JULY 2024

Taronga Zoo Sky Safari

Appendix C
EIS Report
Mitigation Measures Table

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For the Wild

The following section provides recommendation for mitigation measures in response to potential impacts identified in **Section 6** of the EIS. The structure of mitigation measures is based on the DPHI's hierarchy of approaches for managing impacts identified in the *Draft Environmental Impact Assessment Guidance Series* released by DPE in June 2017, as:

- **Performance based measure** – identify performance criteria that must be complied with to achieve an appropriate environmental outcome but do not specify how the outcome is to be achieved.
- **Prescriptive measure** – require action to be taken or specify something that must not be done.
- **Management based measure** – identify one or more management objectives that must be achieved through the implementation of a management plan.

Following the implementation of appropriate mitigation measures as recommended, it is determined that the proposal will not result in any significant adverse impacts on the surrounding environment. The following table illustrates how the matters raised within the SEARs will be addressed.

This analysis comprises a qualitative assessment consistent with AS/NZS ISO 31000:2009 *Risk Management–Principles and Guidelines* (Standards Australia 2009). The level of risk was assessed by considering the potential impacts of the proposed development prior to application of any mitigation or management measures. In accordance with the SEARs, the Environmental Risk Assessment (**ERA**) addresses the following significant risk issues:

- The adequacy of baseline data;
- The potential cumulative impacts arising from other developments in the vicinity of the site; and
- Measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

Risk comprises the likelihood of an event occurring and the consequences of that event. For the proposal, the following descriptors were adopted for 'likelihood' and 'consequence'.

Likelihood		**Consequence**	
A	Almost certain	1	Widespread and/or irreversible impact
B	Likely	2	Extensive but reversible (within 2 years) impact or irreversible local impact
C	Possible	3	Local, acceptable or reversible impact
D	Unlikely	4	Local, reversible, short term (<3 months) impact
E	Rare	5	Local, reversible, short term (<1 month) impact

The risk levels for likely and potential impacts were derived using the following risk matrix.

CONSEQUENCE	LIKELIHOOD				
	A	**B**	**C**	**D**	**E**
1	High	High	Medium	Low	Very low
2	High	High	Medium	Low	Very low
3	Medium	Medium	Medium	Low	Very low
4	Low	Low	Low	Low	Very low
5	Very low	Very low	Very low	Very low	Very low

The results of the environmental risk assessment for the proposed development are presented in the below table and are based upon the range of technical and specialist consultant reports appended to the EIS. The table has directly related mitigation measures responding to each impact also based upon the range of technical and specialist consultant reports appended to the EIS.

N.B. **'O' – Operational; 'C' – Construction**

'Pe' – Performance based mitigation measure; 'Pr' – Prescriptive based mitigation measure 'Ma' – Management based mitigation measure

SEAR	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
Built Form, Urban Design and Visual Impacts	Built form scale and appearance will be readily visible when viewed from Sydney Harbour and other key public vantage points.	O	A	3	Medium	Investigation of materiality and colours that facilitate 'blending in' with the natural environment of Taronga Zoo e.g. non-reflective materials and natural colours and screening storage, motor units and other similar infrastructure from public view. Compliance with Australian Standard AS4282-2019 'Control of the obtrusive effects of outdoor lighting' is implemented to reduce light spillage and glare through the placement and design of lighting. Maintain substantial planting within the Zoo grounds.	Pe	Aspects of the proposal may be visible above the tree canopy from public view points
Public Space	Increase safety and reduce crime risk	O	B	3	Medium	Ensure that signage is designed for universal legibility to help visitors navigate spaces.	Pe & Ma	Safety of guests

