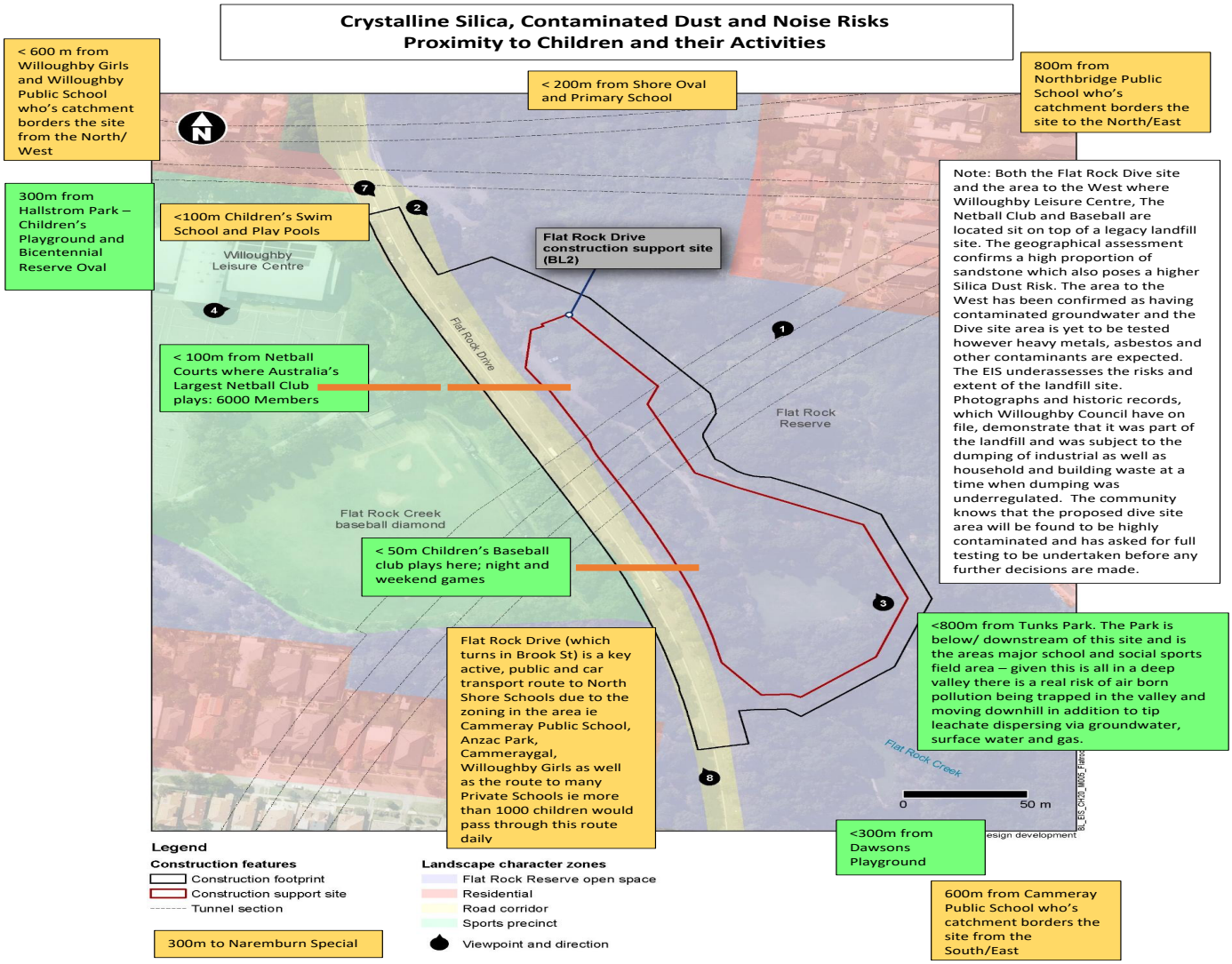
Figure 16-13 Groundwater drawdown contours for the project during operation in 2128 South of Middle Harbour



Objection 4: Unacceptable Health and Safety Risks

- **Location of the Dive Site carries inherent Risk:** The main temporary dive site in the area is earmarked for Flat Rock Reserve which is confirmed as being part of the old landfill site at the top of Flat Rock Gully.
- **Testing is inadequate and incomplete:** Currently there is inadequate information in relation to health impacts (including soil contamination, groundwater, landfill gas, odour assessment etc) of the proposed tunnelling works at Flat Rock Drive. A Phase 2 assessment is needed to check for contaminants and quantify risk. Given the elevated risk associated with the chosen location and large number of sensitive receivers using nearby facilities - approval should not proceed until the risks are known and mitigation possibilities and probabilities are scoped. Serious consideration around the cost/benefits of the project in light of the risk to residents and children as well as the cost to appropriately mitigate and remediate sites should be given.
- **Spoil outside of sheds.** The EIS allows for a considerable amount of spoil to be held outside of sheds during construction which poses both a silica dust and contamination risk to nearby parks, residents and bushland. The dust risk assessment rates the dust risk as moderate at Flat Rock however does not take into consideration the possibility that the dust may be contaminated and there is an under assessment of the number of sensitive receivers.
- **Construction Noise:** The Flat Rock site and surrounds will experience the highest noise during day-time clearing, excavation, establishing buildings and widening of the road which is estimated to last for 9 months. This area will be subject to considerable coinciding impacts from the Warringah Freeway Works, the Willoughby Leisure Centre Development and the Channel 9 Site as well as ground born noise and vibration from tunnelling. These considerable and long duration works in and around a gully which is known to amplify noise is a considerable health risk.
- **Truck Noise:** A key concern at Flat Rock Drive is the noise generated from truck air brakes as they slow down the long hill leading to the excavation site entry point at the bottom, and then the exhaust and engine noise from those fully loaded trucks accelerating up the hill from the site. This noise could be suitably attenuated by constructing a permanent acoustic wall along Flat Rock Drive fronting the bush. Noise will also impact wildlife in the area esp. nocturnal species.
- **Sustained Noise Impacts on Sporting Fields and Surrounds:** the EIS states that Bicentennial Reserve, the Baseball Diamond, Cammeray Oval and Shore Oval will experience noise impacts across the duration of the project (5 years)
- **Safety Risks:** 900 additional vehicle movements will be required on Flat Rock Drive - this is a key transport corridor for children accessing North Shore schools and school sport. Given the site is contaminated the conflict between spoil trucks and children is even more concerning for the community. Flat Rock Drive/ Brook St is also a key active transport corridor for children accessing Cammeray Schools due to zoning.
- **Emergency Air Pollution Impact:** There has been no assessment of the pollution impact on surrounding neighbourhoods in the event of an emergency involving smoke or gas release (or other toxin). As there is no filtration there is no ability to prevent dispersion over schools and residential communities.
- **Sewerage Risk:** There are ongoing sewage events releasing sewage into bushland and waterways in the vicinity where children play sport – this is unacceptable. The location and impact on the Northside Storage Tunnel needs to be assessed before a go no go decision is made to ensure that any conflicts can be successfully resolved.
- **Operational Air quality modelling confirms increased pollution in and around the Gully.** The results confirm that our two representative community receptor points (CR25 and CR 26) are modelled to experience increased pollution as a result of the project with the highest increase across the project of 24hr PM2.5 at the modelled location closest to Bicentennial Reserve, as well as slight increases in NO2 (1 hr mean) and PM10 (24hr Mean). Given that the sports fields are housed in a valley (Bicentennial, Baseball Diamond and Tunks Park) there is concern that inversion events will trap these pollutants in and around sports fields, walking tracks, active transport links and bushland. We note also that the local background air quality monitoring results were not used to establish background levels which are suspected to be higher in and around the Warringah Freeway and Gore Hill corridor than elsewhere. It is well recognised that pollution affect are compounded at higher respiration rates and the young are some of the most vulnerable. This area plays host to thousands of children weekly playing sport – the risks associated with these findings should be re-assessed.
- **The project increases air pollution overall and is reliant on unrealised fuel standards to address this:** The overall project (Beaches Link and Western Harbour Tunnel) creates an 8.4% increase in CO, 6.5% increase in NOx, 7.1% increase in PM10 and a 7.1% increase in PM2.5 (Table 8-10 Appendix: Air Quality) based on today's transport environment. The EIS claims that efficiencies in fuel standards will counter act this increase. However, a Federal regulatory review with regard to fuel efficiencies has been deferred. The project should be assessed on it's own contribution to pollution not the assumption that fuel standards will substantially improve the situation. The review of fuel standards is not due to commence until 2027, the year the tunnel will open. If monitors detect pollution levels close to criteria levels by 2027 and no legislative changes to fuel standards are in place, the department of planning should mandate that filtration be included as a condition of opening the project. A road project should not be allowed to contribute more to an area already struggling with poor pollution levels particularly when it is evident that a mass transit alternative has the capacity to reduce those levels. The source of background pollution is irrelevant – if the project contributes more to high-risk areas then the government has a responsibility to look at other options.

