Hornsby Park Master Plan
Stage 1

Review of
Environmental Factors (REF)

27 April 2023

Executive Summary

Followng adoption of the Hornsby Park Master Plan in July 2021, Hornsby Shire Council (HSC) resolved on 8 March 2023 to undertake Stage 1 Embellishment Works for Hornsby Park (the 'proposal'). It has been determined that the proposal can be approved under Part 5 of the New South Wales (NSW) *Environmental Planning and Assessment Act 1979* (EP&A Act).

The proposal is outlined in Appendix C, Attachment A and includes:

1. Crusher Plant Platform:
   Provision of a formal lookout that provides views across the site and more particularly within the Quarry Void. Construction of car park, toilet facilities, services, lawn area and space for a coffee cart. A possibility for a small playground is also an option

2. Canopy Sky Walk and Cable Bridge
   Provision of a 2.4m wide canopy skywalk and cable bridge that connects Hornsby Town Centre to the Crusher Plant precinct on a fully accessible pathway immersing visitors into the bush. The canopy skywalk and cable bridge sit about 25-30 metres above the ground and would cover a total distance of approximately 965m (one way). Views of the bush, mountain bike trails and the Heritage Steps will be available from these works. Lift and stairs preserve the opportunity to connect to Old Mans Valley when that is developed later.

3. Northern Mound Lookouts
   Construction of formal lookout / bird hide on the Northern Mound, and formalisation of associated walking trails, under the guidance of the Vegetation Management Plan (HSC, 2020).

4. Western Lookout
   Construction of a formal lookout / bird hide on the Western Mound, and formalisation of associated walking trails, under the guidance of the Vegetation Management Plan (HSC, 2020).

5. Crusher Plant Admin Building
   Renovations to the existing admin 'weigh bridge' building at the former Crusher Plant to provide construction and site management facilities, public amenities and such that it can be used as a 'safer place' for members of the public where rapid bushfire impact is likely.

6. Enabling Services
   Electrical, comms, water and sewer services to support the above.

The proposal is expected to generate 35 vehicles in the critical weekend peak between 11.00am and 12.00pm, however the road network has sufficient capacity to support the Stage 1 Hornsby Park development, acknowledging that the slight and insignificant impacts that would be experienced between now and when Stage 1 works are implemented will mainly be due to the growth in background traffic. There may also be minor increases to parking demand due to an increase in visitation accessing the proposed activity area during operation. Approximately forty (40) parking spaces will be provided near the crusher plant, which will cater for the anticipated parking demand in Stage 1.

The proposal will result in a number of impacts to environmental values, including impacts to threatened species and vegetation communities.

An Ecological Impact Assessment (EIA) was performed in 2022 by Anderson Environmental to expand on the previous assessments performed ahead of the Development Application for the earthworks. The assessment identified the possible additional impacts should all the Master Plan elements be delivered. These impacts are detailed in Table 4.1 of the EIA (Appendix C, Attachment D).

The proposal covers only a portion of the EIA impacts. As shown by Table 1 below, a total of 1.15ha of vegetation will be disturbed for the proposal.

Table 1. Proposal Impacts to Native Vegetation.

Proposal Impacts Total	Area (ha)			
	Blue Gum Diatreme Forest	**Blackbutt Gully Forest**	**Exotic Vegetation**	**Total**
Quarry Road Footpath (Enabing Services)	-	0.04	-	**0.04**
Canopy Skywalk & Cable Bridge	0.01	0.18	0.01	**0.20** [A]
Canopy Skywalk (piers)	0.01	0.38	0.01	**0.40** [B]
Ancillary Tracks	0.25	0.07	0.17	**0.49** [C]
Fire Trail	0.01	-	-	**0.01**
Total	**0.29**	**0.67**	**0.19**	**1.15**

The relative condition of the vegetation within the total of 0.29ha of Blue Gum Diatreme Forest and the 0.67ha of Blackbutt Gully Forest have been mapped, per Tables 3 and 4 below.

Table 2. Proposal Impacts to Blue Gum Diatreme Forest.

Proposal Impacts Blue Gum Diatreme Forest	Area (ha)			
	moderate-good high	**moderate-good medium**	**moderate-good poor**	**Total**
Quarry Road Footpath (Enabling Services)	-	-	-	**-**
Canopy Skywalk & Cable Bridge	-	-	0.01	**0.01** [A]
Canopy Skywalk (piers)	-	-	0.01	**0.01** [B]
Ancillary Tracks	0.15	0.02	0.08	**0.25** [C]
Fire Trail	-	-	-	**0.01**
Total	**0.15**	**0.02**	**0.12**	**0.29**

Table 3. Proposal Impacts to Blackbutt Gully Forest.

Proposal Impacts Blackbutt Gully Forest	Area (ha)			
	moderate-good high	**moderate-good medium**	**moderate-good poor**	**Total**
Quarry Road Footpath (Enabling Services)	-	-	0.04	**0.04**
Canopy Skywalk & Cable Bridge	0.02	-	0.16	**0.18** [A]
Canopy Skywalk (piers)	0.32	-	0.06	**0.38** [B]
Ancillary Tracks	0.07	-	-	**0.07** [C]
Fire Trail	-	-	-	**-**
Total	**0.41**	**-**	**0.26**	**0.67**

Notes to tables 1,2 and 3:

A – the Canopy Skywalk and Cable Bridge sections pass through the canopy and, following extensive redesign specifically to minimise the impact, require minimal removal of native vegetation, as noted in Appendix C Attachment C.

B – each Pier will have an impact area of 2.5m radius from the centre of each pier for the pier footing, a further 2.5m radius cleared area for installation around the pier, four (or three, depending on terrain at each location) anchor points for support cables with a 2.5m radius impact area and a 1m wide access path for construction staff and equipment between the central pier construction area and the cable anchor points. This gives a total direct footprint of 172.2m^2 for each Pier, and this is represented in the total impact shown in Table 1 above. However, only the central pier construction will result in permanent loss of native vegetation, with the remaining impact footprint to be rehabilitated following works.

C – the Ancillary Tracks to the Northern Mound and Western Lookouts follow the path of existing sewer easements or of former quarry roads / tracks and, as such, the impacts for the proposal will predominantly cover weed removal and track rehabilitation.

Irrespective of the condition of the impacted vegetation, compensatory measures will be implemented for the loss of native vegetation in line with the Biodiversity Offsets Strategy, Hornsby Quarry Rehabilitation, DA/101/2019 (HSC 2020).

The Crusher Plant Platform and Crusher Plant Admin Building proposal works are within vegetation which falls within the scope of the existing Hornsby Park Vegetation Management Plan and Habitat Enhancement and Creation Plan (HSC 2020). The works will therefore be managed with reference to that, the EIA and to the Arboricultural Impact Assesssment Report (Appendix C, Attachment K).

The Enabling Services proposal works will all be within existing road and fire trail corridors.

There is some potential for minor short-term impacts to the physical environment to occur, including an increase in noise and vibration and a decrease in air quality due to increased dust.

Key measures will be implemented to avoid or minimise any potential environmental impacts that are associated with the proposal. These include:

- All mitigation measures within Section 3 Subsection 3 of the REF will be implemented as applicable during the construction or operational phase of the proposal, except where a conflict with the site Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020) exists.
- A strict hygiene protocol is essential to prevent the spread of pathogens, including Phytophthora cinnamomi, Myrtle Rust and weed propagules Procedures and guidelines musts include disinfecting machinery, Personal Protective Equipment, tools and equipment prior to entering and when leaving the site,
- High-impact works involving machinery, or in close proximity to the known breeding location of the Powerful Owl shall be restricted to outside the breeding season (April-October),
- Works in the vicinity of the identified rockshelter/PAD site (AHIMS ID#45-6-4077) near Quarry Road must be managed to ensure works do not result in any direct and/or indirect impact to the site. The proposed embellishment works, including any required heavy plant/machinery, should be reviewed by a qualified engineer to determine if any vibration is likely to exceed acceptable thresholds in the vicinity of the rockshelter,
- All works will be undertaken during standard construction hours, being Monday to Friday 7am to 6pm and Saturday 8am to 1pm. OR where practical, undertake the disruptive works (those causing the most significant noise and vibration impacts) during the standard work hours,

In addition, Construction Management Plans (CMPs) will be prepared by the successful tenderers in consultation with Council. The CMPs will address:

a) Operational and community consultation protocols and contact points.
b) Construction Traffic and Pedestrian Management Plan
c) Construction Noise and Vibration Management Plan
d) Construction Waste Management Plan
e) Construction Soil and Water Management Plan
f) A Tree Protection Plan (TPP) prepared by an AQF 5 Arborist in accordance with any approved Arboricultural Impact Assessment and tree location plans
g) An Air Quality and Dust Management Plan describing all methods to minimise dust generation during all works
h) An unexpected finds protocol for contamination and associated communications procedure
i) An unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure

This assessment considers that impacts to environmental values are manageable and not significant. As a result, the proposal is unlikely to significantly affect the environment and an EIS or Species Impact Statement is not required.

Review of Environmental Factors (REF)

Assessment under Part 5 of the Environmental Planning and Assessment Act, 1979

Reviewed September 2022

Hornsby Park Embellishments - Stage 1

27 April 2023

Table of Contents

Introduction

The Environmental Planning and Assessment Act, 1979, requires that an environmental assessment is carried out prior to the commencement of any development, work or activity. The assessment is usually in the form of a development application which is required for land uses that require development consent (Part 4 of the Act).

Part 5 of the Act requires an environmental assessment (or review of environmental factors) to occur for any work or activity that does not require development consent. Appendix A includes extracts from Part 5 of the Act.

A Review of Environmental Factors (REF) is a document which identifies and evaluates the impacts of an activity to decide if the impacts are likely to significantly affect the environment. A REF is designed to provide enough information to make an informed decision as to the likely significance of the impact of the activity on the environmental, social and economic aspects (including critical habitat or threatened species, populations or ecological communities, or their habitats). If the impacts are considered to be significant, then an Environmental Impact Statement (EIS) must be prepared and considered prior to a determining authority deciding if an activity is likely to proceed. REFs that relate to an issue that is controversial or will significantly affect the public may be placed on public exhibition. The proponent of the activity (e.g. Council) is responsible for completing the REF.

This template has been prepared to assist Council officers in assessing the potential impacts of activities and works and thereby fulfilling Council's responsibilities under the Environmental Planning and Assessment Act, 1979.

The steps in the process are:

1 Prepare a description of the proposed project including a discussion on alternative proposals considered.
2 Determine whether the proposal can be assessed under Part 5 of the Act (an REF) or requires the preparation of a Development Application and determine key planning issues by identifying what SEPPs/HLEP/HDCP parts and clauses are relevant to the permissibility and assessment of the proposal.
3 Have the Planning Issues section of this REF "signed off" by the Manager, Assessments.
4 Prepare the REF in consultation with relevant public authorities, other Branches of Council and consultants, if required.
5 Have the REF approved by their Branch Manager.
6 Commence the activity and ensure that any environmental safeguards are installed and maintained for the duration of the job in accordance with this REF and approval plans.

Some examples of environmental law to be considered through this process would include;

- Environmental Planning and Assessment Act (1979).
- Fisheries Management Act 1994
- Forestry Act 1916
- Heritage Act 1977
- Mine Subsidence Compensation Act 1961
- National Parks and Wildlife Act 1974
- Protection of the Environment Operations Act 1997
- Roads Act 1993
- Rural Fires Act 1997
- Threatened Species Conservation Act 1995
- Water Management Act 2000
- Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

Can the proposal be assessed under Part 5?

The first step is to determine whether the proposal can be assessed under Part 5, through an REF, or is a development application and assessment under Part 4 of the Act required. There are a number of environmental planning instruments that may need to be reviewed to determine this, including:

- State Environmental Planning Policy (Transport and Infrastructure) 2021;
- State Environmental Planning Policy (Resilience and Hazards) 2021;
- State Environmental Planning Policy (Biodiversity and Conservation) 2021; and
- Hornsby Local Environmental Plan 2013.

Hornsby Local Environmental Plan 2013

The Hornsby Local Environmental Plan (HLEP) 2013 is the principal governing environmental planning instrument that guides whether proposals can be assessed under Part 4 or 5. The Land Use Zones under Part 2 of the Plan specify development that is "permitted without consent" (i.e. activities), "permitted with consent" and "prohibited." Development "permitted without consent" requires an REF.

State Environmental Planning Policy (Transport and Infrastructure) 2021 (ISEPP)

ISEPP must also be reviewed to determine if the development or work under Part 2, Division 12 is classified as development "permitted without consent."

Development "permitted without consent" requires an REF. The Divisions of the ISEPP are listed below.

Any of the following development may be carried out by or on behalf of a council without consent on a public reserve under the control of or vested in the council:

- Development for any of the following purposes:
    - Roads, pedestrian pathways, cycleways, single storey car parks, ticketing facilities, viewing platforms and pedestrian bridges,
        - Recreation areas and recreation facilities (outdoor), but not including grandstands,
        - Visitor information centres, information boards and other information facilities,
        - Lighting, if light spill and artificial sky glow is minimised in accordance with the Lighting for Roads and Public Spaces Standard,
        - Landscaping, including landscape structures or features (such as artwork) and irrigation systems,
        - Amenities for people using the reserve, including toilets and change rooms,
        - Food preparation and related facilities for people using the reserve,
        - Maintenance depots,
        - Portable lifeguard towers,
    - Environmental management works,
    - Demolition of buildings (other than any building that is, or is part of, a State or local heritage item or is within a heritage conservation area).

Other Relevant State Environmental Planning Policies

Other listed SEPPs may also need to be reviewed (where relevant) to determine if the development or work is classified as development "permitted without consent", thereby requiring an REF.

Preparation of REF/Assessment

The REF should address the key issues as fully as practicable. However, the level of analysis should reflect the level of significance of the impacts and their importance for the proposal. Lesser attention should be given to those issues which have a lesser significance. Some issues may not be applicable and do not need to be addressed.

Section 1 Proposed Project

1. Title of Proposal

Hornsby Park Embellishments - Stage 1

2. Planning

2.1. Location (Lot and DP and/or GIS Coordinates), Name of Reserve (if appropriate)

Hornsby Park
Lot 7306/DP1157797, Lot 1/DP169188, Lot 2/DP169188, Lot A/DP318676, Lot B/DP318676, Lot C/DP318676, Lot D/DP318676, Lot E/DP318676, Lot 1/DP926449, and Lot 12/DP724459

2.2. Description of proposal

The Hornsby Park site (the 'Park'), comprising 59 hectares of bushland and open space incorporating the former Hornsby Quarry, has been identified for restoration and development as a significant regional level attraction park. The Park will be for both quiet enjoyment and recreation activities within a restored natural bushland setting.

Hornsby Shire Council (HSC) has embarked on the Hornsby Park Embellishments (HPE) Project, delivery of which will transform the former Hornsby Quarry into a unique new parkland. The proposed HPE Project will include the restoration of existing walking tracks, shared paths, lookouts, a carpark, toilet facilities and a canopy skywalk. See Appendix C, Attachment A for a plan of the works.

The proposed HPE Project aims to foster public appreciation, understanding and enjoyment of nature by providing and promoting increased, inclusive access to Hornsby Park for Hornsby residents and visitors. Siting and design of the proposed activity have been carefully selected to minimise impacts and ongoing maintenance and will ensure sustainable use by increased numbers of visitors planned for the area.

3. The Activity

3.1. Description of the activity/methods of construction

Stage 1, of the HPE Project will include:

1. Crusher Plant Platform:

Provision of a formal lookout that provides views across the site and more particularly within the Quarry Void. Construction of car park, toilet facilities, services, lawn area and space for a coffee cart. A possibility for a small playground is also an option.

2. Canopy Sky Walk and Cable Bridge

Provision of a 2.4m wide canopy skywalk and cable bridge that connects Hornsby Town Centre to the Crusher Plant precinct on a fully accessible pathway immersing visitors into the bush. The canopy skywalk and cable bridge sit about 25-30 metres above the ground and would cover a total distance of approximately 965m (one way). Views of the bush, mountain bike trails and the Heritage Steps will be available from these works. Lift and stairs preserve the opportunity to connect to Old Mans Valley when that is developed later.