						Management of plantings to maintain sightlines and avoid concealment Ensure that building and pylon surfaces do not include elements that can serve as footholds or handholds that could enable unauthorised access or climbing. Engage with Mosman Council and Transport NSW early in the process to clarify roles and responsibilities for management and crowd control at the interchange of the ferry wharf, bus stop, and Sky Safari Lower Station at Athol Wharf Road.		
Landscaping and tree removal	Construction impacts on retained trees at the site.	C	C	3	Medium	A site-specific tree protection plan should form part of the final Construction Management Plan detailing the location of tree protection fencing, inspection and reporting protocols and any areas where ground protection will be required. All pruning must be conducted in accordance with AS4373-2007- The Pruning of Amenity Trees.	Pe	Loss of existing landscape and highly significant trees

						No underground services are to be located within the TPZ or SRZ of any tree to be retained. All tree protection measures must be undertaken in accordance with the relevant Australian Standards. All trees proposed for removal are to be replaced locally endemic or non-endemic and correspond to the landscape character of Taronga Zoo. Offset plantings should include indigenous tree species of the Mosman area. The new trees should have the potential to reach a significant height without excessive inconvenience and be sustainable into the long term, significantly improving the potential of the site to contribute to local amenity and character.		
Traffic & Transport	Impacts on road network from construction and operational phase	C & O	D	4	Low	Traffic control would be required to manage and regulate construction vehicle traffic movements to and from the Site during construction.	Ma	Management of traffic and transport impacts specifically during the construction phase and ongoing operation.

						Implement specific traffic management measures during peak days Implement Green Travel Plan		
Biodiversity	Unnecessary removal or damage to the TEC's or other retained vegetation	C	D	3	Low	Prior to construction, develop a Construction Environmental Management Plan (CEMP) with relevant mitigation measures to ameliorate potential impacts to biodiversity values outside of the development area. The CEMP should include: ▪ Sediment and Erosion Control ▪ Tree Protection ▪ Stormwater management	Pe	Unnecessary damage to trees to be retained
Noise	Adverse noise generation during construction on surrounding neighbours	C	C	3	Low	The following project-specific mitigation measures are recommended during construction: ▪ Ensure that construction work including general demolition, site preparation, bulk earthworks, construction and construction-related activities is restricted to the stated normal working		Management of noise impacts on surrounding noise sensitive receivers specifically during the construction phase

						hours with high noise-generating activities scheduled to be undertaken when background noise, including local road traffic, is high to provide masking to construction noise. ▪ Inform surrounding neighbours ahead of time of the intended scope of works regarding noise. ▪ Excavating of rock, and the use of jack-hammers, pile-drivers, vibration rollers/compactors or the like is to occur on weekdays where practicable or at intervals during the day. ▪ Where practical, earth mounds or screening will be constructed in sensitive locations, to act as acoustical barriers and to minimize noise emissions. The Contractor shall monitor noise and vibration objectively of plant and sensitive receptors. The results of		

						these tests shall be recorded on a regular basis.		
Noise	Adverse noise generation during construction on surrounding neighbours	C	C	3	Low	The following project-specific mitigation measures are recommended during construction: ▪ Ensure that construction work including general demolition, site preparation, bulk earthworks, construction and construction-related activities is restricted to the stated normal working hours with high noise-generating activities scheduled to be undertaken when background noise, including local road traffic, is high to provide masking to construction noise. ▪ Inform surrounding neighbours ahead of time of the intended scope of works regarding noise. ▪ Excavating of rock, and the use of jack-hammers, pile-drivers, vibration rollers/compactors or the like is to occur on		Management of noise impacts on surrounding noise sensitive receivers specifically during the construction phase

						weekdays where practicable or at intervals during the day. ▪ Where practical, earth mounds or screening will be constructed in sensitive locations, to act as acoustical barriers and to minimize noise emissions. ▪ The Contractor shall monitor noise and vibration objectively of plant and sensitive receptors. The results of these tests shall be recorded on a regular basis.		
	Operational noise	O	C	4	Low		Pr	Risk of disturbance from cumulative facilities that has the potential to cause impact to nearby sensitive receivers.
Water, Drainage and Stormwater	Adverse impact on the quality of stormwater runoff	O	D	2	Low	Stormwater treatment devices should be incorporated in the design to manage surface runoff with additional treatment incorporated into the existing stormwater system.	Pr	N/A