- **Pollution trapped in the Gully:** It is well recognised in many studies that inversion events can push pollution down into low lying areas which causes it to become trapped. The Gully will be bordered by an unfiltered pollution stack at Artarmon and Cammeray. The EIS recognises a higher level of pollution as a result and given the geography there is a risk that pollutants may become trapped in and around sporting fields, homes and bushland.
- **Local Traffic and Parking Stress:** The area is already at grid lock and parking is scarce – adding more vehicles to the roads, local transport hubs and creating more pollution is not reasonable. In addition, the location of the dive site sits within very busy area that is struggling for parking space for local sports. It is likely that parking and traffic stress will create health and safety issues during the project's construction and particularly during peak sporting times.
- **Stress Associated with uncertainty and acquisition:** A wide span of substratum acquisition will be required given the highly residential nature of the route, this is likely to create considerable stress. The area of the build (particularly around the Warringah Freeway) is already dealing with mortgage stress and job seeker reliance. Adding a project which puts homes at risk and buyers off will likely exacerbate this. Coming out of Covid people are wanting stability, security and to see the protection of their places of respite – the timing of this project and the scale of impacts are likely to have a very detrimental effect on people's mental health. The timing of the release of the 9000+ pages Western Harbour Tunnel EIS and the 12000+ paged Beaches Link during Covid and over Christmas has already contributed to a noticeable deterioration in mental health across several communities particularly given the extent of impact that the documents describe.



Industry Specialists State that harmful levels of construction dust such as silica can travel over long distances

Wind Speed	Travel Distance
5 km/h (3.1 mph)	0.9 km (.55 mile)
10 (6.2 mph)	1.8 (1.1 miles)
20 (12.4 mph)	3.7 (2.3 miles)
40 (24.8 mph)	7.4 (4.6 miles)
60 (37.3 mph)	11.1 (6.9 miles)
80 (49.7 mph)	14.8 (9.2 miles)

(Ref:http://www.citicite.com/files/Uploads/1220/Dust%20Particulant%20Distance%20Travel%20and%20Impacts%20on%20Adj%20Properties,%20incl%20Resp%20&%20Allergic%20Immune%20Responses.pdf)

Before Approval

- Re-issue the Health Risk Assessment for public comment accounting for all issues raised above and a better scoped knowledge of receivers and the sensitive receiver users of the area. The health assessor should be independent and appropriately qualified with a specialisation in contamination assessment and air quality assessment. The health risk assessment should not only include an assessment of the contribution of the stack to air quality but the overall project contribution vs alternative options that have a greater propensity to improve pollution levels.
- The Chief Health Officer should be asked to re-assess the project based on all inputs including the air quality contribution of the project as a whole not only stack contribution (including fully scoped surface traffic impacts and extent of sensitive receivers)
- Reassess baseline noise level. For instance, on Flat Rock Drive was the initial monitoring done when a double truck had their airbrakes on going down the hill? Given the geography of the area and 900 movements a day on a steep hill in a residential area it seems unlikely that noise will be undetectable as stated in documents. Average noise readings pre-construction should be monitored over a 24 period and averaged to be a more indicative measure of current noise levels

Conditions of Approval

- Provide an over/underpass across Brook St to allow safe active transport especially for local school students. Do not limit residents to exiting one way onto Brook St as this will push local traffic past the dive site and through Northbridge but rather provide for traffic Marshall's at major school intersections impacted by the project eg) Merrenburn and Brook, Miller and Palmer etc. Reduce traffic speeds on Brook St and in the long term provide a set of lights at Slade St to allow local traffic priority and safe ingress/ egress.
- Re-design the active transport route through Flat Rock to avoid the dive site, trucks and air pollution risks associated
- If a short duration noise event during night construction, persons should be offered alternative accommodation for the period or other appropriate mitigation as required. For longer duration noise such as at Flat Rock Gully and Cammeray Oval construct an acoustic wall around the site to protect residents and fauna from noise impacts. This wall would have to be high enough to ensure bird species such as the Powerful Owl do not fly into the trucks attending the site at Flat Rock. An acoustic wall at Anzac Park and one at Cammeray Oval would help to ensure that children have reduced level of noise impact also.
- Reassess baseline noise level. For instance, on Flat Rock Drive it is not clear if monitoring was done when a double truck had their airbrakes on going down the hill. Given the geography of the area and 900 movements a day on a steep hill in a residential zone it seems highly unlikely that noise will be undetectable as stated in documents. Average noise readings pre-construction should be monitored over a 24 period and averaged to be a more indicative measure of current noise levels. Air brakes should not be permitted on Brook St or Flat Rock Drive and trucks should not be permitted in conservation areas or able to idle in local streets. Trucks should be fitted with pollution and noise attenuation devices given the sensitivity of the area
- Ensure members of local community groups i.e. Save Flat Rock Gully, Bicentennial Reserve and Flat Rock Gully Committee, WEPA, P&C's and Sporting Groups are consulted and represented on the Air Quality and Traffic Committees
- Provide for a permanent air quality monitor in Bicentennial Reserve/Flat Rock Gully to monitor background pollution levels, construction and operational impacts as this area is modelled to experience higher pollution levels.
- Treat pollution emissions from stacks or as a minimum build stacks so that they can be retrofitted with treatment should the fuel standard changes that underpin the air quality assessment not eventuate. The regulatory environment and any consequences for air quality should be assessed prior to opening the tunnels as a condition of consent ie a new assessment should be submitted based on legislation and pollution levels at the point of opening. Given that there are no legislative changes mandated prior to 2027 it is likely that the assumptions made in the EIS are wrong and higher levels of air pollution will be a consequence. Air conditioning and indoor facilities should be provided for local schools and sports centres if vehicle pollution is not addressed via stack treatment. The government should look at all methods at it's disposal ie) regulation, incentives, heavy vehicle detours away from sports fields/ residential areas to address Sydney's growing vehicle pollution levels and the impact on children in particular. It is a child's right to grow up in a healthy environment.
- Engage on OHS professional to assess dust risks and recommend mitigations. Appoint a full-time inspector at each site to ensure compliance and ensure penalties for non-compliance as well as immediate action to prevent the spread of dust.