3. Northern Mound Lookouts

Construction of formal lookout / bird hide on the Northern Mound, and formalisation of associated walking trails, under the guidance of the Vegetation Management Plan (HSC, 2020).

4. Western Lookout

Construction of a formal lookout / bird hide on the Western Mound, and formalisatiion of associated walking trails, under the guidance of the Vegetation Management Plan (HSC, 2020)

5. Crusher Plant Admin Building

Renovations to the existing admin 'weigh bridge' building at the former Crusher Plant to provide construction and site management facilities, public amenities and such that it can be used as a 'safer place' for members of the public where rapid bushfire impact is likely.

The proposal requires the use of heavy machinery, such as:

- 30 t Excavator,
- Drott,
- Backhoe,
- Skid steer loader,
- Mobile cranes, and
- Spoil trucks.

6. Enabling Services

Electrical, comms, water and sewer services to support the above

Other ancillary tools and machinery may be required to undertake the work including pumps, generators, utility vehicles, jack hammers/rock hammering equipment, hand tools etc.

Proposed methods of construction are to be finalised pending award of the construction works. Part of the design development of the Skywalk is the modular design of the walkways, which allows (if needed) for small sections to be craned into position by weaving through the bush to minimise impacts to not only the ground but canopy layer.

- Craned over top of forest,
- Dropped veritically down through forest - Threaded and rotated down to drop through canopy until level on the forest floor,

- Laid on forest floor flat,
- Use of MTB trails where possible,
- Temporary scaffolding to support on uneven terrain, and
- Lifted back up into the canopy horizontally to final position.

Where feasible, lighter materials may be walked in by the contractor.

3.2. Objectives of the activity and justification

The design for Hornsby Park, including the HPE Project has been prepared in keeping with the project objectives from the Hornsby Park Plan of Management 2015:

- Local Living - Hornsby's parkland hub meeting the needs of the current and future local community for recreation, connection to nature and cultural experiences in a bushland setting,
- Environment and Heritage - Renewing Hornsby's natural systems and connecting community to Hornsby's unique bush character, rich heritage and evolving story,
- Tourism and Economy - A centre for adventure tourism for the Northern Sydney region, driving local economic development and urban renewal, and
- Return on Investment - Leveraging commercial opportunities that enhance the leisure experience and deliver a financially sustainable community asset.

In addition, the following project objectives are incorporated in the design:

- Demonstrating Sustainability - Developing robust and 'smart' systems that demonstrate 'sustainability in action' for management of the parkland. Examples may include autonomous electric vehicle transport and renewable energy systems, and
- Inclusive Design/Access for All - Optimising access for all through inclusive design and site sensitive transport modes.

It has been previously determined that delivery of the Hornsby Park project is aligned with the following Hornsby Council adopted strategies and plans:

- Your Vision Your Future 2028,
- Active Living Strategy 2015,
- Biodiversity Conservation Strategy 2021,
- Sustainable Hornsby 2040 Strategy,
- Hornsby Play Plan 2021,
- Hornsby Sportsground Strategy 2018,
- Hornsby Town Centre DRAFT Plan 2022, and
- Hornsby Council Community Strategic Plan – the community’s long-term goals.

3.3. Major elements

One of the key design decisions for the park is the provision of a continuous accessible pedestrian route from the Hornsby Town Centre to the Quarry Void, despite the challenges of a drop of over 130m. This creates a pedestrian spine throughout the park, from where the majority of features and activities are able to be easily accessed. Ensuring the pedestrian spine is accessible and that visitors are able to use it to move around the park has been a focus during the detailed design process since the Master Plan. As part of this pedestrian spine, a Skywalk through the bushland has been proposed. The design intent of the Skywalk was to provide an accessible pedestrian linkage from the Hornsby Town Centre to Old Mans Valley and Crusher Plant while also creating a memorable experience.

3.4. Other developments associated with the activity e.g. infrastructure, services

Other developments associated with HPE Project - Stage 1, will include:

1. Electrical / Level 3 Works:

Trenching Quarry Road to enable installation of electrical/telco services/conduits for the other Stage 1 REF elements (see section 3.1), installing new substation including access road, and installing new main switchboard to be used for Stage 1 REF elements and temporary builder's power (optional depending on how developed the remaining project is),

2. Hydraulic Works:

Trenching Quarry Road to accomodate sanitary rising main, potable cold water supply, and fire water supply, and installation of boundary trap, IMPF, incoming sewer sideline and connection/ rodding point, potable cold water meter and RPZD, and fire hazard backflow prevention device (DDCV) complete with metered bypass.

3.5. Time frame/hours of operation

Work hours will be in accordance with HSC's standard work times detailed below which will minimise impacts to residents in proximity to the works:

- Monday to Friday 7.00am to 6.00pm
- Saturday 8.00am to 1.00pm
- No work on Sunday or public holidays

Hours of operation: In accordance with the Hornsby Park Vegetation Management Plan and Habitat Enhancement and Creation Plan (HSC, 2020), noisy works (stone cutting, helicopter delivery, machine operation) must not be carried out between an hour before sunset and an hour after sunrise or within 50m of an identified roost site. In addition, no noisy works (stone cutting, helicopter delivery, machine operation) are to occur within 100m of an identified nesting tree during the Powerful Owl breeding season (April to October). The requirements of the Vegetation Management Plan and Habitat Enhancement and Creation Plan will take precedent at all times when determining hours and location of operation during works.

Works are aimed to commence in 1-July-2023, and be completed by 1-July-2024.

At completion of construction, the proposed embellishments are intended to be open to the public 24/7, with only periodical closures for planned maintenance, and during periods of adverse weather (e.g. high fire danger), to be detailed within a Bushfire Emergency Management and Evacuation Management Plan.

4. Alternative Proposals

Alternative proposals considered/assessment of alternative proposals e.g. alternative locations, alternative technologies

Option 1: Do nothing,
Option 2: Alternative Design,
Option 3: Current Design (Preferred Option)

4.1. Justification of preferred option

Option 1 (Do nothing):
This option does not achieve the objectives listed in section 3.2, nor provides a continuous, accessible pedestrian route from the Hornsby Town Centre to the Quarry Void. The 'do nothing' option would also mean that a currently unusable space will remain closed for public use and enjoyment, and likely result in increased weed invasion overtime.

Option 2 (Alternative design):
In the Master Plan stage, the Design Consultant (Clouston Associates) developed the Skywalk from a high-level perspective, the considerations mainly focusing on the best views and ensuring the route was accessible. Following the approval of Master Plan, an iterative design process has been undertaken to refine the design and route of the Skywalk to have a more minimal impact of the bushland through which it passes, eventuating in the development of Option 3. This lessening of impacts was directed via the AMMOR (Avoid, Minimise, Mitigate, Offset, Rehabilitate) approach.

Further detail can be found in the Hornsby Park Embellishment - Skywalk Tree Impact Comparison (Clouston, 2023), Appendix C, Attachment B of this REF.

Option 3 (Current design):
Option 3, the preferred option, improves upon Option 2 by building on a careful balance between the consideration of impact, benefits, buildability, and cost. With the recognition of the significance of the existing native habitat, following discussion with Council, the Design Consultant (Clouston Associates) proposed the following avoidance and minimisation measures to lessen the potential impacts.

Avoidance:
- Reduce the number of piers which impact the ground though a modular design balancing span distance with cost, size of materials and constructability,
- Realign the route of the Skywalk to stay outside high value bushland areas,
- Align the Skywalk route within easy construction distance to locations with easy machinery and plant access to avoid impacting bushland during construction,
- Align route and pier locations with existing clearings and gaps within the bush to avoid impacting existing large trees,
- Locate structures such as the lift and stair tower fully within existing clearings to avoid existing vegetation, and
- Realign the route based on community feedback regarding the proximity to residential properties.

Minimise:
- Realign Skywalk route further away from the Crusher Plant to minimise impacts to high value bushland:
- Use the existing previously easement for a bridge access to minimise impacts to mature trees and reduce the number of piers impacting the ground,
- Extend the length of Skywalk located in lower value bushland to the east of the fire trail rather than the bushland to the southwest of the fire trail, and
- Utilise large crane machinery to weave walkway modules into the bushland to minimise impacts to canopies.

An assessment of the avoidance and minimisation measures adopted through the preferred design, Option 3, is provided within the supporting Ecological Impact Assessment (Anderson, 2023) within Appendix C, Attachment E.

"The Project would remove vegetation largely from weed-dominated understory along existing tracks and cleared areas. This would avoid removal of any native vegetation for the majority of works considered in this EIA. A total of three sub-adult native trees would be removed for the canopy skywalk; however, the majority of the pier locations and skywalk sections have been deliberately located to avoid removal of entire trees with the three to be removed considered the lowest possible impact of all possible routes. Further, the canopy skywalk piers have been designed for the smallest impact area feasible, with the central 5m diameter pier area constituting the only permanent loss of vegetation within the impact footprint of each pier. The remaining impact area is for construction staff access and equipment laydown and would be rehabilitated following construction works. The construction for the Boardwalk from the Skywalk to the Crusher Plant would be contained entirely within the boardwalk footprint. Construction would commence from one or both ends of the boardwalk and extend in sections, with materials stockpiles and staff access being located on adjacent roads or within constructed sections of the boardwalk. This will avoid the need for additional vegetation clearing for material stockpiles and other staging areas. All bike and walking track routes upgrades would also follow the same methodology. The Project would not isolate or fragment any area of native vegetation. Clearing would primarily occur along existing tracks or on the edge of existing cleared areas and would largely consist of woody, exotic understory vegetation. The current level of connectivity throughout the Subject Land would be retained and connectivity with the adjacent Berowra Valley National Park to the west would not be reduced by the Project."

4.2. Consequences of not carrying out the activity

The objectives of the proposal (section 3.2) will not be achieved through the activity. Pedestrian accessibility will remain unimproved, and recreational embellishments will not be achieved through the activity. This would also mean that a currently unusable space will remain closed for public use and enjoyment, and likely result in increased weed invasion overtime.

Section 2 Planning Issues

This section is to be completed by a Team Leader or Manager, Assessments and referred back to the Project Officer.

1. Consideration of relevant State Plans and policies

State Environmental Planning Policies

Are any of the following SEPPs relevant to the activity? If yes, what is the relevant clause(s) that the REF needs to evaluate?

- State Environmental Planning Policy (Transport and Infrastructure) 2021
- State Environmental Planning Policy (Biodiversity and Conservation) 2021
- State Environmental Planning Policy (Resilience and Hazards) 2021

Consideration of these State Environmental Planning Policies (SEPP), and their relevance to the activity is provided below.

- State Environmental Planning Policy (Transport and Infrastructure) 2021

The aim of this SEPP is to facilitate the effective delivery of infrastructure across NSW by identifying whether certain types of infrastructure require consent, can be carried out without consent or are exempt development.

Pursuant to Division 12, Clause 2.73 (3) of SEPP (T & I) 2021, any of the following development may be carried out by or on behalf of a public authority without consent on land owned or controlled by the public authority—

(a) development for any of the following purposes—

(i) roads, pedestrian pathways, cycleways, single storey car parks, ticketing facilities, viewing platforms and pedestrian bridges,

(ii) recreation areas and recreation facilities (outdoor), but not including grandstands,

(iii) visitor information centres, information boards and other information facilities,

(iv) lighting, if light spill and artificial sky glow is minimised in accordance with the Lighting for Roads and Public Spaces Standard,

(v) landscaping, including landscape structures or features (such as art work) and irrigation systems,

(vi) amenities for people using the reserve, including toilets and change rooms,

(vii) food preparation and related facilities for people using the reserve,

(viii) maintenance depots,

(ix) portable lifeguard towers,

(b) environmental management works,

As the proposed activity will be undertaken in order to develop pedestrian pathways, carparks, viewing platforms, pedestrian bridges, recreation areas, lighting, and landscaping involving environmental management works, the activity is assessed as development permitted without consent.

- State Environmental Planning Policy (Biodiversity and Conservation) 2021 (ch.2 & 4)

Chapter 2, Vegetation in Non-rural Areas of SEPP (B & C) 2021, aims to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

Section 2.7(1) of the SEPP states that an authority to clear vegetation under this policy is not required if it is a clearing authorised under s60(O) of the Local Land Services Act 2013. Section 60(O) provides an exemption for

clearing under Part 5 of the EP&A Act and therefore consent is not required under the SEPP (Biodiversity and Conservation).

Chapter 4, Koala Habitat Protection 2021 of SEPP (B & C) 2021, aims "to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline."

This chapter does not apply to assessments undertaken under Part 5 of the EP&A Act.

- State Environmental Planning Policy (Resilience and Hazards) 2021

The aim of this Chapter is to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the Coastal Management Act 2016, including the management objectives for each coastal management area, by—
(a) managing development in the coastal zone and protecting the environmental assets of the coast, and
(b) establishing a framework for land use planning to guide decision-making in the coastal zone, and
(c) mapping the 4 coastal management areas that comprise the NSW coastal zone for the purpose of the definitions in the Coastal Management Act 2016.

The proposed activity is not located on land subject to SEPP (Resilience and Hazards) 2021.

2. Consideration of Hornsby Shire Council Plans and Policies

2.1. Hornsby Local Environmental Plan 2013

Are there any of the following parts of the HLEP 2013 relevant to the activity? If yes, what is the relevant clause(s) that the REF needs to evaluate?

Hornsby Park is zoned RE1: Public Recreation under the Hornsby Local Environmental Plan 2013. The objectives of this zone are:

- To enable land to be used for public open space or recreational purposes,
- To provide a range of recreational settings and activities and compatible land uses,
- To protect and enhance the natural environment for recreational purposes, and
- To protect and maintain areas of bushland that have ecological value.

The proposed activity includes the following land uses that are pemitted without consent:

- Environmental protection works

The proposed activity includes the following land uses that are pemitted with consent:

- Car parks, Recreation areas; Recreation facilities (outdoor)

The proposed activity is consistent with the objectives of the zone as it is providing land to be used for recreation with the intent to promote environmental values, and has been designed to avoid and minimise impacts on biodiversity.

Note: To the extent of any inconsistency, State Environmental Planning Policy (Transport & Infrastructure) 2021 overrides the Hornsby LEP.

2.2. Hornsby Development Control Plan 2013

Are any of the following parts of the HDCP 2013 relevant to the activity? If yes, what is the relevant clause(s) that the REF needs to evaluate?

The REF needs to consider the following sections of the HDCP:

- Part 1 General - Clause 1B.6 and 1B.6.2, Clause 1C.1, Clause 1C.1.1, Clause 1C1.4, Clause 1C2.1, Clause 1C.2.5, Clause 1C.2.6, Clause 1C.2.10 and Part 9 - Heritage- 9.1.1.

Note: To the extent of any inconsistency, State Environmental Planning Policy (Transport & Infrastructure) 2021 overrides the Hornsby DCP.

3. The following comments are made regarding the permissibility of the activity described in this REF.

The proposed development is "permitted without consent" under State Environmental Planning Policy (Transport and Infrastructure) 2021 and therefore an assessment under Part 5 of the Environment Planning and Assessment Act, 1979 is required.

Pursuant to Division 12, Clause 2.73 (3) of SEPP (T & I) 2021, the proposed activity is permitted without consent.

Proposals which do not require development consent under a planning instrument may be approved by relevant government agencies under Division 5.1 of the Environment Planning & Assessment Act 1979 (NSW) (EP&A Act).

This REF has been prepared in accordance with Division 5.1 of Part 5 of the EP&A Act and describes the impacts of the proposed activity. The REF has been prepared in accordance with section 5.5 of the EP&A Act and clause 228 of the EP&A Regulation and considers whether the proposed activity will have a significant impact on the environment. This analysis is relevant to determining whether further assessment of the activity needs to be undertaken, including an Environmental Impact Statement in accordance with section 5.7 of the EP&A Act. Subsection 5.7 of the EP&A Act requires an Environmental Impact Statement (EIS) to be prepared (instead of or in addition to a REF) if an activity is likely to significantly affect the environment. However, subsection 5.7 also provides that if the activity is only likely to significantly affect the environment in respect of (1) land that is, or is part of, critical habitat OR (2) threatened species, populations or ecological communities, or their habitats; then an EIS is not required, provided a Species Impact Statement (SIS) has been furnished. Subsection 5.7 also requires the concurrence of the Director-General of DPE if there is likely to be significant impact to the above listed entities.