	Adverse impact on ground water quality							
Heritage	Adverse impact on the heritage significance of the site Adverse impact on the heritage significance of the locality Damage to archaeological relics	C & O	C	2	Medium	During construction: ▪ Ensure appropriate protection for all built and landscape elements proposed for retention in proximity to any building works as part of the construction phase. ▪ Although considered highly unlikely, should any Aboriginal objects, archaeological deposits be uncovered during any site works, a Chance Find Procedure must be implemented. In the unlikely event that human remains are uncovered during any site works, a Human Remains Procedure must be implemented.	Ma	All works are respectful of the significance of Taronga Zoo.
Aboriginal Archaeology	Disturbance to sub-surface objects and artefacts.	C	C	2	Medium	An Archaeological Research Design & Methodology is to be prepared for the sub-surface investigation of the identified landscape features and their potential for	Pr	Potential destruction of sub-surface objects are artefacts that have cultural value.

						retaining Aboriginal objects and archaeological resources.		
	Construction workers/ contractors inappropriately handling or destroying potential artefacts or items of significance.	C	C	2	Medium	Induction materials be prepared for inclusion in site inductions for any contractors working at the subject area.	Pr	A lack of education awareness could result in a contractor not following the correct procedure when finding a potential artefact or item of significance.
	A recovered item is not respectfully handled upon being found on site.	C	D	2	Low	Aboriginal objects recovered from the test excavation program will be reburied within the study area, outside the proposed impact area.	Pe	A recovered item is not respectful reburied on site in line with the methodology as presented in the ACHA.
Construction Impacts	Adverse construction impacts on animals and neighbouring properties	C	C	3	Medium	Keep staff and visitors informed of construction works with flyers and notice board. Provide alternative routes for pedestrians. Environmental impact measures to be employed (dust suppression for concrete items). This includes ensuring any dust caused by the works is reduced to a minimum.		Impacts on the amenity of neighbouring properties.

						Areas worked in by Contractors will be adequately screened to prevent dust spreading to neighbouring buildings via the installation of pre filters. Limit use of heavy breakers with respite periods. All works carried out in daytime work hours. Deliveries to the site will be carried out in accordance with the work hours as approved by the development consent approvals and Traffic Management Plan. Develop and implement an ongoing Stakeholder and Community Communication Plan for implementation during the construction period. This document is to include communications relating to upcoming noisy construction works		
Bushfire	Impact to the proposed development by threat of bushfire.	O	D	4	Low	The *Taronga Emergency Response Plan* should be updated to reflect changes new Sky Safari.	Ma	Potential damage to life and property as a result of threat from bushfire and

								inappropriate mitigation measures.
Waste Management	Amassing of waste as a result of both construction and operation	C & O	C	4	Low	Practical building design and construction techniques, including construction staging and ordering pre-cut materials at the required sizes. Appropriate collection and subsequent reuse, recycling or treatment offsite for items such as batteries, cardboard, timber, plastic, glass etc. during construction, demolition and operational phases. Careful on-site storage, sorting and separation of different waste products, especially for waste appropriate for recycling and reuse. Returning certain waste products (e.g. packaging) to the suppliers where possible. Acquiring materials and goods from waste reducing sources (e.g., recycled materials, fit for purpose packaging, leased equipment and machinery).	Pr	Threat of incorrect disposal of waste streams which have potential for environmental risk.

						Other operational, waste reduction and management practices (e.g., provision of take back services to clients, flattening cardboard waste, recycle collection in offices and tearooms). Hiring of qualified contractors for handling waste removal properly informing sub-contractors of waste management procedures. Waste Storage and Management during the demolition, construction and operational phases is to be undertaken in accordance with the Waste Management Plan		