Objection 5: Biodiversity is significantly and unnecessarily impacted

- Urban bushland is fast disappearing under Sydney's bulldozers. For the future of the urban environment, we can no longer afford to put construction sites, with all their impacts, in biodiversity rich areas.
- The proposed project counteracts the principles of Ecologically Sustainable Development in the Protection of the Environment Administration Act 1991 (NSW) which declares that the conservation of biological diversity and ecological integrity should be of fundamental consideration (PEAA Act Part 3(2)(c)).
- Bushland set aside for environmental protection should not be destroyed or disturbed. Flat Rock Reserve is a declared Wildlife Protection Area as it provides significant habitats that support a wide range of small birds, mammals, reptiles and frogs that are disappearing from our urban areas. Flat Rock Reserve is classified as an E2 Conservation Area. The Local Willoughby Environmental Plan 2012 states that the area is classified as such to: protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values; to prevent development that could destroy, damage or otherwise have an adverse effect on those values; to conserve native plant and animal species through the maintenance of suitable habitats; to contribute to the scenic quality of Willoughby, including the foreshore. The proposed dive site is not in keeping with the intent of this classification.
- Flat Rock Gully is a key part of the network of wildlife corridors across Sydney required to maintain biodiversity.
- Around 6.77 hectares (over 16 acres) of bushland will be flattened for the construction footprint (EIS Chapt. 19, p.19.9) at Flat Rock Gully. Around 54 acres of bushland, which provides important habitat for wildlife in the Willoughby and Manly local government areas, will be destroyed at the combined sites.
- Over 390 trees are targeted for potential destruction at Flat Rock Gully – only two-thirds will be replaced. Willoughby City Council (WCC) tree policy requires that 3 trees be replaced for each removal (WCC, Vegetation Management Strategy 2020). Local tree policies are required by the NSW Government to reflect the needs of different areas for tree canopy and wildlife habitat. These should not be overridden by the NSW State Government.
- The bushland at Flat Rock Gully has been targeted for destruction on the basis that it is 'only' regenerated bush. This regeneration is the result of 25 years of work by WCC and bush care volunteers. Most of the plantings were propagated from local indigenous plants. Wildlife doesn't discriminate between regenerated and remnant indigenous trees and bushland.
- Biodiversity is poorly scoped in the EIS. The bulk of the biodiversity assessment concentrates and comments on 23 threatened species only. It side-steps the many hundreds of species which will lose their habitat, be driven away or bulldozed under including a wide range of bird species, frogs, reptiles, mammals and aquatic animals. See fauna list below.
- The use of the controversial biodiversity offsetting policy allows for the clearing of bushland in urban communities. This policy, which allows for destruction of biodiversity in one area as long as it is protected somewhere else in NSW, is a recipe for local extinction.
- The EIS acknowledges that animals and birds on the construction footprint and nearby bush reserves will be driven away, in some cases permanently, by loss of habitat, food and breeding sites and by the noise, lights, vibration and traffic yet there are few well-developed mitigation plans for the variety of species which will be impacted. (EIS p.19-64).
- The proposed mitigation measures to protect wildlife during construction are weak. Checking that no animals are in the way 24 hours before construction or having people 'spot' them from barges and remove them during construction seems doomed to failure as it will not be the main focus or within the expertise of most constructors.
- The health of local creeks, waterways and the marine environments are at risk from scouring, elevated salinity, siltation, contamination by disturbed toxic materials from the tip site and accidental fuel or chemical spills. Groundwater drawdown of more than 20 metres will contribute to trees becoming stressed or dying in other parts of Flat Rock Gully away from the construction footprint, especially in times of drought.
- The EIS is inconclusive on the future of the destroyed site which is 5% of the Flat Rock Gully Reserve. Decision-making about its future should not be left to the end of the construction process. The EIS should confirm its rehabilitation and return it to bushland.
- The area is widely recognised by the community as essential habitat for a pair of Powerful Owls. There are frequent nightly identification of the owls calling in the Reserve from residents who live bordering it and one was photographed sitting on a street sign adjacent to the reserve.
- Flat Rock Creek is classified as a sensitive fish breeding habitat which feeds out into Middle Harbour. Seagrasses and Mangroves in Middle Harbour support an abundance of sea life and these are under threat from the project. In addition to the contamination, dredging and noise impacts the remaining sill in Middle harbour from the Immersed Tube is likely according to the EIS to create water quality issues further risking marine life. Recently Sammy the Seal has been hanging out around the project area and other wildlife such as Whales, Penguins, Rays, Sharks and Seahorses have been noted in close proximity.
- Flat Rock is a groundwater dependant ecosystem – disturbances of groundwater may impact the whole ecosystem
- The City and South West Project completed a risk assessment around crossing the Harbour via immersed tube and determined that the risk to the ecosystem and environment was too high. Middle Harbour is historically contaminated due to ship building, upstream industrial areas and the run-off from Flat Rock tip. It is not clear why an Immersed Tube is considered an ecologically sound approach when it was rejected for the main Harbour.

Before Approval

- Consider a site that is outside of the catchment and away from the wildlife corridor
- Consider ecologically sustainable alternatives to the car tunnel. Fully scope alternative public transport options.
- Carry out full assessment of biodiversity in and around area to be destroyed in Flat Rock Gully. Check trees for hollows across the gully area. Carry out fish and macroinvertebrate sampling in creeks and waterways.
- Complete a full study of wildlife in Flat Rock Gully, Middle Harbour and nearby bushland. A desktop assessment and a few walk-throughs are inadequate to reveal its full biodiversity.