The proposed activity has been determined not to be likely to significantly affect the environment, and no EIS is required.

4. The following comments are made regarding the parts of the relevant legislation and Council Policies that the REF needs to evaluate.

This Review of Environmental Factors (REF) is to enable HSC to assess the environmental impacts of the proposed activity for the purpose of satisfying its duty to examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity.

Section 3 Assessment

This section is to be completed by the Project Officer and is to be signed off by their Branch Manager.

The following headings are a guide to what should be addressed in a REF. Any other relevant information may be added.

Select Yes or No from the drop-down menu. If you select yes and the section does apply to the proposed activity fill out the field provided in as much detail as possible.

1. Permissibility/Compliance

1.1. Zoning of land under the HLEP 2013

RE1:Public.Recreation

Objectives: to enable land to be used for public open space or recreational purposes, to provide a range of recreational settings and activities and compatible land uses, to protect and enhance the natural environment for recreational purposes, to protect and maintain areas of bushland that have ecological value.

1.2. Permissibility

Council's Team Manager Assessments has made the following comments regarding permissibility of the activity with relevant legislation. The use/activity can be described as pedestrian pathways, single storey car parks, viewing platforms, pedestrian bridges, lighting, recreation areas and environmental management works which does not require development consent by virtue of being development "permitted without consent" under the RE1: Public Recreation zone of the HLEP 2013/ to Division 12, Clause 2.73 (3) of SEPP (T & I) 2021 Division of the ISEPP and therefore an assessment under Part 5 of the Environmental Planning and Assessment Act, 1979 is required.

Hornsby.Local.Environmental.Plan.2013
The proposed activity includes the following land uses that are pemitted without consent:
- Environmental.protection.works

The proposed activity includes the following land uses that are pemitted with consent:
- Car.parks,Recreation.areas;.Recreation.facilities.(outdoor)

The proposed activity is consistent with the objectives of the zone as it is providing land to be used for recreation with the intent to promote environmental values, and has been designed to avoid and minimiseimpacts.on.biodiversity.

Note: To the extent of any inconsistency, State Environmental Planning Policy (Transport & Infrastructure).2021.overrides.the.Hornsby.LEP.

State.Environmental.Planning.Policy.(Transport.and.Infrastructure).2021
Pursuant to Division 12, Clause 2.73 (3) of SEPP (T & I) 2021, any of the following development may be carried out by or on behalf of a public authority without consent on land owned or controlled by the public.authority—
(a).development.for.any.of.the.following.purposes—
(i) roads, pedestrian pathways, cycleways, single storey car parks, ticketing facilities, viewing platforms.and.pedestrian.bridges,
(ii) recreation areas and recreation facilities (outdoor), but not including grandstands,
(iv) lighting, if light spill and artificial sky glow is minimised in accordance with the Lighting for Roads and.Public.Spaces.Standard
(b).environmental.management.works,

As the proposed activity will be undertaken in order to develop pedestrian pathways, carparks, viewing platforms, pedestrian bridges, recreation areas, lighting, and landscaping involving environmental management works, the development is assessed as development permitted without consent.

1.3. Compliance

Council's Team Manager Assessments has made the following comments regarding the parts of relevant legislation and Council Policies that the REF needs to evaluate.

Click here to enter comments from Assessments.

Click here to enter an evaluation of the activity against the relevant parts of legislation and Council Policies identified by Assessments. If no policies/plans are cited in Section 2 response can be 'Not applicable'.

2. The Existing Environment

Describe the existing environment prior to the proposed activity occurring

The proposed activity is located within the Lucas Heights, Hawksbury and Hornsby soil landscapes as described by Chapman and Murphy (1989). The Sydney 1:100,000 scale Geological series map indicates that Hornsby Park occurs on a residual landscape, and a colluvial landscape underlain by Yellow Podzolic Soils, Yellow Soloths and Yellow Earths and Hawkesbury Sandstone, consisting of sedimentary quartz, weakly weathered gravel and coarse sandy loam (Chapman and Murphy, 1989).

Specialist reports appended to this REF have been utilised to create the following summary of the existing environment within the activity area. The Hornsby Park site is comprised of 59 hectares of bushland and cleared open land with the principal physical features of the existing site being comprised of:

- Extensive Bushland – the majority of the site is occupied by bushland that connects to the Berowra Valley National Park; the site's bushland also includes the very rare Blue Gum Diatreme Forest, which is listed as a Critically Endangered Ecological Community;
- Old Mans Valley (OMV) - an area of cleared land accessed immediately to the west of – and some 50 metres below - the Hornsby CBD. This area has direct vehicle access from Peats Ferry Road;
- The Higgins Family Cemetery – a small heritage-listed cemetery completely surrounded by bushland;
- The Quarry Void – a large, deep and dramatic open cut disused quarry, the principal feature of which is the geologically significant volcanic diatreme, listed on the Heritage Register of the National Estate; and
- The Crusher Plant – a large industrial structure that is suitable for adaptive recreational re-use within the park.

Vegetation within the Hornsby Park comprises a mixture of remnant, regrowth, revegetation and rehabilitation (GHD 2018a). Vegetation within activity area has been mapped by Anderson (2023) (Appendix C, Attachment E). For the purposes of HPE - Stage 1, the following two Plant Community Types (PCTs) have been identified within the activity area:

- PCT 3592. Sydney Coastal Enriched Sandstone Forest (Blackbutt Gully Forest), and.
- PCT 3136. Blue Gum High Forest (Blue Gum Diatreme Forest).

PCT 3136 is associated with the Biodiversity Conservation Act 2016 (NSW) (BC Act) listed Critically Endangered Ecological Community (CEEC) Blue Gum High Forest in the Sydney Basin Bioregion. Although this Threatened Ecological Community (TEC) is also listed under the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth) (EPBC Act), the vegetation within the Hornsby Park site does not meet the condition criteria for inclusion in the CEEC listing under the EPBC Act (GHD, 2018a, Anderson, 2023).

The activity area is located within the Old Mans Creek Catchment. The majority of upstream flows through the valley have been diverted around the quarry via constructed channels and culverts (GHD, 2018a). Old Mans Creek flows in a westerly direction, flowing into Waitara Creek, and eventually flows into the Hawkesbury River via Berowra Creek.

2.1. Site description/current land use

The land on which the proposed activity will be constructed is under the care and ownership of Hornsby Shire Council. No property acquisition will be required to facilitate the activity. The works will be undertaken wholly within land zoned as RE1 Public Recreation pursuant to the Hornsby Local Environmental Plan (LEP) 2013. No change in zoning or land use is proposed as part of the works.

The existing activity area is occupied by bushland, and is utilised primarily for passive recreation, including bushwalking and cycling. Other land uses include bushfire management (i.e. fire-trails), and currently disused, cleared areas surrounding the Crusher Plant, which are fenced off from public access. The bushland is subject to the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020) adopted as part of DA/101/2019, which involves bush regeneration activities.

2.2. National/State/Regional/Local Conservation significance — Yes

Does the site have conservation significance or impact on an area of conservation significance?

If yes, what are the mitigation measures?

The activity area contains biodiversity and heritage values of both state and local conservation significance. These values are summarised in section 2.3 and 2.5 respectively, and a comprehensive assessment is provided within the following documents attached to this REF:

- Ecological Impact Assessment (Anderson, 2023) (Appendix C, Attachment E),
- Aboriginal Due Diligence (Umwelt, 2023) (Appendix C, Attachment F) , and
- RE: Hornsby Park Embellishments - Heritage Impact of Works in Areas (Umwelt, 2022) (Appendix C, Attachment G).
- Arboricultural Impact Assessment Report (Arterra, 2023) (Appendix C, Attachment K).

Mitigation measures are detailed within section 3, subsection 3 of this REF.

2.3. The Natural Environment

2.3.1. Geology, geomorphology and geological sites — Yes

Are there any other significant geological features on the site?

If yes, list them.

The Hornsby Park Diatreme eastern face is listed on the Register of the National Estate, however, being on the vertical cliff faces, it is outside the activity area and thus will not be disturbed or impacted in any way. The Hornsby Diatreme, a rare volcanic structure formed within the joint system and horizontal layer of sedimentary rocks.

The predominant geology underlying the activity area is mapped as Rh being Hawkesbury Sandstone from the Wianamatta group consisting of sandstone with shale lenses.

2.3.2. Soil type(s) — No

What is the soil type? Is it a significant factor in the activity?

List the soil type.

Based on Chapman and Murphy (1989) soil type descriptions, Hornsby (ho), Hawkesbury (ha) and Lucas Heights (lh) soils have been mapped on site in the Soil Landscapes of the Sydney 1:100,000 sheet.

The soil type is not a significant factor for the proposed activity due to the use of construction techniques that minimise soil disturbance.

Is the site affected by acid sulphate soils? (See HLEP 2013 – Acid Sulphate Soils Map.) — No

If yes, how are the acid sulphate soils being dealt with?

Not applicable.

The activity area is not located within acid sulfate soil mapping.

2.3.3. Plants (including presence of threatened species/ populations communities/ habitats. Will the proposal disturb vegetation? See also sections 6.5 to 6.8.) — Yes

What is the vegetation present?

Based on the findings of the Ecological Impact Assessment (EIA) (Anderson, 2023), the activity will result in direct and indirect impacts to two Plant Community Types (PCT), present within the activity area:

- PCT3592: Sydney Coastal Enriched Sandstone Forest (Blackbutt Gully Forest); and
- PCT3136: Blue Gum High Forest (Blue Gum Diatreme Forest).

PCT 3136 is associated with the Biodiversity Conservation Act 2016 (NSW) (BC Act) listed Critically Endangered Ecological Community (CEEC) Blue Gum High Forest in the Sydney Basin Bioregion. Although this Threatened Ecological Community (TEC) is also listed under the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth) (EPBC Act), the vegetation within the Hornsby Park site does not meet the condition criteria for inclusion in the CEEC listing under the EPBC Act (GHD, 2018a, Anderson, 2023).

Anderson (2023) has determined that based on the proposed activity, there will be a direct and indirect impact to 1.15ha of native vegetation, including:

- 0.67ha of PCT3592 (Blackbutt Gully Forest), and
- 0.29ha of PCT3136 (Blue Gum Diatreme Forest).

No threatened flora species were recorded within the activity area and surrounds during the field surveys conducted by Anderson (2023), GHD (2019), Kleinfelder (2017) or Ecological (2015). Based on analysis of local occurrence records from state and federal databases and the timing of survey, no threatened flora species were considered likely to occur within the Stage 1 activity area (Anderson, 2023).

Are there any threatened species / populations / communities / critical habitats / ROTAP species or species / vegetation communities of National, State and regional significance? (See HLEP 2013 - Terrestrial Biodiversity Map.) Yes

There is one record of Tangled Bedstraw (Galium australe) and one record of Darwinia pedunculatis along Blue Gum Walk in Old Mans Valley from 2008. These records have an accuracy of 1 km, based on the siting notes available in the licenced version of the NSW BioNet. These species were not located during the Anderson (2023) surveys, or during previous surveys by GHD (2019), Kleinfelder (2017), or Ecological (2015). Discussion of Blue Gum High Forest - CEEC is provided in the previous section.

Are there any significant wetland areas? (See SREP 20 Wetland Area Maps.) No

If yes, what are the mitigation measures applied to protect them?

Not Applicable. No significant wetlands occur within the activity area.

This is a repealed State Environmental Planning Policy and has been superseded by the State Environmental Planning Policy (Biodiversity & Conservation) 2021 as part of the Department's initiative to consolidate State Environmental Planning Policies to simplify and provide certainty to the planning system.

Discussion of SEPP (Biodiversity & Conservation) 2021 is provided within section 2, subsection 1 of this REF.

Mitigation measures are detailed within section 3, subsection 3 of this REF.

2.3.4. Animals (including presence of threatened species / populations / communities / habitats).

What are the fauna species present and will the proposal disturb fauna habitat? Yes

If yes, what the mitigation measures?

Surveys conducted by GHD (2019), Kleinfelder (2017), Ecological (2015) and PB (2004) identified 69 protected fauna species, including 52 birds, 12 mammals, 3 reptiles and 2 amphibians.

Anderson (2023) identified that the activity area contains suitable habitat for numerous threatened fauna species in the form of native vegetation, mature foraging trees, large woody debris, old structures, and hollow-bearing trees.

A summary of direct, indirect and prescribed impacts to fauna habitats taken from the Ecological Impact Assessment (Anderson, 2023) includes:

Direct Impacts:

- Clearing of 1.15ha of vegetation, including 172.2m2 of vegetation from each Canopy Skywalk Pier, however only the central pier construction will result in permnant loss of native vegetation, with the remaining impact footprint to be rehabilitated following works.
- The activity will impact approximately 0.29 ha of Blue Gum High Forest. However, this impact would remove exotic vegetation from the understory, with no canopy trees to be removed.
- The Project would impact approximately 1.15 ha of suitable habitat for Grey-headed Flying Fox, Powerful Owl, Varied Sittella and tree-dwelling microchiropteran bats; however, direct clearing of native vegetation would be limited to immature, sub-canopy trees.

Indirect Impacts:

- Increased shading and interaction with canopy from elevated sections of the canopy skywalk,
- Sediment migration from areas of unconsolidated, exposed soil during construction works into downslop areas of native vegetation,
- Introduction of new weed species and pathogens into downslop and downstream areas due to runoff from unconsolidated, exposed soil during development as well as in stormwater following development,
- Increased noise and light pollution on nearby areas of retained native vegetation, reducting fauna utility of this habitat,
- Entrapment of fauna in trenching works,
- Increased dust generation during construction works, reducing fauna utility of areas of nearby retained habitat,
- Vegetation clearing, noise and dust impacts on Powerful Owl breeding success and microbat winter torpor. A breeding pair of the threatened Powerful Owl is known to use the activity area for nesting with potential nesting trees located within 100m of the works area. These hollow-bearing trees are also potential roosts for microbats during winter torpor (hibernation), and
- Increased risk of vehicle collision with fauna following development.

Prescribed Impacts:

- Impacts to geological features: The canopy skywalk and pathway from Sports Field to Quarry Void will require the movement of some rocky areas containing crevices for the installation of piers etc.
- Impacts to human-made structures (Crusher Plant): Noise, dust and light generated during these works may affect habitat utility of this structure for resident fauna (i.e., microbats).
- Impacts to non-native vegetation: In places it may form part of the dense understory habitat for the Powerful Owl; however, the areas to be impacted are largely along existing tracks or adjacent to cleared areas. These areas are considered to be less suitable habitat for the local Powerful Owl population
- Impacts to fauna movement: new physical structures as well as noise, lights and dust generation during both the construction and operational phases has the potential to disrupt the breeding cycle of the known breeding pair of Powerful Owls on the Subject Land.

Mitigation measures are detailed within section 3, subsection 3 of this REF.

Are there any threatened fauna species / populations / communities / critical habitats or fauna species of conservation significance?	Yes

If yes, what are the mitigation measures?

Surveys conducted by GHD (2019), Kleinfelder (2017), Ecological (2015) and PB (2004) identified four species that are listed as Vulnerable under the BC Act, including one that is also listed as Vulnerable under the EPBC Act:

- Large Bent-winged Bat (Miniopterus orianae oceanensis),
- Grey-headed Flying Fox (Pteropus poliocephalus)**,
- Powerful Owl (Ninox strenua), and
- Varied Sitella (Daphoenositta chrysoptera).

** Listed under EPBC Act

Of significance, a pair of Powerful Owls are known to nest within Hornsby Park.

Twelve threatened fauna species were considered likely to occur within the Hornsby Park area:

- Barking Owl (Ninox connivens),
- Eastern Coastal Free-tailed Bat (Micronomus norfolkensis),
- Eastern False Pipistrelle (Falsistrellus tasmaniensis),
- Gang-gang Cockatoo (Callocephalon fimbriatum)**,
- Glossy Black-Cockatoo (Calyptorhynchus lathami),
- Greater Broad-nosed Bat (Scoteanax rueppellii),
- Little Bent-winged Bat (Miniopterus australis),
- Masked Owl (Tyto novaehollandiae),
- Rosenberg's Goanna (Varanus rosenbergi),
- Sooty Owl (Tyto tenebricosa),
- Spotted-tailed Quoll (Dasyurus maculatus)**, and
- Yellow-bellied Sheath-tailed Bat (Saccolaimus flaviventris).

** Listed under the EPBC Act

In addition, Anderson (2023), identified a further 3 threatened fauna species that were likely to occur:

- Little Lorikeet (Glossopsitta pusilla),
- White-throated Needletail (Hirundapus caudacutus), and
- Swift Parrot (Lathamus discolor)**.

** Listed under the EPBC Act

No Areas of Outstanding Biodiversity Significance (i.e. Critical Habitat) occur in proximity to the activity area, the closest being the Little Penguin Population in Manly (>20km). Anderson (2023) determined that per the relevant assessments under the BC Act (5-Part Tests) and EPBC Act (Assessments of Significance) for the threatened fauna considered likely to occur, that the activity is unlikely to have a significant impact on these entities.

Mitigation measures are detailed within section 3, subsection 3 of this REF.

Are there any priority oyster area leases? (See SEPP 62 Priority Oyster Area Maps.) No

If yes, what are the mitigation measures?

Not applicable.

There are no priority oyster area leases within the activity area.

2.3.5. Water Catchments/Water Quality No

Are there any water quality or catchment issues to consider on the site? (See SREP 20 and SREP 54 Catchment Maps and provisions.)

If yes, what are the mitigation measures?

Not applicable.

This is a repealed State Environmental Planning Policy and has been superseded by the State Environmental Planning Policy (Biodiversity & Conservation) 2021 as part of the Department's initiative to consolidate State Environmental Planning Policies to simplify and provide certainty to the planning system.

Discussion of SEPP (Biodiversity & Conservation) 2021 is provided within section 2, subsection 1 of this REF.

Mitigation measures are detailed within section 3, subsection 3 of this REF

Is the site within a coastal zone identified by State Environmental Planning Policy No. 71 – Coastal Protection? (See SEPP 71 Coastal Zone Maps and Provisions.) No

If yes, supply the name of the coastal zone.

Not applicable.

2.3.6. Exotic Species – presence and extent Yes

Are there any weeds or feral animals on the site? If so what?

Surveys conducted by Anderson (2023), GHD (2019), Kleinfelder (2017), Ecological (2015) and PB (2004) identified 39 introduced flora species within Hornsby Park. Of these, the following species are declared priority weeds under the Biosecurity Act.2015.(NSW).for.the.Greater.Sydney.Region:

- Asparagus.aethiopicus.(Asparagus.Fern),
- Cortaderia.selloana.(Pampas.Grass),
- Lantana.camara.(Lantana),
- Anredera.cordifolia.(Madeira.Vine),
- Genista.monspessulana.(Cape.Broom),
- Ligustrum.lucidum.(Broad-leaved.Privet),
- Ligustrum.sinense.(Small-leaved.Privet),
- Olea.europaea.subsp,cuspidata.(African.Olive),
- Rubus.fruticosus.agg.(Blackberry),and
- Senecio.madagascariensis.(Fireweed).

Weed species are scattered throughout the area and predominantly include: Asparagus Fern (Asparagus aethiopicus), Broad-leaf Privet (Ligustrum lucidum), Small-leaf Privet (Ligustrum sinense) and Ochna (Ochna serrulata).

Surveys completed by GHD (2019), Kleinfelder (2017), Ecological Australia (2015), PB (2004) identified two introduced fauna species:

- European.Fox.(Vulpes.vulpes),and
- Red-whiskered.Bulbul.(Pycnonotus.jocosus).

In addition, HSC (2022) noted that the following additional, feral animals have since.been.recorded.in.recent.surveys,including:

- House.mouse.(Mus.musculus),
- Black.Rat.(Rattus.rattus),
- Dog.(Canis.lupus.familiaris),and
- Cat.(Felis.catus).

2.3.7. Fire – history hazards — Yes

Is there any fire history or hazards applicable for the site? (See Bushfire Prone Land Map.)

If yes, what are the mitigation measures?

Hornsby Park is included within designated Bush Fire Prone Land (BFPL). The activity area is situated primarily within 'Category 1' BFPL, with areas, such as the Crusher Plant, included within the 'buffer'.

Land directly below Hornsby Pool has been affected by small fires in 1978/9 and 1994/5. Adjoining land in Berowra Valley Regional Park to the west of the Park has been affected by fire in 1985/6, 1990/1 and 2000/1.

A Bushfire Assessment Report (KHS Ecology & Bushfire, 2023) has been prepared for the Park and is included in Appendix C, Attachment H.

Hazard reduction burns are performed in the area.

Mitigation measures are discussed in section 3, subsection 3 of this REF.

2.3.8. Flood – history hazards — No

Is there any flood history or hazards applicable for the site? (See Flood Control Lot Maps.)

If yes, what are the mitigation measures?

Not applicable.

2.3.9. Areas sensitive because of physical / biological factors — Yes

Are there any sensitive features of the site which require consideration?

If yes, what are the mitigation measures?

See section 3, subsection 2.3.1 - 2.3.6. The activity area is located within the Old Mans Creek Catchment. The majority of upstream flows through the valley have been diverted around the quarry via constructed channels and culverts (GHD 2018). Old Mans Creek flows in a westerly direction, flowing into Waitara Creek, and eventually flows into the Hawkesbury River via Berowra Creek.

Mitigation measures are discussed in section 3, subsection 3 of this REF.

2.3.10. Land Contamination — Yes

Is the site affected by land contamination?

If yes, what are the mitigation measures?

The quarry was operated as a breccia hard rock quarry by private business from the early 1900s and ceased in the late 1900s. Parsons Brinckerhoff (2004) identified some areas of the site with potential contamination.

The majority of historic fill material is expected to be overburden from within the site, with very little potential for contamination. The fill placed by NorthConnex consist of VENM and ENM generated solely from tunnelling activities and would also have very low potential for contamination (GHD, 2019). No known land contamination issues are relevant to the activity. The Crusher Plant will not be disturbed by this stage of the project.

With reference to the precautionary principle, it should be thought that there is potential for the pathogens Phytophthora cinnamomi and Myrtle rust (Austropuccinia psidii) to be present.

Mitigation measures are discussed in section 3, subsection 3 of this REF.

2.3.11. Other (specify any other environmental factors)

Not applicable.

2.4. The Built Environment

2.4.1. Description of land use strategy — Yes

What is the land use zoning / are there any considerations necessary? (See HLEP 2013 Land Zoning & Additional Permit Uses Maps and Provisions.)

Hornsby Park is zoned RE1: Public Recreation under the HLEP 2013.
The objectives of this zone are:

- To enable land to be used for public open space or recreational purposes,
- To provide a range of recreational settings and activities and compatible land uses,
- To protect and enhance the natural environment for recreational purposes,
- To protect and maintain areas of bushland that have ecological value.

The proposed activity includes the following land uses that are permitted without consent:

- Environmental protection works

The proposed activity includes the following land uses that are pemitted with consent; Car parks, Recreation areas; Recreation facilities (outdoor).

The proposed activity is consistent with the objectives of the zone as it is providing land to be used for recreation with the intent to promote environmental values, and has been designed to avoid and minimise impacts on biodiversity.

Note: To the extent of any inconsistency, State Environmental Planning Policy (Transport & Infrastructure) 2021 overrides the Hornsby LEP.

2.5. The Cultural Environment

Are there any known or potential Aboriginal sites / places of cultural significance to the Aboriginal community? Check with AHIMS. Basic searches are free. — Yes

If yes, what are the mitigation measures?

An Aboriginal Heritage Due Diligence Assessment (Umwelt, 2023) and Heritage Impact Statement (Umwelt, 2022) has been completed for the proposed activity.

The results of an AHIMS search (Umwelt, 2023) completed on the 28 November 2022 for an approximate 1 km buffer centred on the activity area (i.e., the 'AHIMS search area'; AHIMS search #73626) identified 10 Aboriginal sites. Of those Aboriginal sites reported in the AHIMS search results, none fall within the footprints of any of the activity area.

Mitigation measures are discussed in section 3, subsection 3 of this REF.

2.5.1. Are there any Aboriginal heritage considerations? Yes

(The Heritage Planner can be consulted with regard to known Aboriginal sites and the procedures for archaeological surveys and consulting the Metropolitan Land Council.)

If yes, what are they?

A rockshelter and PAD first identified by AECOM (2015), located within 40 m of the proposed works associated with the skywalk and boardwalk (AHIMS ID#45-6-4077), was reinspected by Umwelt (2023) to determine the current condition and evaluate AECOM's initial assessment.

The results of the visual inspection conducted by Umwelt (2023) confirmed that the overhang was likely suitable for intermittent occupation and exhibited intact sandy soils that have potential to retain archaeological evidence.

No other areas of Aboriginal archaeological sensitivity were identified.

2.5.2. Known and potential historic places or relics. Yes

Are there any European heritage considerations?

(Heritage items and Heritage Conservation Areas are listed in Schedule 5 – Environmental Heritage of the HLEP 2013 and identified on the HLEP 2013 – Heritage Map. Details of the significance of the item or area are contained on the Heritage Register located on Council's Intranet. Consultation should occur with the Heritage Planner if the proposal may affect a heritage item or is within a heritage conservation area.)

If yes, what are they?

A search of Schedule 5 of the Hornsby LEP (Umwelt, 2022) identified that the proposed works to Hornsby Park are within several allotments listed as landscape items of environmental heritage with local significance.

The south-east corner of the works site is within the Peats Ferry Road Precinct of the Hornsby West Side Conservation Area C5, listed in Schedule 5 of the Hornsby LEP 2013.

- 1X Quarry Road, Hornsby (Old Mans Valley / Hornsby Quarry) – Item No: I538,
- XX Street Name, Suburb (Old Mans Valley / Sandstone Steps) - Item No: I537, and
- 203X Peats Ferry Road, Hornsby (Hornsby Park R52588) - Item No: I513.

In addition, the 'Higgins Family Cemetary (No. A55) is listed on the State Heritage Register. The proposed works are kept outside this state significant heritage item and all its curtilage (Umwelt, 2022).

The Hornsby Heritage Steps are included as a locally significant Heritage Item No. 537 in Schedule 5 - Environmental Heritage of the Hornsby Local Environment Plan 2013. It is thought that some sections were built by the Higgins Family, early settlers of Hornsby. The remaining sections were built during the Great Depression (1933-1935) as a 'works for the relief of unemployment' program.

Other heritage listed items in the vicinity of the activity area are visually and physically separated from the site by local topography.

Findings of Umwelt (2022) was that the proposed activity is acceptable, from a heritage perspective, for the following reasons:

- Retains the elements of the enlarged Hornsby Park that contribute to its significance as items of environmental significance. This includes potential Aboriginal deposits as identified to date, known archaeological deposits and works, significant landforms of natural and fabricated origin, and the indigenous ecological communities,
- The site of state significance would be avoided, and there would be no impact on the Higgins Family Cemetery, and

- The new fabricated works would be screened by existing and proposed vegetation.

These works are intended to enhance public enjoyment of the park for recreation and interpretation of the natural and cultural significance of the site.
The proposal is, therefore, consistent with the relevant heritage objectives of the Hornsby LEP 2013.

2.5.3. Collective values of landscape — Yes

Are there any cultural or historic features of the landscape?

The activity area is located within the Hornsby West Side Conservation Area (Mt Errington Precinct).

Umwelt's (2022) assessment, based on the NSW Heritage Manual, determined the following aspects of the proposal respect or enhance the heritage significance of the item or conservation area for the following reasons:
- The vegetation of the landscape heritage items will improve the ecological value of the land enormously. Much of the land has noxious weeds predominating and the bush care and reconstruction of indigenous ecological communities will contribute natural heritage value to the wider site, and the sites of this review of environmental factors in particular,
- The drainage works in this review of environmental factors will protect reconstructed indigenous habitat, and be a protective measure against the deeper former quarry filling with excessive surface water,
- The works will allow equal access to a wider area of Hornsby Park. This will enhance public appreciation of the ecological communities as existing and approved, and includes additional planting of indigenous forest types, and
- The additional structures within this review of environmental factors will enhance community use of the park, without any adverse impact on contributing elements of the items of environmental heritage or the conservation area. These additional public spaces will be screened by vegetation from other areas of the park.

In contrast, Umwelt (2022) determined that the following aspects of the proposal could detrimentally impact on heritage significance. The reasons are explained as well as the measures to be taken to minimise impacts:
- The excavation for the sky walk will make holes in the sandstone rocks and bedrocks of the sclerophyll forest of eucalypts and turpentines. Nonetheless, the skywalk will enhance public appreciation of the conserved forest, which will enhance its social value. The skywalk will be screened by existing vegetation in distant views, so it is unlikely to be seen as an intrusive element. The removal of a small number of indigenous trees will be greatly outweighed by the planting of very many indigenous trees across the larger Hornsby Park site.

The Heritage Impact Statement (Umwelt, 2022) concluded that the proposed activity will have no adverse heritage impact on the tree canopy or bushland, which are the relevant site elements that contribute to the conservation area.

2.5.4. Description of built environment — No

What is the built environment/are there any considerations necessary?

Not applicable. The Crusher Plant is not identified as being of heritage significance and the activity does not propose modification to the existing building.

2.5.5. Other (please specify any other cultural factors)

Not applicable.

Describe, if any, the mitigation measures to be applied.

Not applicable.

2.6. The Social Environment – current usage and impacts

2.6.1. Recreation Yes

Are there currently recreational aspects to consider?

If yes, what are they?

One of the most popular existing recreational uses of the site is the extensive existing mountain bike trails found around Old Man's Valley. The Park currently has a 6-kilometre mountain bike track in the north, east and southern bushland parcels (HSC, 2020). The activity proposes to maintain existing mountain bike tracks, however existing tracks may be used intermittantly for access to work areas to avoid impacting native vegetation.

Mitigation Measures:
All points of intersection with the works areas will need need to be clearly sign posted during and post construction to ensure safety for all users.

2.6.2. Scenic/Visual — No

Are there currently scenic/visual aspects to consider?

(See SREP 20 Scenic Significance Maps.)

If yes, what are they?

Not applicable. This is a repealed State Environmental Planning Policy and has been superseded by the State Environmental Planning Policy (Biodiversity & Conservation) 2021 as part of the Department's initiative to consolidate State Environmental Planning Policies to simplify and provide certainty to the planning system. Discussion of SEPP (Biodiversity & Conservation) 2021 is provided within section 2, subsection 1 of this REF.

The following principles will underpin the design, construction, visitor use and experience of the Canopy Skywalk, with relevance to visual impacts:

- Minimise the visual and noise impact of the Canopy Skywalk on those walking below.
- Ensure that design and construction techniques create the lightest possible environmental impact,
- Implement native vegetation restoration in any areas where the canopy's alignment coincides with areas of degraded bushland,
- Minimise visual impacts on heritage features such as the Depression era steps
- Choose a route alignment that balances maximising visitor experience with the smallest viable environmental footprint
- Ensure pylon design complements the existing tree forms and minimises visual impact
- Design the walkway to create a sense of lightness in appearance
- Use modular design to maximise flexibility in working around existing natural and cultural heritage elements

Mitigation measures are detailed within section 3, subsection 3 of this REF

2.6.3. Education — No

Are there any current educational uses to consider?

If yes, what are they?

Not applicable.

2.6.4. Scientific Sites

Are there currently scientific uses on the site to consider? — No

If yes, what are they?

Not applicable.

2.6.5. Other (please specify any other social uses on the site)

Not applicable.