Conditions of Approval

- In consultation with wildlife experts, develop a full suite of mitigation measures to protect the wildlife in local bushland from noise, light and traffic in Flat Rock Gully.
- Undertake full bush regeneration and provide three for one tree plantings as required by the local vegetation strategy.
- Biodiversity credits are likely to be applied to areas too far from the construction footprint. We need additional work done before construction to provide nest boxes and rock habitats for displaced wildlife. Biodiversity credits should also be applied long term to weeding and bush regeneration in Flat Rock Gully Reserve.
- Ensure all landfill exposed by tunnelling is capped at the end of tunnelling and reinstate crushed sandstone as a contoured base for re-establishment of locally indigenous vegetation and habitat. Remove all temporary structures (including noise mitigation sheds).
- Engage consultants (independent of contractors) to measure water quality in the creek before, during and after construction to check for scouring, contamination from the site and elevated salinity and sediment levels. Make this information publicly available.
- If the proposal is approved, it is vital that, at the end of the project, the construction site in Flat Rock Gully is restored to bushland consistent with the Environmental Conservation zoning of the site and in accordance with the local Urban Bushland Plan of Management and the Flat Rock Gully Reserve Action Plan

NATIVE FAUNA OF LONG BAY CATCHMENT

INCLUDES LOWER FLAT ROCK CREEK, FLAT ROCK GULLY RESERVE, TUNKS PARK, NORTHBRIDGE GOLD COURSE, WRECK BAY AND NEIGHBOURHOOD

FROGS

Common Eastern Froglet
Brown-striped Frog
Bibron's Toadlet
Eastern Dwarf Tree Frog
Peron's Tree Frog
Leaf-green Tree Frog

REPTILES

Turtles

Long-Necked Turtle

Lizards

Broad-tailed Gecko
Burton's Snake-lizard
Cream-striped Shinning-skink
Eastern Water-skink
Dark-flecked Garden Sunskink
Pale-flecked Garden Sunskink
Weasel Skink
Gully Shadeskink
Eastern Blue-tongue
Eastern Water Dragon
Lace Monitor

Snakes

Diamond Python
Common Tree Snake
Golden-crowned Snake
Eastern Small-eyed Snake
Yellow-faced Whip Snake
Red-bellied Black Snake

BIRDS

Non-passerine

Australian Brush-turkey
Brown Quail
Chestnut Teal
Pacific Black Duck
Australian Wood Duck
White-headed Pigeon
Crested Pigeon
Tawny Frogmouth
Australian Swiftlet
Uniform Swiftlet
White-throated Needletail
Little Penguin
Little Pied Cormorant
Great Cormorant
Little Black Cormorant
Pied Cormorant
Australian Pelican
White-necked Heron
Striated Heron
White-faced Heron
Nankeen Night Heron
Spoonbill sp
Australian White Ibis
Straw-necked Ibis
Collared Sparrowhawk
Brown Goshawk
Grey Goshawk
Pacific Baza
Black-shouldered Kite
White-bellied Sea-Eagle
Nankeen Kestrel
Peregrine Falcon
Dusky Moorhen
Buff-banded Rail
Masked Lapwing
Silver Gull
Sulphur-crested Cockatoo
Little Corella
Yellow-tailed Black-Cockatoo
Galah
Australian King-Parrot
Musk Lorikeet
Scaly-breasted Lorikeet
Rainbow Lorikeet
Crimson Rosella
Eastern Rosella
Pheasant Coucal
Fan-tailed Cuckoo
Eastern Koel
Channel-billed Cuckoo
Powerful Owl
Southern Boobook
Laughing Kookaburra
Sacred Kingfisher
Dollarbird
Superb Lyrebird

Passerine

Superb Fairy-wren
Variegated Fairy-wren
Brown Thornbill
Grey Gerygone
Brown Gerygone
White-throated Gerygone
White-browed Scrubwren
Spotted Pardalote
Eastern Spinebill
Red Wattlebird
Little Wattlebird
Noisy Miner
Noisy Friarbird
New Holland Honeyeater
Yellow-faced Honeyeater
Eastern Whipbird
Black-faced Cuckoo-shrike
Grey Shrike-thrush
Golden Whistler
Rufous Whistler
Olive-backed Oriole
Australasian Figbird
Australian Magpie
Grey Butcherbird
Pied Currawong
Grey Fantail
Willie Wagtail
Australian Raven
Magpie-lark
Black-faced Monarch
Leaden Flycatcher
Eastern Yellow Robin
Jacky Winter
Rose Robin
Golden-headed Cisticola
Silvereye
Welcome Swallow
Tree Martin
Mistletoebird
Red-browed Finch
Double-barred Finch
House Sparrow

MAMMALS

Short-beaked Echidna
Brown Antechinus
Long-nosed Bandicoot
Sugar Glider
Common Ringtail Possum
Common Brushtail Possum
Grey-headed Flying-fox
Gould's Wattled Bat
Lesser Long-eared Bat

These records are from Willoughby City Councils' Wildlife Register. To contribute sightings to the wildlife register email wildlifewatch@willoughby.nsw.gov.au. All sightings are also recorded in BioNet and Atlas of Living Australia.

Image: Willoughby Council

Objection 6: High level Construction Impacts in and around Bushland, Residential Areas, Sports fields and Sydney's Largest School Zone

- **Construction Vehicle Movements**: A large number of additional construction vehicle movements will be required across the project servicing multiple construction sites. These sites are in and around schools, sporting fields and school transport corridors which increases the safety risk. The Beaches Link requires an additional 4950 construction vehicle movements daily between Cammeray and Seaforth/ Balgowlah at it's peak of construction and an additional 88 Vessel Movements Daily. The Western Harbour and Warringah Freeway project which overlaps with this project between 2023 and 2026 requires another 6343 daily movements between Rozelle and Cammeray. The Rozelle to Beaches corridor is predominantly residential and contains more than 26 schools and many more pre-schools and playing fields.
- **Construction Vehicle Movements and Brook St:** 900 Additional vehicle movements will be required on Flat Rock Drive/ Brook St **daily**. This is a narrow local road which services the connection from Willoughby/Northbridge via Naremburn to the city. Dozens of schools on the Lower and Upper North Shore use this route as their school bus route. Brook St is also a significant active transport link from Willoughby to North Shore schools esp Cammeray due to zoning. Keeping kids safe along this corridor will be a challenge. Residents within the many dead-end streets along this corridor exiting onto Brook St will also face a higher risk and reduced connectivity. Given the extent of cumulative impact on this suburb - adding restrictions to movement will only compound the stress and inequality of what is proposed – a solution needs to be community driven in consultation with all stakeholders including P&C's.
- **Marshalling areas** will be needed for trucks across all sites but particularly at the Flat Rock site. Marshalling should not be permitted on local streets and particularly not in the Naremburn Conservation Area due to the increased vibration risk. Trucks should not be allowed to idle while marshalling and every load should be tested for contamination and inspected.
- **Diesel Pollution:** Trucks accelerating up a steep hill from zero is likely to create a substantial amount of diesel pollution - the health impacts of this have not been fully assessed. An alert style monitor should be placed at bicentennial reserve to alert the community to high levels of pollutants.
- **Additional Noise Exceedances**: The noise assessment claimed that the trucks on Flat Rock Drive would not create more noise however the assessment does not appear to account for braking on a very steep hill with heavy loads.
- **Undetermined Spoil Transport Routes: spoil** will be taken out from the Cammeray site across the Harbour Bridge to an unknown location. On return the trucks will need to turn around at an undisclosed point - this may add more trucks to roads around Willoughby than currently documented in the EIS.
- **Safety around School and Sport Transport Corridors and Proposed Dive Site**: A reconsideration of a dive site along Flat Rock Drive is needed due to the conflict between children and trucks and risks associated around safety, noise, dust, traffic etc If this is not reassessed ask for an overpass or underpass on Brook St to allow safe passage of children to school. Trucks should be excluded from the road during school transit times and pollution/ noise mitigation devices fitted to trucks
- **Active transport routes**. Over time and especially during the pandemic the route through and around Flat Rock Reserve and surrounds has been increasingly used and at times has become very congested to the point of not allowing safe social distancing. Active transport across the route will be fragmented by the project and travel times will increase at Flat Rock, Cammeray and Artarmon. There appears to be little benefit to the most impacted communities. A key benefit to the project should be to achieve greater active transport outcomes upon completion, joining up to North Sydney via Cammeray.