Describe, if any, the mitigation measures to be applied.

Not applicable.

3. Environmental Impacts of the Proposed Activity

Answer Yes or No indicating if the proposed activity will have an impact on the environment. If the answer is yes, qualify the level of impact and add information on the type and extent of the impact. Indicate if the impact will be beneficial or harmful to the environment. Include whether the impact will be temporary, long term, or cumulative in nature.

Physical or Pollution Impacts

3.1. Air Impacts

3.1.1.	Air Quality	Yes	Low

If yes, will that impact be high, medium or low?

If yes, what are the mitigation measures?

There may be minor, short-term harmful impacts to air quality resulting from spoil mounds and unsealed access tracks during construction.

These impacts are avoidable and will only arise through inadequate mitigation or improper implementation.

Mitigation measures:

- A Construction Management Plan (CMP) will be prepared by a suitably qualified environmental consultant, which will include an Air Quality and Dust Management Plan describing all methods to minimise dust generation during all works,
- Exposed areas must be restricted to the smallest area possible and for as short a time as possible,
- Regularly water exposed and disturbed areas during dry and windy weather conditions,
- Dust suppression must be maintained throughout the duration of the proposed activity,
- Adjust the intensity of the activities according to the weather conditions,
- Where appropriate, material will be watered prior to it being loaded for on-site haulage and loads will be covered.
- Vehicles must travel at appropriate speeds to limit dust generation
- On-site traffic will be controlled by designating specific routes for haulage and access and limiting vehicle speeds to below 25 km/h
- All trucks hauling material on the way to the site will be covered and a reasonable amount of vertical space will be maintained between the top of the load and top of the trailer
- Where possible, minimise the extent of loose materials stockpiled at the site, and
- All land disturbed by earthworks will be stabilised prior to the decommissioning of the activity area.

3.1.2.	Greenhouse or ozone considerations If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, short-term harmful impacts to greenhouse and ozone resulting from machinery and vehicle emissions during construction. These impacts are largely unavoidable, but can be minimised through inadequate mitigation or improper implementation. Mitigation measures: • Machinery, plant and equipment must be inspected prior to commencement of works on site, • Machinery, plant and equipment used in construction must be maintained to appropriate operating standards, with regular inspections to ensure that it continues to operate efficiently, and • Machinery must not be left idling or running when not in use.	Yes	Low
3.1.3.	Any other air impacts If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.2. Water Impacts

3.2.1.	Impacts from changes in surface or groundwater quality.	Yes	Low

If yes, will that be high, medium or low?

If yes, what are the mitigation measures?

There may be minor, short-term harmful impacts to surface or groundwater quality resulting from accidental discharges, spillages or leaks of pollutants during construction.

These impacts are avoidable and will only arise through inadequate mitigation or improper implementation.

Mitigation measures:

- A CMP, including Construction Soil and Water Management Plan will be prepared by a suitably qualified environmental environmental consultant,which will:

i. be prepared by a suitably qualified expert, in consultation with Council

ii. describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book'

iii. provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site)

iv. detail all off-Site flows from the Site; and

v. describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events

- Management measures would be implemented in accordance with the proposed works procedures documented in a CMP and would include appropriate surface water management measures to minimise impacts and the preparation of an erosion and sedimentation plan
- Erosion and sediment control measures implemented prior to construction at any stockpiles or work areas to avoid impacts to waterways via stormwater runoff
- Sediment fencing being installed along the length of the study area and pit filters installed at existing drainage structures
- Erosion and sedimentation measures to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request
- Erosion and sediment control measures not being removed until the works are complete and areas are stabilised, and
- No release of dirty water into drainage lines and/or waterways.

3.2.2.	Impacts from use of water If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.2.3.	Impacts from changes to natural water bodies, wetlands or runoff patterns. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, short-term harmful impacts to runoff patterns resulting from improper erosion and sediment controls during construction. These impacts are avoidable and will only arise through inadequate mitigation or improper implementation. Mitigation measures: • Management measures would be implemented in accordance with the proposed works procedures documented in a CMP and would include appropriate surface water management measures to minimise impacts and the preparation of an erosion and sedimentation plan, and • Erosion and sediment controls designed in accordance with the Blue Book.	Yes	Low
3.2.4.	Impacts from changes to flooding or tidal regimes. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.2.5.	Impacts from changes in water quality with economic, ecosystem health or amenity considerations e.g. salinity, colour, odour, turbidity, temperature, dissolved oxygen, nutrients, pH factors or pollutants (intentional or unintentional releases of oil, fuels, toxins – including heavy metals and anti-foulants, spoil, sewage or other waste). If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, short-term harmful impacts to surface or groundwater quality resulting from accidental discharges, spillages or leaks of pollutants during construction. These impacts are avoidable and will only arise through inadequate mitigation or improper implementation. Mitigation measures: • All works in proximity to natural waterbodies must be undertaken at least 24 hours following last rainfall, and the site must be cleared of all construction material at least 24 hours prior to next forecast rainfall to prevent unintended releases of pollutants, • A procedure would be developed as part of the CMP and will include: o Established appropriate water quality parameters for the release of water from excavations and identify appropriate release points. o Ensure that all potential management options are considered and that and that any future release is done so in accordance with all relevant legislative requirements. • If groundwater is intercepted during excavations it is to be collected and managed in accordance with the CMP, • Management measures would be implemented in accordance with the proposed works procedures documented in a CMP and would include appropriate surface water management measures to minimise impacts and the preparation of an erosion and sedimentation plan, • Erosion and sediment controls designed in accordance with the Blue Book, • Erosion and sediment control measures implemented prior to construction at any stockpiles or work areas to avoid impacts to waterways via stormwater runoff, • Sediment fencing being installed along the length of the study area and pit filters installed at existing drainage structures, • Erosion and sedimentation measures to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request, • Erosion and sediment control measures not being removed	Yes	Low

until the works are complete and areas are stabilised, and
- No release of dirty water into drainage lines and/or waterways.

3.2.6.	Impacts from waste water generation and sewage services. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.2.7.	Other Are there any other possible impacts to water as a result of the activity? If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.3. Soil and stability impacts

3.3.1.	Degradation of soil quality including contamination (intentional or unintentional). If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, long-term harmful impacts to soil quality caused by weed spread, pathogens and pollutants during construction. These impacts are avoidable and will only arise through inadequate mitigation or improper implementation. Mitigation measures: • Any excess construction or demolition material will be disposed of at an appropriately licensed facility, • Any excess spoil material, including any material that has been stockpiled during construction works would be classified prior to leaving site. Excess spoil would be managed dependent on its classification, o The re-use of material under the Excavated Public Road Material Order is subject to material being assessed as 'fit for purpose' and in accordance with the EPRM Exemption 2014 under the Protection of the Environment Operations (Waste) Regulation 2014, o For any excess spoil where potentially contaminating activities have been identified on site (including Acid Sulphate Soils) this material would be tested and classified prior to leaving site. For any excess spoil material classified as contaminated, disposal of this material would be at an appropriately licenced landfill in accordance with the EPA (2014) Waste Classification Guidelines, • A strict hygiene protocol is essential to prevent the spread of pathogens, including Phytophthora cinnamomi, Myrtle Rust and weed propagules Procedures and guidelines musts include disinfecting machinery, Personal Protective Equipment, tools and equipment prior to entering and when leaving the site, • Waste generated by the proposed activity would be recycled as a first preference. The handling, transport and disposal/re-use of materials should be undertaken in accordance with regulatory and statutory requirements, and • Construction works to be undertaken in accordance with a CMP.	Yes	Low

3.3.2.	Salinisation of acidification impacts. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	Low
3.3.3.	Loss of soil from wind or water erosion. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, short-term loss of soil resulting from wind and water erosion during construction. These impacts are avoidable and will only arise through inadequate mitigation or improper implementation. Mitigation measures: • Exposed areas must be restricted to the smallest area possible and for as short a time as possible, • Regularly water exposed and disturbed areas during dry and windy weather conditions, • Dust suppression must be maintained throughout the duration of the proposed activity, • Adjust the intensity of the activities according to the weather conditions, • Where possible, minimise the extent of loose materials stockpiled at the site, and • All land disturbed by earthworks will be stabilised prior to the decommissioning of the study area.	Yes	Low

3.3.4.	Loss of structural integrity of the soil. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, short-term loss of structural integrity of the soil during construction. These impacts are avoidable and will only arise through inadequate mitigation or improper implementation. Mitigation measures: • Exposed areas must be restricted to the smallest area possible and for as short a time as possible, • All land disturbed by earthworks will be stabilised prior to the decommissioning of the study area, and • Revegetation works within the proposal areas to be undertaken in accordance with the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020).	Yes	Low
3.3.5.	Increased land instability with risks from landslides or subsidence. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.3.6.	Impacts from on-site waste water disposal.	Yes	Low

If yes, will that impact be high, medium or low?

If yes, what are the mitigation measures?

There may be minor, short-term harmful impacts to water quality resulting from accidental discharges of detention basins during contruction.

These impacts are avoidable and will only arise through inadequate mitigation or improper implementation.

Mitigation measures:

- All recommendations within the Waste Management Plan (Dickens Solutions, 2022) prepared for Hornsby Park are to be implemented,
- A CMP, including a Construction Waste Management Plan will be prepared by a suitably qualified environmental consultant, which will:

i. detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations; and

ii. removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of construction.

iii. details of waste removal from the site to ensure compliance with the Protection of the Environment Operations (Waste) Regulation 2014

iv. details of the tracking of waste entering or leaving the site, including vehicle logs, driver details and classification of waste pursuant to the NSW EPA Waste Classification Guidelinesprovide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the activity area), detail all off-site flows from the activity area, describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events

- Management measures would be implemented in accordance with the proposed works procedures documented in a CMP and would include appropriate surface water management measures to minimise impacts and the preparation of an erosion and sedimentation plan,
- A procedure would be developed as part of the CMP and will include:
  - Established appropriate water quality parameters for the release of water from excavations and identify appropriate release points,

o Ensure that all potential management options are considered and that and that any future release is done so in accordance with all relevant legislative requirements.

• No release of dirty water into drainage lines and/or waterways.

3.3.7.	Other soil issues. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.4. Noise and vibration impacts

3.4.1.	Results in increased noise or vibrations to unacceptable levels for the surrounding communities. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, short-term harmful impacts to noise and vibration resulting from plant and machinery utilised during contruction. The Noise and Vibration Impact Assessment (GHD, 2023) prepared for the activity concluded that both construction vibration management measures are not required as no structures are located within the minimum working distances for construction vibration and noise impacts during operation are not anticipated therefore no operational noise management measures are required. Construction noise is expected to cause the following noise impacts: • Exceedances of the Noise Management Level (NML) at up to 98 residential receivers and 2 non-residential receivers during site establishment. Site establishment and demobilisation would be completed over a period of 8 weeks • Exceedances of the NML at up to 23 residential receivers and 1 non-residential receiver during the crusher plant building works (S2). Crusher plant building works would be completed over a period of 8 weeks. • Exceedances of the NML at up to 48 residential receivers and 2 non-residential receivers during the Skywalk, bridge, and Southern lookout geotechnical works. These geotechnical works would be completed over a period of 2 weeks. • Exceedances of the NML at up to 81 residential receivers and 3 non-residential receivers during the Skywalk, bridge, and Southern lookout works. These works would be completed over a period of 30 weeks. • Exceedances of the NML at up to 187 residential receivers and 1 non-residential receivers during the crush plant platform works (S4). These works would be completed over a period of 8 weeks. • Exceedances of the NML at up to 222 residential receivers and 1 non-residential receivers during the tracks and trail works. These works would be completed over a period of 24 weeks. • Exceedances of the NML at up to 66 residential receivers and 1 non-residential receivers during the fire trail works. These works would be completed over a period of 8 weeks. It is typical for construction projects to exceed the construction	Yes	Medium

noise management levels. Any impacts due to construction works are temporary in nature and would not represent a permanent impact on the community and surrounding environment. The predicted noise levels are generally conservative and would only be experienced for limited periods during construction.These impacts are largely unavoidable, but can be minimised through inadequate mitigation or improper implementation.

Mitigation measures:

- All recommended management mitigation measures listed within the Noise and Vibration Impact Assessment (GHD, 2023) are to be implemented,
- A CMP, including a Construction Noise and Vibration Management Plan will be prepared by a suitably qualified environmental environmental consultant, which will:

i. describe procedures for achieving the noise management levels in EPA's Construction Noise Guideline
ii. include the recommended noise management and mitigation measures
iii. hours of construction
iv. describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers
v. include strategies that have been developed with the community for managing high noise generating works
vi. describe the community consultation undertaken to develop the plan
vii. include a complaints management system that would be implemented for the duration of the construction; and
viii. include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the management measures.

- All works must be undertaken in accordance with construction noise guidelines,
- Nearby sensitive receivers must be notified regarding the commencement and duration of construction activities,
- Nearby residents and businesses must be made aware of the contact details of the complaints handling system,
- All works will be undertaken during standard construction hours, being Monday to Friday 7am to 6pm and Saturday 8am to 1pm. OR Where practical, undertake the disruptive works (those causing the most significant noise and vibration impacts) during the standard work hours,
- Turn off plant that is not being used,
- Examine, and implement where feasible and reasonable, alternative work practices which generate less noise or vibration impacts,

- Ensure plant is regularly maintained, and repair or replace equipment that becomes noisy or causes excessive vibration impacts
- Arrange the work site to minimise the use of movement alarms on vehicles and mobile plant,
- All employees and contractors should receive an environmental induction prior to commencement of works. The induction should include but not be limited to
  - relevant project specific and standard noise and vibration mitigation measures
  - permissible hours of work
  - location of nearest sensitive receivers
- Keep truck drivers informed of designated vehicle routes, parking locations, acceptable delivery hours or other relevant practices (for example, minimising the use of engine brakes and no extended periods of engine idling)
- Avoid the use of radios or stereos outdoors where neighbours can be affected, and
- Regularly train workers and contractors (such as at toolbox talks) to use equipment in ways to minimise noise.

3.4.2.	Affects sensitive properties (educational, hospitals, residential, heritage). If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? No noise level exceedences are predicted for educational facilities, hospitals, places of worship. Noise level exceedences for residential receivers including mitigation measures are discussed in s3.4.1 of this REF. There may be minor, long-term harmful impact to the identified rockshelter/PAD site (AHIMS ID#45-6-4077) near Quarry Road. The nearest potential works are identified as: • Sky walk construction, with worst-case vibration generating equipment being a piling rig (bored) – approximately 70 metres from rock overhang • Enabling works / road construction, with worst-case vibration generating equipment being a vibratory roller) – approximately 35-40 metres from rock overhang Given the proximity to the vibratory rolling works, there is the potential that vibratory rolling works may impact the rock overhang. While the cosmetic damage (DIN 4150) criteria can be used for guidance, it should be noted that this criteria is for man-made structures and no such criteria exists for non-built heritage sites (GHD, 2023). This impact is unlikely, avoidable and will only arise through inadequate mitigation or improper implementation. Mitigation measures: • Works in the vicinity of the identified rockshelter/PAD site (AHIMS ID#45-6-4077) near Quarry Road must be managed to ensure works do not result in any direct and/or indirect impact to the site, • It is recommended that a geotechnical investigation be undertaken prior to the commencement of construction works to determine the condition of the rock overhang. Following this investigation further advice can be given to manage vibration impacts on the structure. This may include vibration monitoring during works to determine whether the works will impact the structure. • The proposed embellishment works, including any required heavy plant/machinery, should be reviewed by a qualified engineer to determine if any vibration is likely to exceed acceptable thresholds in the vicinity of the rockshelter, and	Yes	Low

- Council must also include the rockshelter in any future and/or ongoing management and ensure the site is protected from harm.

3.4.3.	Other noise issues. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be a minor, short-term harmful impact to threatened fauna particuarly the Powerful Owl (Ninox strenua) breeding pair within Hornsby Park. Although increased noise pollution during the and following the activity are expected, Anderson (2023) conclude that the activity is not considered likely to significantly exacerbate the existing state of these impacts in the locality. This impact is largely avoidable and impacts to breeding behaviours will only arise through improper implementation of mitigations. Mitigation measures: • All noise-related recommendations within the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020) and the Ecological Impact Assessment (Anderson, 2023) are to be implemented. • High-impact works involving machinery, or in close proximity to the known breeding location of the Powerful Owl shall be restricted to outside the breeding season (April-October), and • Restricting works to daylight hours and minimising the use of loud machinery whenever possible or containing such machinery within noise barriers.	Yes	Low

Biological Impacts

3.5. Fauna Impacts

3.5.1.	Any impacts upon or displacement of fauna species (including mammals, birds, frogs, reptiles, insects, fish or crustaceans.) If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be a minor, short-term harmful impact upon fauna. This impact is largely avoidable and impacts to breeding behaviours will only arise through improper implementation of mitigations. Mitigation measures: • All recommendations within the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020), the Ecological Impact Assessment (Anderson, 2023) and the Arboricultural Impact Assessment Report (Arterra, 2023) are to be implemented, • Restricting works to daylight hours and minimising the use of loud machinery whenever possible or containing such machinery within noise barriers, • Carry out excavation and backfilling works within a single day. If sections of trench are required to be left overnight cover with metal plates or heavy wooden boards to prevent fauna access, • Limit speeds, and installing warning signage along roads within the Hornsby Park area. Adequate lighting along vehicle roads where it pertains to the proposed activity, • High-impact works, generating significant noise and vibration or works in close proximity to the known breeding location of the Powerful Owl shall be restricted to outside the breeding season (April-October), • Artificial lighting must balance the requirements of the Crime Prevention Through Environmental Design (CPTED), and avoidance of impacts to sensitive fauna, including to: o have specified the controllable lighting with motion activated lights and directed lighting, turned on from dusk until dawn at key activity areas and accessible paths, o have proposed passive lighting to light the paths and support the function of the spaces at night time, o be designed in a manner, or by restriction of location that senstive nocturnal fauna are not disturbed, or as advised by a project ecologist (sensitive internal lighting plan to avoid throwing excessive light onto adjacent bushland areas [Anderson, 2023]), • Open skywalk path design to minimise full shading thrown by structures, • Pre-clearing survey to be undertaken by a suitably-qualified ecologist, • If active nests are observed in the canopy of any trees, the	Yes	Low

felling of the trees should occur outside of this period,
- An ecologist be present for vegetation clearing works. The ecologist must have a minimum of 3 years' experience, and
- Vegetation to be retained should be clearly marked and fenced prior to the commencement of construction works.

3.5.2.	Any reduction of/or critical habitat of any unique, threatened or endangered fauna (within the meaning of the NP&W Act 1974). If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? The closest Critical Habitat (now Area of Outstanding Biodiversity Significance) is located >20 km west, being the Little Penguin population in Manly, as such there will be no reduction of critical habitat.	No	N/A
3.5.3.	Impacts which create significant barriers to fauna movement. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Anderson (2023) determined that the proposed activity would remove vegetation within fauna movement corridors within the 'Subject Land' (activity area). However, these impacts would largely be located along existing trackways or adjacent to existing cleared areas. Overall connectivity of vegetation on the Subject Land to adjacent native vegetation and the wider Berowra Valley National Park would not be significantly reduced for threatened and other native flora and fauna as a result of the activity.	No	N/A

3.5.4.	Any other impacts	Yes	Low

If yes, will that impact be high, medium or low?

If yes, what are the mitigation measures?

Anderson (2023) determined that the canopy skywalk and pathway from Sports Field to Quarry Void will require the movement of some rocky areas containing crevices for the installation of piers etc. The remaining works areas would pass over or near to similar rock areas containing small crevices.

This impact may result in a minor, short-term harmful impact resulting in displacement of fauna. These impacts are largely unavoidable, but can be minimised through inadequate mitigation or improper implementation.

Mitigation measures:

- All recommendations within the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020), the Ecological Impact Assessment (Anderson, 2023) and Arboricultural Impact Assessment Report (Arterra, 2023) are to be implemented,
- Rocks removed by works can be relocated to nearby areas or replaced following works.

3.6. Flora Impacts

3.6.1.	Any impact on flora species (including trees, shrubs, grasses, herbs or aquatic plants.) If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, long and short-term harmful impacts to flora resulting from direct (clearing) and indirect (spread of weeds and pathogens) during construction. Indirect impacts are avoidable and will only arise through inadequate mitigation or improper implementation. Direct impacts are unavoidable, but can be minimised through inadequate mitigation or improper implementation. Mitigation measures: • All recommendations within the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020), the Ecological Impact Assessment (Anderson, 2023) and the Arboricultural Impact Assessment Report (Arterra, 2023) are to be implemented, • A Tree Protection Plan (TPP) prepared by an AQF 5 Arborist in accordance with any approved Arboricultural Impact Assessment and tree location plans, detailing the following: i. a site plan showing tree protection zones (TPZ) and structural root zones (SRZ) of trees to be retained and specific details of tree protection measures inclusive of distances (in metres) measured from tree trunks. ii. construction methodology to avoid damage to trees proposed to be retained during construction works and truck movements. iii. specifications on tree protection materials used and methods within the TPZ or SRZ. iv. location of dedicated material storage space on site outside of TPZ's and SRZ's for retained trees. • Ensure that machinery is free of weed material before entering and exiting the works area to avoid the introduction or spread of weed species, • Priority weeds (as listed for Hornsby LGA) should be removed and disposed of at an appropriate waste facility, • Vegetation to be retained should be clearly marked and fenced prior to the commencement of construction works, • If additional clearing works are required these would be subject to additional ecological inspections and assessment, • A strict hygiene protocol is essential to prevent the spread of pathogens, including Phytophthora cinnamomi, Myrtle Rust and weed propagules Procedures and guidelines musts include disinfecting machinery, Personal Protective Equipment, tools and	Yes	Low

equipment prior to entering and when leaving the site,

- Native vegetative material required to be removed is to be retained for mulch, compost, habitat or site stabilisation as appropriate. Any native tree trunks greater diameter than 200mm will be retained for use on site for habitat enhancement works, the remainder will be retained and chipped for on-site soil manufacturing,
- Stabilised surfaces will be reinstated as quickly as practicable after construction, and
- Revegetation works within the proposal area are to be undertaken in accordance with the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020).

3.6.2.	Impacts from the clearing or modifying of extensive areas of relatively undisturbed native vegetation or wetlands. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? The activity involves the direct and indirect impact to 1.15ha of vegetation, and has been determined to be unlikely to significantly impact any Threatened Ecological Community, or threatened flora species (Anderson, 2023). See section 3, subsection 3.6.1 for mitigation measures.	Yes	Low
3.6.3.	Any other impacts. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.7. Ecological Impacts

3.7.1.	Any threat to the biological diversity or ecological integrity of species or communities. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? The activity involves the direct and indirect impact to 1.15ha of vegetation, and has been determined to be unlikely to significantly impact any Threatened Ecological Community or species (Anderson, 2023). See section 3, subsection 3.6.1 for flora related mitigation measures, and section 3, subsection 3.5.1 for fauna related mitigation measures.	Yes	Low

3.7.2.	Any barrier to the normal replenishment or revegetation of existing species following disturbance. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.7.3.	Impacts from the introduction of noxious weeds, vermin, feral species or diseases or releases of genetically modified organisms. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, long and short-term harmful impacts from the intorduction of weeds, vermin, feral species and diseases during construction. These impacts are avoidable and will only arise through inadequate mitigation or improper implementation. Mitigation measures: • All recommendations within the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020) and the Ecological Impact Assessment (Anderson, 2023) are to be implemented. • Ensure that machinery is free of weed material before entering and exiting the works area to avoid the introduction or spread of weed species, • Priority weeds (as listed for Hornsby LGA) should be removed and disposed of at an appropriate waste facility, • A strict hygiene protocol is essential to prevent the spread of pathogens, including Phytophthora cinnamomi, Myrtle Rust and weed propagules Procedures and guidelines musts include disinfecting machinery, Personal Protective Equipment, tools and equipment prior to entering and when leaving the site, • Revegetation works within the proposal area are to be undertaken in accordance with the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020).	Yes	Low
3.7.4.	Impacts from the uses of pesticides, herbicides, fertilisers or other chemicals which may build up residues in the environment. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.7.5.	Bushfire risk impacts	Yes	Low
	If yes, will that impact be high, medium or low?		
	If yes, what are the mitigation measures?		
	There may be minor, short-term harmful impacts to bushfire risk during construction. These impacts are largely unavoidable, but can be minimised through inadequate mitigation or improper implementation. Mitigation measures: • All Bushfire Protection Measures (BPM) detailed within the Bushfire Assessment Report (KHS Ecology & Bushfire, 2023) are to be implemented, • A Bushfire Emergency Management and Emergency Plan is to be created by a suitably-qualified practitioner for the activity area, and endorsed by the RFS / FRNSW (where necessary), • No construction work is to be carried out on Total Fire Ban days, • Contractors are to monitor 'Fires Near Me' with notifications on mobile devices, • Newly constructed element to be non-combustible, to maximum possible extent, or as detailed within the Bushfire Assessment Report (KHS Ecology & Bushfire, 2023), • The canopy skywalk is to be closed during Total Fire Ban days, or as recommended by an approved Bushfire Emergency Management and Emergency Plan.		
3.7.6.	Any other impacts to ecological systems.	No	N/A
	If yes, will that impact be high, medium or low?		
	If yes, what are the mitigation measures?		
	Not applicable.		

3.8. Threatened Species Considerations

3.8.1.	Is the activity likely to affect any threatened species, populations or ecological communities, or their habitats? If so the following Assessment of Significance under Section 5A of the EP&A act is required. Section 5A subsection 1 states that each of the factors in subsection 2 must be taken into account in deciding whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats, and any assessment guidelines. Threatened species assessment guidelines – the assessment of significance, can be found at http://www.environment.nsw.gov.au/resources/threatenedspecies/tsaguide07393.pdf If 'YES' and threatened species are likely to occur on the site: Consult the Natural Resources Branch for advice and a list of appropriate flora and fauna consultants. (Note: A Species Impact Statement (SIS) is required if an activity is on land that is, or is part of critical habitat; or there is likely to be a significant effect as determined under s.5A of the EP&A Act, the seven part assessment of significance.) Critical habitat: the whole or any part or parts of the area or areas of land comprising the habitat of an endangered species, population or ecological community that is critical to the survival of the species, population or ecological community. Significant impact: if the Assessment of Significance determines that there will be a significant effect on threatened species, populations or ecological communities, or their habitats, an SIS will be required. *Assessment guidelines means assessment guidelines issued and in force under section 94A of the Threatened Species Conservation Act 1995 or, subject to section 5C, section 220ZZA of the Fisheries Management Act 1994.* *Key threatening process means a threatening process specified in Schedule 3 of the Threatened Species Conservation Act 1995 or, subject to section 5C, Part 7A of the Fisheries Management Act 1994.* If yes, what are the mitigation measures? The impacts of the activity on all known and species considered to have a moderate or greater likelihood of occurrence were consequently assessed through 5-part tests, as per Part 7.3 of the BC Act. These concluded that the activity was not likely to have a significant impact on these entities due to the small size of the impact area, the nature of the impact being primarily along existing tracks or adjacent to cleared areas, primarily removing largely exotic understory vegetation and the areas proposed for works already being frequented by park users (Anderson, 2023). See section 3, subsection 3.6.1 for TEC and flora related mitigation measures, and section 3, subsection 3.5.1 for fauna related mitigation measures.	Yes

3.8.2. Section 5A EP&A Act – Assessment of Significance Subsection 2 — No

a) In the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

b) In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

c) In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed;

   i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or,

   ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction?

If yes, what are the mitigation measures?

The activity was determined not likely to have a significant impact upon any threatened community, population or species (Anderson, 2023).

Resource Use Impacts

3.9. Community Resources

3.9.1. Any significant increase in the demand for services and infrastructure resources including roads, power, water supply and drainage, waste (including sewage) management, education, medical and social services. — No — N/A

If yes, will that impact be high, medium or low?

If yes, what are the mitigation measures?

Not applicable.

3.9.2. Any significant resource recycling or reuse schemes to reduce resource usage. — No — N/A

If yes, will that impact be high, medium or low?

If yes, what are the mitigation measures?

Not applicable.

The activity will not generate significant waste, and all spoil will be reused on site. The small number of trees proposed for removal will be mulched, or otherwise salvaged for woody debris reuse on site.

3.9.3.	Any diversion of resources to the detriment of other communities or natural systems. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.9.4.	Any degradation of infrastructure such as roads or bridges. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.9.5.	Any other impacts on community resources If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.10. Natural Resources

3.10.1.	Any disruption or destruction of natural resources (e.g. fish habitat or fish species) with impacts on industries based on these resources. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.10.2.	Any disruption of existing activities (or reduction of future options) because of the natural resource demands of the proposal. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.10.3.	Any use which results in the wasteful use of large amounts of natural resources. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.10.4.	Any use which results in the substantial depletion of natural resources. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.10.5.	Any use which results in the degradation of any area reserved for conservation purposes. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable. Hornsby Park is zoned for recreation (RE1).	No	N/A
3.10.6.	Any other impacts on natural resources. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

Community Impacts

3.11. Social Factors.

3.11.1.	Any impacts which result in a change in the community's demographic structure. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.11.2.	Any environmental impacts that may cause substantial change or disruption to the community (loss of neighbour cohesion, access to facilities, links to other communities, community identity or cultural character). If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable. The intent of the activity is to improve neighbour cohesion, access to facilities, links to other communities, community identity and cultural character.	No	N/A

3.11.3.	Any impacts which result in some individuals or communities being significantly disadvantaged. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.11.4.	Any impacts on the health, safety, security, privacy, or welfare of individuals or communities because of factors such as: • Air pollution or odour. • Noise, vibration, blasting, electromagnetic fields or radiation. • Release of disease or genetically modified organisms. • Lighting, overshadowing or visual impacts. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, short-term harmful impacts on the health, saftey, privacy or welfare of individuals and communties during construction due to construction noise. Vibration impacts and operation noise impacts are not anticipated (GHD, 2023). Mitigation measures: • All recommendations within the Noise and Vibration Impact Assessment (GHD, 2023), the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020) and the Ecological Impact Assessment (Anderson, 2023) are to be implemented. • All works must be undertaken in accordance with construction noise guidelines, • Nearby sensitive receivers must be notified regarding the commencement and duration of construction activities, • Nearby residents and businesses must be made aware of the contact details of the complaints handling system, • All works will be undertaken during standard construction hours, being Monday to Friday 7am to 6pm and Saturday 8am to 1pm. OR Where practical, undertake the disruptive works (those causing the most significant noise and vibration impacts) during the standard work hours, • Turn off plant that is not being used, • Examine, and implement where feasible and reasonable, alternative work practices which generate less noise or vibration impacts, • Ensure plant is regularly maintained, and repair or replace equipment that becomes noisy or causes excessive vibration impacts, • Arrange the work site to minimise the use of movement alarms on vehicles and mobile plant, • All employees and contractors should receive an environmental induction prior to commencement of works. The induction should include but not be limited to, o relevant project specific and standard noise and vibration mitigation measures, o permissible hours of work,	Yes	Low

- location of nearest sensitive receivers,

• Keep truck drivers informed of designated vehicle routes, parking locations, acceptable delivery hours or other relevant practices (for example, minimising the use of engine brakes and no extended periods of engine idling),

• Avoid the use of radios or stereos outdoors where neighbours can be affected,

• Regularly train workers and contractors (such as at toolbox talks) to use equipment in ways to minimise noise, and

• Artificial lighting is to comply with the requirements of the Crime Prevention Through Environmental Design (CPTED).