Before Approval

- Reconsider the placement of the dive site in known landfill site, in a valley, close to residential and bushland areas and which is surrounded by sports fields and is a key transport corridor for thousands of school students. Move the dive site to an area out of the main catchment ie) Artarmon Industrial Area or other area with less risk

Conditions of Approval

- **Ensure truck marshalling is not permitted in the Naremburn Conservation area or other local streets. Trucks must not be permitted to idle. Stage the project so spoil can be removed underground and directly onto the freeway.**
- **All workers should either park onsite or use public transport – consider a shuttle bus from St Leonard's and local parking permits to avoid worker parking issues.**
- **Provide for traffic Wardens at key intersections during school, after school and during Saturday morning sport. Traffic Warden's should allow for safe active transport access but also ensure truck loads are properly covered and local traffic management plans are adhered to and/or Marshal on freeway and stage the project by building the Naremburn to Cammeray stage before opening the Flat Rock dive site so that all spoil can be removed underground and directly onto the freeway. Reconsider the placement of dive site in landfill area.**
- **Move the active transport link to the opposite side of Flat Rock Drive away from the dive site to avoid contamination and truck clash issues and ensure the creek on the Eastern side of the site is not encroached upon.**
- **Rebuild the Willoughby Rd overpass to provide for a safer active transport, provide an over or underpass for Brook St and upgrade Willoughby Rd bus stops to ensure greater safety particularly for children.**
- **Reduce the speed limit of Brook St and coordinate lights with Merrenburn to allow local egress and ingress**
- **Fit all trucks with noise attenuation and pollution control devices – use electric vehicles wherever possible**
- **Consult with the local community, progress associations ie) Naremburn Progress and Cammeray/ Anzac/ Cammeraygal P&C's regarding a traffic management plan for the area with children particularly in mind**

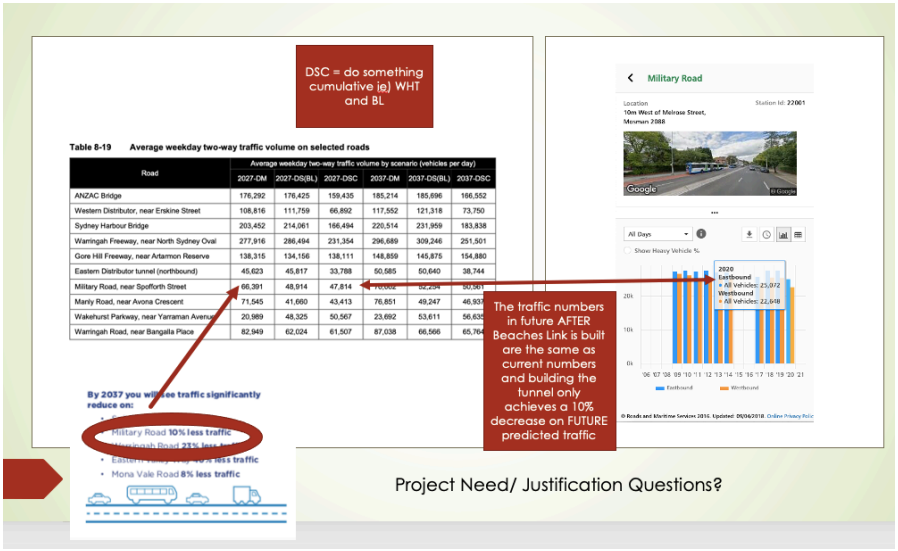
Objection 7: Outcomes are Poor and the Benefits Claimed are not Evidenced

- **Surface Level Traffic unsubstantiated:** The assessment of surface level traffic impacts did not include all major local roads in the operational modelling ie) Eastern Valley Way, the full span of Military Rd and Willoughby Rd was not included. The surface road traffic assessment should help to inform the risk assessment and cost/ benefits of the project. A proper assessment of surface road implications should inform the pollution analysis and noise assessment.
- **Tolling impacts are not modelled:** The EIS confirms the Beaches Link is a toll road but the model ie) cost has not yet been published and an assessment of impact on driver behaviour, therefore an assessment of the effectiveness of the project cannot be completed. Costing and placement of toll gantries is essential to modelling traffic flows and predicting toll avoidance. Given most contracts are over a 40-to-50-year term with a min. annual % increase it appears some level of toll avoidance will be unavoidable. The issue is that due to the route chosen this avoidance will occur in highly residential areas in Sydney's largest school. One of the promises communicated to locals is that local streets will be returned to them ie) Military Rd, Willoughby Rd, Eastern Valley Way etc However, road tolling is a user paid system, some will spend money to save time, but in reality, contractual increases in expensive tolls become untenable to a large proportion of drivers - even though the State Government offers rebates based on tolls and vehicle registration. The purpose of the Beaches Link is stated as providing for a 30-Minute City with the City as the major target job centre. Utilising the Beaches Link and Western Harbour Tunnel (or other Harbour crossings which have been ear-marked for two-way tolling) will become increasingly expensive. This is likely to create additional traffic on our local streets as motorists avoid paying the tolls whilst becoming increasingly reliant on vehicles to access work. This is currently the case in Leichhardt, Haberfield, Lilyfield, Ashfield etc as an outcome of the WestConnex project. Toll costing and avoidance scenarios should form a fundamental part of the benefits assessment of the project.
- **Outdated Data:** The Beaches Link traffic modelling is based on 2011 and 2016 data. Much has changed since this time and the impacts of Covid have not been fully realised. Whilst there is a temporary mode shift to vehicles, many have not returned to the office and vacancy rates in the city remain high. Many commentators are pointing toward at least a proportion of employees continuing to work from home and housing data has shown a trend toward tree and sea changes for another percentage of the population There has also been a significant mode shift to active transport and a renewed demand for local centres and green spaces as a result of Covid. These factors should be considered to ensure we are planning a project for the future not the past.
- **A very low level of induced demand:** has been included in the modelling (0.3% Appendix F) - research demonstrates that new road capacity in the form of expressways generally create a significant proportion of inducted demand. In the case of the Beaches Link Tunnel, it is likely that it will create new patterns of behaviours encouraging those who currently work in the city to consider moving to the Beaches. The increase in Vehicle Kilometres Travelled (Table 3-15, Appendix X) suggests that considerable induced demand will be created by the project however this does not appear to be carried over across all modelling i.e.) air quality, surface traffic and others.
- **No Local Access or travel time improvement for impacted communities:** The only local entry points for the Beaches Link is via Artarmon or Berry St North Sydney. This will result in very limited benefits and higher costs for locals who choose to use the tunnels with destinations of Manly or Dee Why e.g. 10 mins to get to entry point, 6 mins in tunnel, 15 mins from Seaforth or Balgowlah to Dee Why or Manly results in an approx. 31 min journey time. The current average peak hour journey time is approximately 30 mins (google maps peak average) between Northbridge and Dee Why without a toll. Whilst this does not account for population growth, population growth is offset by the fact that the Beaches can expect a 20%+ increase in traffic and therefore slower local transit times especially around the new Hospital area and along Wakehurst Parkway (EIS states a 12% decrease in travel speeds Appendix F, pg 352).
- **Does not address local congestion on the North Shore and appears to make it worse:** The EIS makes it clear that this is not a local congestion solution – several local intersections fail or will experience a worse level of service both during and after construction as a result of the project.
- **Does not address Military Rd congestion issue**: Once the Western Harbour and Beaches Link projects are built the EIS demonstrates that Military Rd will sit at roughly the same level of traffic as today (see diagram below) and be slightly worse ten years after opening. The project predicts a 10% reduction based on FUTURE predicted traffic volumes and not based on today's traffic numbers. The general public believe that the 10% figure is based on today's traffic and that the reduction will enable an urban renewal along the length of Military Rd – the promotion of this figure has been somewhat misleading. The assumptions included in modelled traffic growth are not made available in the EIS. The EIS states that the growth rate without the project by 2037 "is 13% into the Beaches and 12% along Military Rd". However, Appendix X, Table 8.2 indicates that there is a further 8.9% growth in peak hour traffic demand by 2037 above a future do nothing scenario across the Beaches Screenline if both tunnels proceed. This potentially represents a 20%+ growth in traffic for the Northern Beaches after the tunnels are built. It should be noted that a road that is already at capacity is self-limiting i.e.) future growth cannot overreach the ceiling capacity of the road and therefore a travel time saving, or reduction cannot be claimed on the basis of a figure above the ceiling capacity. Anecdotally Military Rd is reaching capacity however data for Military Rd with and without the project has not been provided. It is therefore impossible to verify the claim that a 10% reduction based on future increased volumes is possible. Further data should be provided to verify this claim and the public should be provided with clearer information on what the project can and cannot achieve compared to today's level of service along this corridor.