3.11.5.	Any impacts that result in a change in the level of demand for community resources (e.g. facilities, services and labour force). If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.11.6.	Any other social impacts. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.12. Economic Factors

3.12.1.	Any impacts which result in a decrease to net economic welfare. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.12.2.	Any impacts that result in a direct cost to the community or individuals. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.12.3.	Any impacts that result in a decrease in the community's economic stability. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.12.4.	Any impacts which result in a change to the public sector revenue or expenditure base. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.12.5.	Any other economic impacts. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.13. Heritage, Aesthetic, Cultural Impacts

3.13.1.	Any impacts on locality, place, building or natural landmark having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific, recreational, scenic or social significance or other special value for present or future generations. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? An Aboriginal Heritage Due Diligence Assessment (Umwelt, 2023) and Heritage Impact Statement (Umwelt, 2022) has been completed for the HPE Project. Findings of Umwelt (2023) were: Through a review of environmental and archaeological context for the Project area and environs. No Aboriginal sites are located within the footprints of any proposed works locations and the majority of proposed works locations retain no or low archaeological potential. A single rockshelter/PAD site near Quarry Road is located within 40 m of the proposed works associated with the skywalk and boardwalk. Works in this area must be managed to avoid indirect impact to the site, including any future land use, Council must maintain a record of the site's location and include it in any future and/or ongoing management. In view of the above, the Project will have negligible impact to known and/or potential Aboriginal sites. These works may proceed without any further archaeological assessment, approvals or associated constraint. Findings of Umwelt (2022) were: The proposed activity is acceptable, from a heritage perspective, for the following reasons: • Retains the elements of the enlarged Hornsby Park that contribute to its significance as items of environmental significance. This includes potential Aboriginal deposits as identified to date, known archaeological deposits and works, significant landforms of natural and fabricated origin, and the indigenous ecological communities. • The site of state significance would be avoided, and there would be no impact on the Higgins Family Cemetery. • The new fabricated works would be screened by existing and proposed vegetation. These works are intended to enhance public enjoyment of the park for recreation and interpretation of the natural and cultural significance of the site. Mitigation measures: • All recommendations within the Aboriginal Due Diligence report (Umwelt, 2023) and the Heritage Impact Statement (Umwelt,	Yes	Low

2022) are to be implemented,

- Works in the vicinity of the identified rockshelter/PAD site (AHIMS ID#45-6-4077) near Quarry Road must be managed to ensure works do not result in any direct and/or indirect impact to the site. The proposed embellishment works, including any required heavy plant/machinery, should be reviewed by a qualified engineer to determine if any vibration is likely to exceed acceptable thresholds in the vicinity of the rockshelter,
- Council must maintain a record of the rockshelter/PAD site location and include it in any future and/or ongoing management,
- All relevant contractors and personnel should be made aware of the nature and location of previously recorded Aboriginal sites that lie within and near the Project area. All relevant contractors and personnel should also be made aware of their legal responsibilities under the NP&W Act 1974 and the need to avoid impacts to Aboriginal sites,
- If, in the unlikely event that Aboriginal objects/sites are identified during the Project, all works in the area must cease immediately and the Unexpected Heritage Finds Procedure presented in Appendix B of the Aboriginal Due Diligence Assessment (Umwelt, 2023) must be implemented,
- The final design for the Canopy Sky Walk and Cable Bridge should ensure that they are delivered to complement the Hornsby Hertiage Steps.
- In the event that the proposed design of the embellishment works is altered for any reason, or impact to areas to land that has not been assessed in this report, further Aboriginal heritage assessment may be required. Any proposed alteration must be evaluated by a qualified heritage consultant to determine if the location represents a risk to Aboriginal cultural heritage,
- If human remains are found: Do not further disturb or move these remains, immediately cease all work at the particular location, notify NSW Police, notify OEH's Environment Line on 131 555 as soon as practicable and provide available details of the remains and their location and do not recommence any work at that location unless authorised in writing by the relevant government agency.

3.13.2.	Any impacts from new lighting, glare or shadows. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, long-term harmful impacts to biodiversity from new lighting, glare or shadows during construction and operation. The Specialist Lighting Services - Certificate of Design (JHA, 2022) prepared for the activity, concludes that the lighting design is in accordance with the following: • AS/NZS: 4282: 2019 Control of the Obtrusive Effects of Outdoor Lighting • AS/NZS 1158.3.1:2020 Lighting for Roads and public Spaces • AS/NZS 1680.0:2009 Interior Lighting – Safe Movement The Ecological Impact Assessment prepared by Anderson (2023) identified that the activity will result in the following indirect impacts to fauna habitats: • Increased shading and interaction with canopy from elevated sections of the canopy skywalk, • Increased noise and light pollution on nearby areas of retained native vegetation, reducting fauna utility of this habitat, • Impacts to fauna movement: new physical structures as well as noise, lights and dust generation during both the construction and operational phases has the potential to disrupt the breeding cycle of the known breeding pair of Powerful Owls on the Subject Land. Mitigation measures relating to biodiversity are listed in section 3, subsection 3.5.1 of this REF.	Yes	Low
3.13.3.	Any other heritage, aesthetic or cultural impacts. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.14. Land Use Impacts.

3.14.1.	Any major changes in land use. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A

3.14.2.	Any curtailment of other beneficial issues. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable. Existing recreational activities (i.e. Mountain Biking) will be maintained through the proposed activity.	No	N/A
3.14.3.	Any property value impacts with land use implications. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N/A
3.14.4.	Any other land use impacts? If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable.	No	N//A

3.15. Transportation Impacts (during construction and operation.)

3.15.1.	Substantial impacts on existing transportation systems (rail, water, road, air or pedestrian – both public and private), altering present patterns of circulation, modal split or movement of people and/or goods. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? The Traffic Impact report (Bitzios, 2023) prepared for the activity, determined that the Stage 1 Development of the proposed Hornsby Park is expected to generate 35 vehicles in the critical weekend peak between 11.00am and 12.00pm, however the road network has sufficient capacity to support the Stage 1 Hornsby Park development, acknowledging that the slight and insignificant impacts that would be experienced between now and when Stage 1 works are implemented will mainly be due to the growth in background traffic.	No	N/A
3.15.2.	Directly or indirectly encourages additional traffic.		

a) During construction. Yes Low

If yes, will that impact be high, medium or low?

If yes, what are the mitigation measures?

There may be minor, short-term harmful impacts to traffic generation due to the ingress and egress of vehicles and machinery accessing the proposed activity area are expected. Roads impacted include Bridge Road, Quarry Road, Dural Street and Peats Ferry Road.

Mitigation measures:

- A CMP, including a Construction Traffic and Pedestrian Management Plan will be prepared by a suitably qualified environmental consultant, which will:

i. be prepared in consultation with Council and TfNSW

ii. detail the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services

iii. detail heavy vehicle routes, access and parking arrangements

iv. swept paths analysis to be carried out, showing that the largest vehicles can turn safely at all intersections along the proposed approach and departure route

v. include location of all proposed work zones

vi. details of the haulage routes and the construction hours

vii. details of estimated number and type of construction vehicle movements including morning and afternoon peak and off-peak movements for each stage of construction

viii. details of the construction program highlighting details of peak construction activities and proposed construction staging

ix. any potential impacts to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works

x. detail the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services.

b) During operation. Yes Low

If yes, will that impact be high, medium or low?

If yes, what are the mitigation measures?

There may be minor, long-term harmful impacts to traffic generation due to the ingress and egress of vehicles accessing the proposed activity area during operation.

Key findings of the Traffic Impact report (Bitzios, 2023) prepared for the activity, included:

- The Stage 1 Development of the proposed Hornsby Park is expected to generate 35 vehicles in the critical weekend peak between 11.00am and 12.00pm. For the purpose of this assessment, the background was assumed to grow by 1% per annum
- The road network has sufficient capacity to support the Stage 1 Hornsby Park development, acknowledging that the slight and insignificant impacts that would be experienced between now and when stage 1 works are implemented will mainly be due to the growth in background traffic
- When compared with the 2022 performance, in 2026 with the additional traffic the intersection performance will remain similar. The key George Street intersection with Peats Ferry Road and Westfield Access will provide similar performance
- Traffic at the Peats Ferry Road / Bridge Road would experience a slight increase in delays with LoS move from LoS A in 2022 to LoS B in 2026. This is considered to be minor, and that the intersection will continue to provide acceptable LoS
- The travel time along the southbound Peats Ferry Road is predicted to increase by one and a half minutes. Currently southbound traffic experience delays with slow moving queues along the route. The background traffic growth is expected to exacerbate this. Traffic from the Stage 1 development (five vehicles in the southbound direction) is not expected to contribute to the increased delay
- The travel time along the southbound Pacific Highway will increase by two minutes. This is attributed to queue pushback from the Pennant Hill Road / Pacific Highway due to background traffic growth. Traffic from the Stage 1 development (12 vehicles in the southbound direction) is not expected to contribute to the increased delay
- The increase in travel times along the Southbound Peats Ferry Road and Pacific Highway are attributed to background traffic growths. The slight increase in traffic volumes from the Stage 1 development would not impact the

	2026 traffic performance. These impacts are largely unavoidable, but can be minimised through inadequate mitigation or improper implementation. Mitigation measures: • Install appropriate exclusion barriers, signage and site supervision, • Implement Construction Traffic and Pedestrian Management Plan, which will detail: o traffic control measures, o vehicle and machinery restrictions, and o entry/exit points.		
3.15.3.	Increases demand for parking (off and on street including residential areas.) If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? There may be minor, long-term harmful impacts to parking demand due to an increase in visitation accessing the proposed activity area during operation. As part of the activity, approximately 40 parking spaces will be provided near the crusher plant. This parking will cater for the anticipated parking demand in Stage 1 (Bitzios, 2023). Mitigation Measures: • In order to protect the amenity of nearby residents, parking restrictions may be required in Rosemead Road near the trails and tracks connecting to the lookouts. • Encouragement of both active and public transport (e.g. shuttle bus) options are to be explored where private vehicle use may be reduced. • Review potential to incorporate EV and E- bike charging capabilities. • Prepare an EV shuttle and e-bike charging cost analysis at an appropriate project stage.	Yes	Low
3.15.4.	Any other impacts on transport or traffic. If yes, will that impact be high, medium or low? If yes, what are the mitigation measures? Not applicable	No	N/A

4. Cumulative Impacts

4.1.	Any maintenance impacts through time. If yes, will that impact be high, medium or low? If yes, what mitigation measures will be applied? Asset Management and Maintenance Plans will be developed for each asset. These will address how the work can be performed in conjunction with the requirements of the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020).	Yes	Low

4.1.1.	Any cumulative impacts through time.	Yes	Low

E.g. Undertaking the project again and again

i.e. reclaiming the estuary to develop a car park – eventually there isn't any estuary left as it will be all car park?

i.e. Irrigating an oval with treated effluent, eventually the salt levels might accumulate in the soil and kill the grass.

If yes, will that impact be high, medium or low?

If yes, what mitigation measures will be applied?

It is likely that the open spaces around Hornsby Park will be developed in line with the adopted Master Plan.

Projected benefits of the Hornsby Park project will include:
• enhanced recreational benefits
• tourism value (with associated local economic benefits)
• improved health outcomes due to increased physical activity
• value of community volunteerism
• environmental and heritage conservation benefits
• revenue generation, including sport and facility hire revenue, lease revenue and carparking revenue
• property value uplift for nearby residences.

Physical impacts of the development include the clearing of vegetation and associated edge effects, alteration to surface water flow, increased nutrients, weed incursions.

The Vegetation Management Plan (VMP) comprises a large portion of the Hornsby Park lands. The total area to be managed under the VMP is approximately 42 hectares.

An offset area of approximately 27 hectares has been created as a subset of the land to be managed under the VMP. The use of land within the offset area is clearly defined within the VMP and supports the main objectives of the offset area being for conservation purposes.

Other impacts may be increased noise and changes to local aesthetics for local residents with likely increases in vehicle numbers, parks users and changes to the appearance of the site.

Future development of Hornsby Park will be aligned with the conservation objectives of relevant planning controls and guidelines.

5. Proposed Environmental Safeguards – Plans and Strategies.

Describe measures to ameliorate impacts (e.g. Erosion and Sediment Control Plan (ESCP) or Soils and Waste Management Plan (SWMP), and measures to protect flora and fauna.

Include maps, diagrams, photographs, plans and supporting information.

A plan of the land to which the application relates must accompany the REF indicating the following, on or adjacent to the land:

- The location and design of the proposal.
- A vegetation map (if applicable.)
- Any areas of conservation significance.
- The location of any easements.
- The location and use of any existing buildings and infrastructure, and
- Any other relevant information.

Attachments.at.end.of.document.

- Attachment.A:Location.and.Design.of.the.Proposal
- Attachment.B:Overall.Site.Landscape.Drawings.For.REF
- Attachment.C:Skywalk.Tree.Impact.Comparison
- Attachment.D:Ecological.Impact.Assessment.(Anderson,2023)
- Attachment.E:Aboriginal.Due.Dilligence.(Umwelt,2023)
- Attachment.F:Heritage.Impact.Statement.(Umwelt,2022)
- Attachment.G:Bushfire.Assessment.Report.(KHS.Ecology.and.Bushfire,2023)
- Attachment.H:Crime.Prevention.Through.Environmental.Design.(CPTED).Report.(Clouston,2022)
- Attachment.I:Traffic.Impact.Assessment.(Bitzios,2023)
- Attachment.J:Noise.and.Vibration.Assessment.(GHD,2023)
- Attachment.K:Arboricultural.Impact.Assessment.Report.(Arterra,2023)

6. Disposal of Waste and Surplus Material.

6.1. Description of material and quantities.

Any spoil generated on site will be reused within the Park, either for this (HPE- Stage 1) or as a part of environmental management works, or for a later stage of the proposed Hornsby Park Masterplan.

Any native tree or other vegetation generated will be retained on site and be reused in the Park as mulch, soil making material or for habitat creation.

6.2. Destination approved for all waste and surplus materials.

Hornsby Park (reuse on site).

7. Monitoring

Monitoring will be under the performance criteria of the Vegetation Management Plan and Habitat Creation and Enhancement Plan (HSC, 2020).

8. Public Safety Factors.

The public will be excluded from all work areas during construction. Safety precautions will be required for the delivery of material if a crane is to be used. The precautions are to include public notifications, road closures, bushland access closures and qualified personnel proficient in delivery of materials into bushland. Signage will be placed at either end of the work section requesting track users to wait to be ushered through the work site. Intersections with the Mountain Bike Track will be managed with appropriate signage similar to that provided for pedestrians.

9. Views/opinions/approvals of other authorities if required.

Not applicable.

10. Funding

Please identify the funding source for the works. (Special rates, grants, revenue, donations, in-kind, developer, contributions.)

The project will be primarily funded by Section 7.11 Capital Works Program funds.

11. References

- Arterra Design (2023) Arboricultural Impact Assessment Report Hornsby Park / Hornsby Quarry – Embellishment Works.
- Anderson Environmental (2023) Ecological Impact Assesment for Hornsby Park Embellishments.
- Bitzios Consulting (2023) Hornsby Town Centre Weekend Peak Model - Traffic Impact for the Proposed Hornsby Park Stage 1 Development
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12. Consultation

Does the project require consultation with any of the following authorities or Council staff?

Authority	Consultation Required	Consultation Occurred
Agriculture NSW	No	No
Greater Sydney Local Land Services	No	No
NSW Planning & Environment	No	No
Roads and Maritime Services	No	No

Regional Development Advisory Committee	No	No
NSW Health	No	No
Fire & Rescue NSW	Yes	Yes
NSW Rural Fire Service	No	No
WorkCover NSW	No	No
Electricity Supply Authority (TansGrid, Augrid, Energy Australia, Integral Energy)	Yes	Yes
Transport for NSW	No	No
Office of Environment and Heritage	No	No
NSW Forestry Corporation	No	No
NSW Police Force	No	No
NSW Office of Finance and Services	No	No
NSW Trade and Investment	No	No
Sydney Water	Yes	Yes
Community organisations / committees	No	No
Members of Parliament	No	No
Other	No	No
Internal Referrals	Consultation Required	Consultation Occurred
Traffic & Road Safety Branch	Yes	Yes
Environmental Health & Building Surveyor	Yes	Yes
Development Engineer	No	No
Planning Branch	Yes	Yes
Landscape Team	Yes	Yes
Compliance & Certification Branch	No	No
Waste Management Branch	Yes	Yes
Natural Resources Branch	Yes	Yes
Fire Control	Yes	Yes
Other	No	No

See also Appendix B.