- **Increased Traffic to Beaches and around Warringah Freeway**: Forecast Traffic Volume Difference Plots (Appendix F; Annexure B) demonstrate a higher level of traffic in and around the Warringah Freeway and delivered to the beaches as a result of the cumulative projects. The increased traffic around the Warringah Freeway can be explained due to increased trip numbers, combined with extensive local access changes to the Freeway, for example **"**The intersection of Ben Boyd Road and Military Road has the potential to operate with higher delays as a result of the Warringah Freeway Upgrade due to the reconfiguration of Warringah Freeway, which would change the accessibility of the Ernest Street ramps to and from the Warringah Freeway. Traffic that currently uses the Ourimbah Road corridor as an alternative to Military Road would no longer be able to access the same destinations that are currently accessible from Ernest Street." This situation does not improve as a result of adding on the Beaches Link. The plots show a larger proportion of traffic through the tunnels than appears to be distributed and so it appears not all surface road impacts have been modelled. This is further enforced by the fact that key local corridors i.e. Military Rd, Willoughby Rd and Eastern Valley Way have not been included in the Operational Modelling Area. Ultimately, the project appears to transfer pinch points to alternate locations rather than solving congestion issues.
- **The project increases capacity especially for freight through school zones and residential areas**: the EIS prioritises freight and through traffic as a goal of the project above local trips. A very low level of freight is currently serviced by Military Rd i.e.) approx. 8%. The increased freight through the project indicates either a significant induced demand or referral from other routes currently in use. We are seeing an increase in diesel reliance in Australia around heavy vehicles, and this means bringing more of these vehicles through school zones and sensitive receivers rather than looking to alternative options. This project creates induced demand for heavy vehicles. Whilst these vehicles will predominantly be underground their emissions won't and in the event of allowable toll avoidance those vehicles have a high probability of ending up on local streets.
- **A 30-Minute City gone wrong**: the project is in part justifies itself by demonstrating support for the Greater Sydney Commissions "30-Minute City" concept however this is based purely on creating greater vehicle-based access to existing job centres. The intent of the Greater Sydney Commissions 30-Minute city is however, to encourage local job centres and greater use of public and active transport to reach job centres. Whilst some public transport is improved by the project many trips are adversely affected and as our population grows it does not incentivise the uptake of space efficient and low emission forms for transport. In the 2016 census[6] there were no workers (or an insignificant number) from the Northern Beaches who had work destinations in the Inner West or Central West therefore the tunnel users are in the majority going to have destinations of Sydney/North Sydney. In 2016 work destinations from the Northern Beaches were 18.1% City, 5.2% North Sydney, 2.8% Ryde, 1.3% Mosman and 1.3% Parramatta with the majority (52.1%) staying to work locally. In contrast a far larger number and proportion of workers in North Sydney (39.9%, 16, 098) and Willoughby (32.6%, 11, 843) travel into the City for Work. It seems counter-productive to prioritise through traffic (by substantially reducing local access to Harbour crossings and limiting access to the tunnels) as compared to local traffic which tends to have a higher number of workers trying to get to the city and further West. Unless of course the government is wanting to encourage workers from further afield to move to the Northern Beaches?
- **It is not a dedicated public transport solution**, there is no dedicated bus lane in the tunnel so it cannot be classed as a public transport solution – express buses aren't express if they are going at the same speed as cars. The project alignment cannot be converted to rail – the project team have confirmed that the gradients are too steep amongst other issues. And the justification on the basis of creating a 30-Minute City does not take into account that the Northern Beaches currently has the highest employment containment in the Northern District at 52.1% This containment is something to be encouraged rather than reversed as it fits with the vision of the Greater Sydney Commission to create local job centres. Prior to Covid RMS data shows that the daily average traffic across the Spit Bridge had been decreasing for the last 4 years due to the successful implementation of the B-Line, while during the same period the traffic on Mona Vale Road through to Macquarie Park has been increasing. The Beaches Link is addressing an ever-decreasing problem as less people are travelling to and from the city from the Northern Beaches. A dedicated public transport alternative along the Dee Why to Chatswood or Mona Vale Rd to Macquarie Park would better address traffic trends and relieve congestion.
- **Parking at breaking point:** The City of Sydney is promoting active transport and a decongested city by converting roads to cycleways and roads to pedestrian zones. Less parking is available and as such an increase in commuters heading toward the city will result in the need for more parking. It is foreseeable that commuters will disembark the toll road at the North Shores transport hubs and look for parking in already congested streets around North Sydney, Crows Nest, Artarmon and St Leonards. These areas are already at saturation point with local commuters who are travelling to work destinations. Providing a link into the mass transit network as a first priority would alleviate this conflict.
- **What happens when the Tunnel Closes:** there has been no modelling of traffic implications when the tunnel is closed for maintenance which occurs roughly monthly or in the event of an accident or unexpected issue. Given the induced demand expected this will likely create gridlock across the lower Beaches and North Shore far in excess of what it currently experienced.

[6] https://profile.id.com.au/northern-beaches/residents

Military Rd's traffic level the same or worse than today according to EIS



Before Approval

- Publish the data that underpins the travel time savings and congestion reductions claimed in the form of a business case
- Reassess these claims with toll avoidance, induced demand and up to date data/ Covid impacts included
- Re-assess the impacts on local roads and include Military Rd, Willoughby Rd and Eastern Valley Way in the operational assessment – include the ceiling capacities of each road
- Complete and publish an alternative mass transit study which demonstrates that the project is a superior option in terms of travel time savings, VKT's, emissions, congestion and access to work.

Conditions of Approval

- **The project provides an opportunity to reconnect a fragmented area and provide for better active transport links in the future. Require as a condition of approval a substantial investment in a joined up active transport network between Willoughby, North Sydney and the City via Naremburn and Cammeray. This might include a aesthetically in keeping and sustainably built skyway to address terrain, pollution and safety issues – separating active transport users from traffic**
- **There is an opportunity to regain a sense of place by rectifying some of the dislocation caused by the Warringah Freeway and Gore Hill projects and re-connect Naremburn between Flat Rock and the Shops via a land bridge**
- **There is an opportunity to engage in urban renewal with a substantial drop in traffic expected on Brook St. Given the high-level impacts that the area will again experience some tangible local benefit is warranted. Consider removing the Flat Rock Gully Road and return it to pre-Warringah Freeway conditions – opening up opportunities for parking, more sports fields whilst restoring the bushland which acts as a buffer for the Gully.**
- **Implement traffic calming measures on Brook St and once operational place a permanent set of lights at Slade St to prioritise the safe egress and ingress of local traffic. A one-way system should not be added as residents already have very limited options as far as moving to and from their homes. Local residents should not be penalised – with a drop in through traffic there is considerable opportunity to reverse the priority of the road corridor to service local traffic rather than through traffic.**

Objection 8: The Climate and Sustainability Profile of the project is very poor and viable alternative solutions have not been seriously considered

- **The project induces demand/ increases vehicle reliance** - the EIS confirms that vehicle use will increase along the corridor if the project goes ahead ie) it creates induced demand. Measured in Vehicle Kilometres Travelled (VKT) without the project there would be a future predicted 13 633 873 VKT per day, with the project there would be 13 945 836 and with both the Beaches Link and Western Harbour Tunnel there will be 14 584 266 VKT per day by 2037. This represents a 6.5% increase overall in vehicle reliance measured as VKT.
- **The project contradicts governments own climate change goals**: the councils along the route have all declared a Climate Emergency and the State government has committed to the goal of achieving net zero emissions by 2050. The combined total emissions during the construction phases of the WHTBL will produce 1,521,365 tCO2-e. Whilst a public transport comparative has not been provided a comparable project of similar length (which crosses a harbour) will produce only 579, 280 t CO2-e during construction– the City and South West Metro (see Metro EIS Sustainability Chapter).Even the operational stage of the tunnels will produce more emissions ie 139,363 t CO2-e per year compared to the metro which will produces only 65, 835 t CO2-e per year (this excludes the motorists using the tunnel but includes electricity use to power lights, exits, ventilation fans, maintenance vehicles, water treatment etc.)
- **Road Tunnels have a high resource, waste and emission profile** as they are larger than rail/ metro tunnels, an Immersed Tube Design (crossing of Middle Harbour) increases environmental impacts and the route of this particular tunnel will cut through sensitive habitats, areas of variable foreshore geology and major Middle Harbour and Manly Dam catchments. The transport method chosen, the design and route selected lead to a higher level of impact than alternative options/ routes would.
- **Sydney already has a significant transport emissions problem:** Pre-Covid figures showed a steady increase in transport emissions over time and whilst there was an obvious dip due to Covid 19 in 2020 - road use has returned and there are no policies in place to directly address this issue. Transport emissions impact our health both directly and indirectly.
- **Sydney is out of space, tunnels to congested centres don't fix that, they create more parking pressure and pressure on our green spaces**. Trading our green space and natural environments for the sake of parking, stacks and tunnel entries is not a sustainable option. Cars need to come out of tunnels at some point and increasing the number of cars travelling to our city centres sand work hubs simply puts more pressure on urban centres
- **The EIS does not benchmark the project against a public transport alternative** or external standards. The assessment relies on self-assessment against a worse-case scenario for the project and focuses on the margin of emissions before and after the project rather than demonstrating that it is the best option to address our growing emissions problem.
- **Government legislation is not met by the project:** The principles of ecologically sustainable development are not met by the project. Ecologically sustainable development is defined under the ***Protection of the Environment Administration Act 1991*** **(NSW)** in terms of intergenerational equity, the conservation of biological diversity and ecological integrity and the improved valuation and pricing of environmental resources
- **No accounting for loss of major carbon capture ecosystems:** No consideration has been made of impact of loss of, or harm to, sea grasses and mangroves from increases in marine pollution, nor the harm/destruction to trees and vegetation where there is a material change in groundwater level through drawdown. There is a material drawdown of more than 20 metres in Northbridge (28m), Flat Rock Reserve (21m) and Willoughby Leisure Centre (22m). Mangroves are carbon capture powerhouse's, and any loss will have a significant impact on carbon exchange across the project.
- **Toll road tunnel contracts incentivise car use:** all previous toll road contracts in Sydney have included (at least) annual increases over a period of 40-50 years. The toll contracts need to be fed which provides a disincentive to the provision of public transport options. It is unclear whether privatised buses will be able to use or afford the toll road.
- **Transport emissions our second fastest growing emission sector after energy and EV uptake alone won't fix the problem:** The climate council reviewed Australia's transport emissions and concluded along with other analysts that transport emissions are our fastest growing emissions sector and there is little being done to arrest the trend. EV uptake will go some way to help but it is not the fix all solution. Australia has a very poor regulatory framework when it comes to transport emissions: we have some of the poorest new car fuel standards worldwide, no real incentives in place toward cleaner sources and we have increasing diesel reliance when other countries are banning due to it's classification as a carcinogen and it's pollution contribution. We also have a burgeoning second-hand car market and a long retention rate when it comes to our cars. With population growth, current planning practices and poor EV policies it is unlikely that we will see a change to the growing transport emissions trend by the time this project opens.
- **A rail-based solution** for the Northern Beaches has been proposed in numerous plans: the Bradfield Scheme (1920's), Sydney Area Transportation Study (1974), Christie Report (2001). The solution the beaches have waited for decades it is a rail solution rather than a road-based solution - that has been planned for over 100 years. The Beaches need a solution and the congested corridors between are crying out for more public transport. The Roseville Bridge Corridor is more congested and more underserviced by public transport than the Spit/Military Road corridor. The City and South West Metro currently being built will carry an additional 100,000 people per hour and will run every 4 minutes during peak; and will get to Barangaroo in 9 minutes. This a comparable distance to the Chatswood to Dee Why corridor. A

mass transit option along this alignment would take pressure off both Military Rd and Roseville Bridge/ Eastern Valley Way and provide a fast access route to the city without the pollution and local congestion impacts. Additionally, this route could be complemented by a metro under Military Rd (previously announced). A large proportion of traffic is local -taking local commuters off the corridor makes way for local trips and results in better renewal opportunities as local businesses thrive due to improved accessibility from local commuters. Provision has been made at North Sydney for this option to be bolted on at a later stage. Before spending $14bn on a toll road with very questionable benefits this and the Dee Why to Chatswood option should be fully scoped, compared across all criteria and presented to the community for feedback.