13. This REF/Part V Assessment was prepared by:

Alex Graham - Principal, East Coast Ecology.

Name and title/project officer

Click here to enter a date.

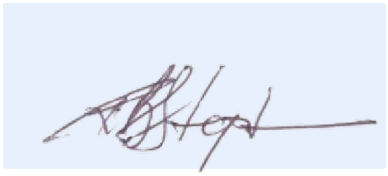
Signature Date

14. Conclusions and recommendations

(Select)

☒		The proposal will not have any significant impact on the environment and should proceed;
☒		The proposal will include mitigation measures and methods to avoid a significant impact on the environment and should proceed;
☐		The proposal will have a significant impact on the environment and an environment impact statement is required;
☐		The proposal is on land that is, or is part of, critical habitat or is likely to have a significant impact on threatened species, populations or ecological communities, or their habitats, and a species impact statement is required; or
☐		The proposal will have a significant impact on the environment and should not proceed.

15. This REF/Part V Assessment is endorsed and approved by:



Bob Stephens		27/04/2023
Branch Manager Name	**Signature**	**Date**

Appendix A

1. Extracts from the Environmental Planning and Assessment Act 1979 and Regulations.

1.1. Part 5 - Duty to consider environmental impact

110 Definitions

(1) In this Part:

Activity means:

(a) the use of land, and

(b) the subdivision of land, and

(c) the erection of a building, and

(d) the carrying out of a work, and

(e) the demolition of a building or work, and

(f) any other act, matter or thing referred to in section 26 that is prescribed by the regulations for the purposes of this definition, but does not include:

(g) any act, matter or thing for which development consent under Part 4 is required or has been obtained, or

(h) any act matter or thing that is prohibited under an environmental planning instrument, or

(i) exempt development, or

(j) development carried out in compliance with an order under Division 2A of Part 6, or

(k) any development of a class or description that is prescribed by the regulations for the purposes of this definition.

Approval includes:

(a) a consent, licence or permission or any form of authorisation, and

(b) a provision of financial accommodation by a determining authority to another person, not being a provision of such financial accommodation, or financial accommodation of such class or description, as may be prescribed for the purposes of this definition by a determining authority so prescribed.

Determining authority means a Minister or public authority and, in relation to any activity, means the Minister or public authority by or on whose behalf the activity is or is to be carried out or any Minister or public authority whose approval is required in order to enable the activity to be carried out.

Nominated determining authority, in relation to an activity, means the determining authority nominated by the Minister in accordance with section 110A in relation to the activity.

Proponent, in relation to an activity, means the person proposing to carry out the activity, and includes any person taken to be the proponent of the activity by virtue of section 110B.

Section 111 - Duty to consider environmental impact

(1) For the purpose of attaining the objects of this Act relating to the protection and enhancement of the environment, a determining authority in its consideration of an activity shall, notwithstanding any other provisions of this Act or the provisions of any other Act or of any instrument made under this or any other Act, examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity.

(2) Without limiting subsection (1), a determining authority shall consider the effect of an activity on:

(a) any conservation agreement entered into under the National Parks and Wildlife Act 1974 and applying to the whole or part of the land to which the activity relates, and

(b) any plan of management adopted under that Act for the conservation area to which the agreement relates, and

(c) any joint management agreement entered into under the Threatened Species Conservation Act 1995.

(3) Without limiting subsection (1), a determining authority shall consider the effect of an activity on any wilderness area (within the meaning of the Wilderness Act 1987) in the locality in which the activity is intended to be carried on.

(4) Without limiting subsection (1), a determining authority must consider the effect of an activity on:

(a) critical habitat, and

(b) in the case of threatened species, populations and ecological communities, and their habitats, whether there is likely to be a significant effect on those species, populations or ecological communities, or those habitats, and

(c) any other protected fauna or protected native plants within the meaning of the National Parks and Wildlife Act 1974.

2. Environmental Planning and Assessment Regulations, 1994

82 What factors must be taken into account concerning the impact of an activity on the environment?

(1) For the purposes of Part 5 of the Act, the factors to be taken into account when consideration is being given to the likely impact of an activity on the environment include:

(a) for activities of a kind for which specific guidelines are in force under this clause, the factors referred to in those guidelines, or

(b) for any other kind of activity:

(i) the factors referred to in the general guidelines in force under this clause, or

(ii) if no such guidelines are in force, the factors referred to subclause (2).

(2) The factors referred to in subclause (1) (b) (ii) are as follows:

(a) any environmental impact on a community,

(b) any transformation of a locality,

(c) any environmental impact on the ecosystems of the locality,

(d) any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality,

(e) any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations,

(f) any impact on the habitat of protected fauna (within the meaning of the National Parks and Wildlife Act 1974),

(g) any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air,

(h) any long-term effects on the environment,

(i) any degradation of the quality of the environment,

(j) any risk to the safety of the environment,

(k) any reduction in the range of beneficial uses of the environment,

(l) any pollution of the environment,

(m) any environmental problems associated with the disposal of waste,

(n) any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply,

(o) any cumulative environmental effect with other existing or likely future activities.

(p) any impact on coastal processes and coastal hazards, including those under projected climate change conditions.

(3) For the purposes of this clause, the Director may establish guidelines for the factors to be taken into account when consideration is being given to the likely impact of an activity on the environment, in relation to activities generally or in relation to any particular kind of activity.

(4) The Director may vary or revoke any guidelines in force under this clause.

Appendix A. Consideration of section 171(2) Factors

Table 7-1 Factors to be taken into account when considering the impact of an activity on the environment.

Section 171	Comment	Degree of Impact
(a) Any environmental impact on a community?	Noise during construction, however mitigation measures are proposed. Increased noise and/or vibrations through use of tools and machinery. Visual amenity due to changes/clearing in vegetation, machinery present. Restrictions to public access.	Negative – Short term Positive – Long term
(b) Any transformation of a locality? (increased traffic, visitation)	The proposed activity will temporarily transform the locality, as vegetation is removed. Where possible, vegetation will be reinstated under the guidance of the Vegetation Management Plan and Habitat Creation and Enhancement Plan. Stage 1 Development of the proposed Hornsby Park is expected to generate 35 vehicles in the critical weekend peak between 11.00am and 12.00pm, however the road network has sufficient capacity to support the Stage 1 Hornsby Park development, acknowledging that the slight and insignificant impacts that would be experienced between now and when Stage 1 works are implemented will mainly be due to the growth in background traffic.	Negative – Short term Neutral – Long Term
(c) Any environmental impact on the ecosystems of the locality?	There will be no significant impacts on ecosystems of the locality. All impacts on threatened species, populations and communities have been considered and can be adequately mitigated. Vegetation will be removed as part of works, however mitigation measures are proposed.	Negative – Short term
(d) Any reduction in the aesthetic, recreational, scientific or other environmental quality or value of a locality?	The proposed activity is unlikely to cause any reduction in the aesthetic, recreational, scientific or other environmental quality or value of a locality. Following completion, the activity will result in an increase to recreational value of the locality.	Positive – Long term

Section 171	Comment	Degree of Impact
(e) Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?	Known Aboriginal and non-Aboriginal sites are located within the Park. No impact will occur to heritage sites, subject to all mitigation measures recommended within the REF and supporting Aboriginal Due Diligence Report.	Nil.
(f) Any impact on the habitat of protected animals (within the meaning of the *Biodiversity Conservation Act 2016*)?	Tests of Significance (5-part tests) have found impacts are non-significant, and mitigation measures are proposed. All impacts on protected fauna have been considered and can be adequately mitigated.	Nil.
(g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?	Tests of Significance (5-part tests) have found impacts are non-significant, and mitigation measures are proposed. All impacts on threatened species, populations and communities have been considered and can be adequately mitigated. No species of animal, plant or other form of life, whether living on land, in water or in the air are likely to be significantly impacted by the activity.	Nil.
(h) Any long-term effects on the environment?	No long-term effects from the proposed activity are expected. Where possible, vegetation will be reinstated under the guidance of the Vegetation Management Plan and Habitat Creation and Enhancement Plan. No long-term impacts to traffic and visitation are expected as a result of the activity.	Nil.
(i) Any degradation of the quality of the environment?	Short term impacts likely due to construction. The works will not cause or lead to a degradation of the quality of environment. Mitigation measures proposed.	Nil.
(j) Any risk to the safety of the environment?	A low risk to the environment is associated with the proposed activity. Potential for a minor chemical spill (e.g. petrol, oil or concrete) is possible. When undertaken in compliance with the proposed mitigation measures, the work will not impact the risk to the environment.	Nil.
(k) Any reduction in the range of beneficial uses of the environment?	Temporary negative impact on the range of beneficial uses of the environment within the proposed activity area during construction, due to public access restrictions.	Nil.

Section 171	Comment	Degree of Impact
(l) Any pollution of the environment?	A low risk of pollution of the environment is associated with the proposed activity. Potential for a minor chemical spill (e.g. petrol, oil or concrete) is possible. When undertaken in compliance with the proposed mitigation measures, the work will not impact the risk to the environment.	Nil.
(m) Any environmental problems associated with the disposal of waste?	Any waste generated as a result of the activity will be dealt with in accordance with the principles of the *Protection of Environment Operations Act 1997*. All waste is to be disposed of at a licensed waste facility. There is predicted to be minimal waste generated during the proposed activity.	Nil.
(n) Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?	Nil.	Nil.
(o) Any cumulative environmental effect with other existing or likely future activities?	The impacts associated with this stage (Stage 1) of the Hornsby Park project, have been considered alongside impacts approved under DA/101/2019, and impacts associated with future stages of the Hornsby Park project (still in design/planning stage). Specialist reports (Appendix C, Attachments), provide detailed consideration of the cumulative impacts associated with later stages of the project, and found that no significant impact was likely.	Negative – Short term Positive – Long term
(p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?	Nil.	Nil.
(q) Any applicable local strategic planning statements, regional strategic plans or district strategic plans made under Division 3.1 of the Act	Nil.	Nil.
(r) Any other relevant environmental factors?	Nil.	Nil.

Appendix B

1. Consultation

1.1. Exhibition/Notification

Part 2, Division 1, Clauses 13 to 17 of the ISEPP identifies consultation that is required to be undertaken with relevant public authorities and other branches of Council. In summary, there are consultation requirements regarding development with impacts on Council related infrastructure or services, local heritage, and flood liable land. There are also consultation requirements with public authorities (other than councils) and exceptions to the requirements to consult.

The following extract from ISEPP contains the details of the consultation requirements.

Division 1 Consultation

13 Consultation with councils—development with impacts on council-related infrastructure or services

(1) This clause applies to development carried out by or on behalf of a public authority that this Policy provides may be carried out without consent if, in the opinion of the public authority, the development:

(a) will have a substantial impact on stormwater management services provided by a council, or

(b) is likely to generate traffic to an extent that will strain the capacity of the road system in a local government area, or

(c) involves connection to, and a substantial impact on the capacity of, any part of a sewerage system owned by a council, or

(d) involves connection to, and use of a substantial volume of water from, any part of a water supply system owned by a council, or

(e) involves the installation of a temporary structure on, or the enclosing of, a public place that is under a council's management or control that is likely to cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential, or

(f) involves excavation that is not minor or inconsequential of the surface of, or a footpath adjacent to, a road for which a council is the roads authority under the *Roads Act 1993* (if the public authority that is carrying out the development, or on whose behalf it is being carried out, is not responsible for the maintenance of the road or footpath).

(2) A public authority, or a person acting on behalf of a public authority, must not carry out development to which this clause applies unless the authority or the person has:

(a) given written notice of the intention to carry out the development to the council for the area in which the land is located, and

(b) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.

14 Consultation with councils—development with impacts on local heritage

(1) This clause applies to development carried out by or on behalf of a public authority if the development:

(a) is likely to have an impact that is not minor or inconsequential on a local heritage item (other than a local heritage item that is also a State heritage item) or a heritage conservation area, and

(b) is development that this Policy provides may be carried out without consent.

(2) A public authority, or a person acting on behalf of a public authority, must not carry out development to which this clause applies unless the authority or the person has:

(a) had an assessment of the impact prepared, and

(b) given written notice of the intention to carry out the development, with a copy of the assessment, to the council for the area in which the heritage item or heritage conservation area (or the relevant part of such an area) is located, and

(c) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.

15 Consultation with councils—development with impacts on flood liable land

(1) In this clause, ***flood liable land*** means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the manual entitled *Floodplain Development Manual: the management of flood liable land* published by the New South Wales Government and as in force from time to time.

(2) A public authority, or a person acting on behalf of a public authority, must not carry out, on flood liable land, development that this Policy provides may be carried out without consent and that will change flood patterns other than to a minor extent unless the authority or person has:

(a) given written notice of the intention to carry out the development to the council for the area in which the land is located, and

(b) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.

16 Consultation with public authorities other than councils

(1) A public authority, or a **person** acting on behalf of a public authority, must not carry out specified development that this Policy provides may be carried out without consent unless the authority or person has:

(a) given written notice of the intention to carry out the development to the specified authority in relation to the development, and

(b) taken into consideration any response to the notice that is received from that authority within 21 days after the notice is given.

(2) For the purposes of subclause (1), the following development is ***specified development*** and the following authorities are ***specified authorities*** in relation to that development:

(a) development adjacent to land reserved under the National Parks and Wildlife Act 1974—the Department of Environment and Climate Change,

(b) development adjacent to a marine park declared under the Marine Parks Act 1997—the Marine Parks Authority,

(c) development adjacent to an aquatic reserve declared under the Fisheries Management Act 1994—the Department of Environment and Climate Change,

(d) development in the foreshore area within the meaning of the *Sydney Harbour Foreshore Authority Act 1998*—the Sydney Harbour Foreshore Authority,

(e) development comprising a fixed or floating structure in or over navigable waters—the Maritime Authority of NSW,

(f) development for the purposes of an educational establishment, health services facility, correctional centre or group home, or for residential purposes, in an area that is bush fire prone land (as defined by the Act)—the NSW Rural Fire Service.

Note. The Act defines ***bush fire prone land***, in relation to an area, as land recorded for the time being as bush fire prone land on a map certified as referred to in section 146 (2) of the Act.

Note. When carrying out development of a kind referred to in paragraph (f), consideration should be given to the publication of the NSW Rural Fire Service *Planning for Bush Fire Protection 2006*.

(g) (Repealed)

Note. Clause 18A (2) of *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* requires public authorities (or persons acting on their behalf) to consult with the Department of Planning and Infrastructure before carrying out any development comprising the clearing of native vegetation on certain land within a growth centre (within the meaning of that Policy). The land concerned is land other than the subject land (within the meaning of Part 7 of Schedule 7 to the *Threatened Species Conservation Act 1995*). The subject land is generally land to which precinct plans apply under that Policy.

17 Exceptions

1 Clauses 13–16 do not apply with respect to development to the extent that:

(a) they would require notice of the intention to carry out the development to be given to a council or public authority from whom an approval is required in order for the development to be carried out lawfully, or

(b) they would require notice to be given to a council or public authority with whom the public authority that is carrying out the development, or on whose behalf it is being carried out, has an agreed consultation protocol that applies to the development, or

(c) they would require notice to be given to a council or public authority that is carrying out the development or on whose behalf it is being carried out, or

(d) the development is exempt development or complying development under any environmental planning instrument (including this Policy), or

(e) the development comprises emergency works, or

(f) the development is carried out in accordance with a code of practice approved by the Minister for the purposes of this clause and published in the Gazette.

2 In this clause:

approval means any licence, permission or any form of authorisation, other than development consent, under any other law.

consultation protocol means an arrangement that:

(a) is about when and how the parties to the arrangement will consult one another about proposed development, and

(b) is recorded in writing, and

(c) is approved in writing on behalf of any public authority that is a party to the arrangement by a person who is authorised to do so.

Appendix C

16. Attachments relevant to this REF.