Before Approval

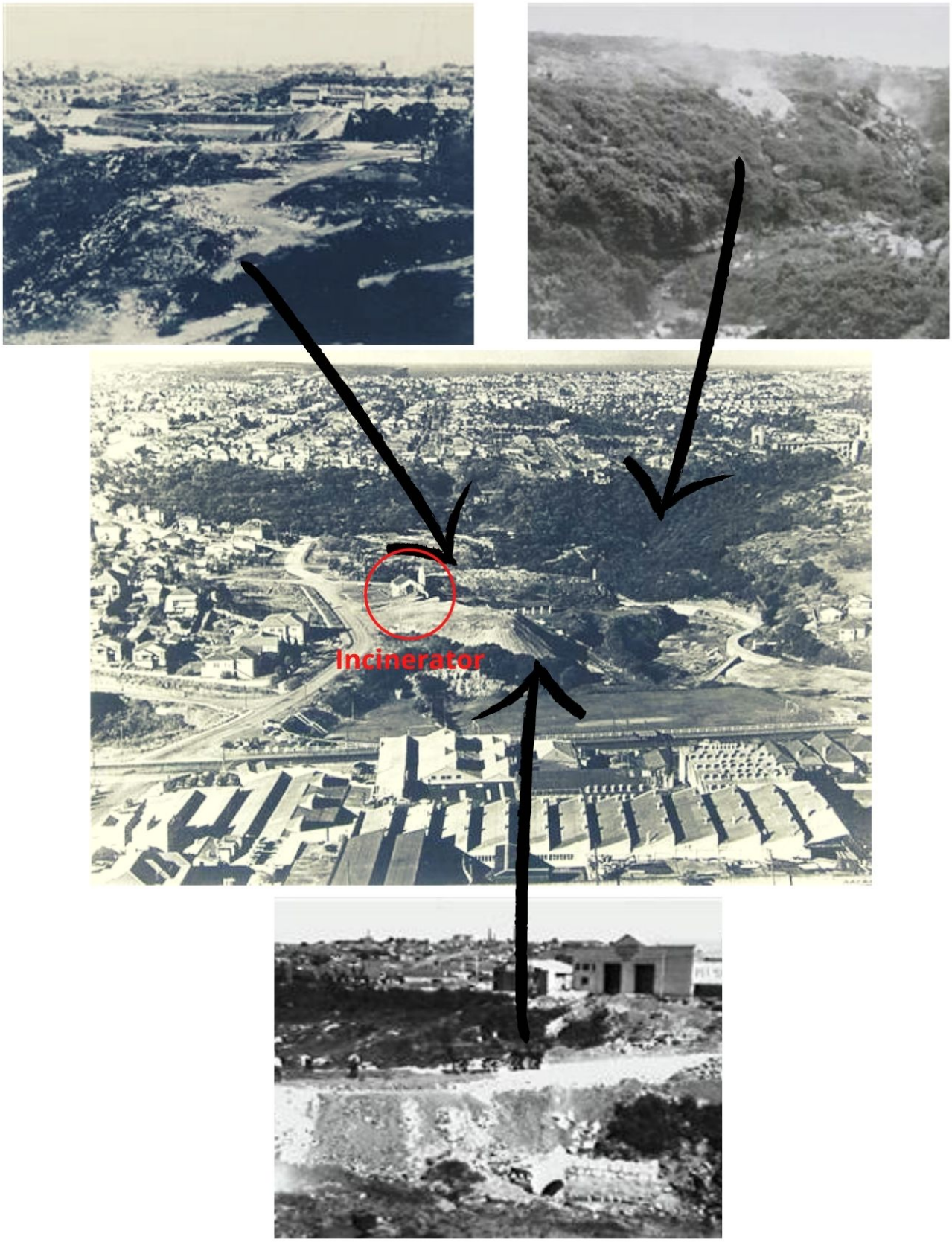
- Complete and publish a public transport alternatives study which includes a comparative assessment of resource use, waste and emissions
- Re-publish the EIS with amendments for public consultation demonstrating that the amended project will meet: *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (the Kyoto Protocol) (UNFCCC, 1998), *Doha Amendment to the Kyoto Protocol* (UNFCCC, 2012), *Paris Agreement* (UNFCCC, 2015), *National Greenhouse and Energy Reporting Act 2007* (Cwlth), *Direct Action Plan* (Australian Government, 2014), *NSW Climate Change Policy Framework* (OEH, 2016a), *Environmental Sustainability Strategy 2019-2023* (Roads and Maritime Services, 2019) and *Protection of the Environment Administration Act 1991* (NSW). This is not currently demonstrated.

Conditions of Approval

- Mandate renewable energy usage
- Mandate a minimum level of recycled material usage
- Mandate the full lining of the tunnels to prevent water drawdown, ingress and wastewater
- Provide for electrical vehicle charging at construction sites
- Require Diesel vehicles to be fitted with pollution control devices
- Do not allow a “conflict” clause in toll road contracts preventing the development of public transport
- Mandate the incentivising of electric vehicles via the tunnels eg) tolls, preferential access
- Return the same number of trees and green spaces to local areas (not offset locations)
- Fully rehabilitate the Flat Rock Gully Reserve tip site and the Creek and return it to a better condition than currently with contaminated spoil and leachate removed. Ensure the Reserve is returned to bushland to support biodiversity and act as robust capping for the tip to avoid future leachate release.
- Ensure wastewater is treated for all known contaminants before release and the highest level of water quality is achieved before dispersal. Reduce the high potable water usage requirement on site.
- Provide for alert style monitoring at local sports field, bushland and waterways/ creeks
- Mandate the provision of a dedicated bus lane in the tunnel
- Provide for construction and operational parking solutions that do not encroach on green spaces
- Provide for guaranteed protection of mangroves and seagrasses ie) full length silt curtains, real time water quality monitoring and rehabilitation if required.
- Ensure consultation with key groups in the community ie) The Bicentennial Reserve and Flat Rock Gully Committee, Save Flat Rock Gully committee, WEPA, local school P&C’s and Progress Associations as well as Middle Harbour environment and community groups.

Before the tip

PHOTO CREDIT: WENDY GREENAN/FACEBOOK/
WILLOUGHBY CITY COUNCIL



During the tip

PHOTO CREDIT: WILLOUGHBY CITY COUNCIL

Bicentennial Reserve and Flat Rock Reserve after remediation

Shows the site east of Flat Rock Drive was remediated and was definitely part of the tip! This is the proposed dive site area!

Proposed dive site area

After the tip

PHOTO CREDIT: WILLOUGHBY CITY COUNCIL

See our You Tube Video: https://www.youtube.com/watch?v=CnK9X-plcPU or facebook: https://www.facebook.com/groups/490800731366523