



Review of environmental factors: Sandy Point Road Landslide Remediation

Lansdowne Nature Reserve



© 2025 State of NSW and Department of Climate Change, Energy, the Environment and Water.

DISCLAIMER This report was prepared by WolfPeak Group Pty Ltd in good faith exercising all due care and attention, but no representation or warranty, express or implied, is made as to the relevance, accuracy, completeness or fitness for purpose of this document in respect of any particular user's circumstances. Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect of, their situation. The views expressed within are not necessarily the views of the Department of Climate Change, Energy, the Environment and Water and may not represent department policy.

Contents

| | |
|---|----|
| Lansdowne Nature Reserve | 1 |
| 1. Introduction | 1 |
| 1.1 Brief description of the proposal | 1 |
| 1.2 Estimated development cost of proposal | 1 |
| 1.3 Estimated duration of proposal | 1 |
| 2. Proponent's details | 3 |
| 3. Permissibility and assessment pathway | 4 |
| 3.1 Permissibility under NSW legislation | 4 |
| 3.2 Environmental Planning and Assessment Act 1979 | 11 |
| 3.3 Other relevant NSW legislation | 16 |
| 3.4 Commonwealth legislation | 22 |
| 3.5 Consistency with national parks policy | 23 |
| 3.6 Summary of licences and approvals | 25 |
| 4. Consultation – general | 26 |
| 4.1 Statutory consultation | 26 |
| 4.2 Targeted consultation | 27 |
| 5. Consultation – Aboriginal communities | 28 |
| 5.1 Native title notification requirements | 28 |
| 5.2 Parks under joint management arrangements other than an indigenous land use agreement | 29 |
| 5.3 Other parks | 29 |
| 6. Proposed activity (or activities) | 30 |
| 6.1 Location of activity | 30 |
| 6.2 Description of the proposed activity | 30 |
| 7. Reasons for the activity and consideration of alternatives | 41 |
| 7.1 Objectives and reasons for the proposal | 41 |
| 7.2 Consideration of alternatives | 41 |
| 7.3 Justification for preferred option | 41 |
| 8. Description of the existing environment | 42 |
| 8.1 Overview of the project area | 42 |
| 8.2 Natural values | 42 |
| 8.3 Cultural values | 58 |
| 8.4 Social values | 58 |
| 8.5 Matters of national environmental significance | 59 |
| 9. Impact assessment during all stages of the activity | 61 |
| 9.1 Physical and chemical impacts | 61 |
| 9.2 eBiodiversity impacts | 66 |
| 9.3 Community impacts | 72 |
| 9.4 Natural resource impacts | 74 |
| 9.5 Aboriginal cultural heritage impacts | 76 |

| | | |
|------|---|-----|
| 9.6 | Other cultural heritage impacts | 78 |
| 9.7 | Impacts on matters of national environmental significance | 79 |
| 9.8 | Cumulative impacts | 80 |
| 10. | Proposals needing more information | 82 |
| 10.1 | Lease or licence proposals under s 151 National Parks and Wildlife Act | 82 |
| 10.2 | Telecommunications facilities | 82 |
| 10.3 | Activities within regulated catchments | 82 |
| 10.4 | Activities in River Murray riverine land | 82 |
| 11. | Summary of impacts and conclusions | 83 |
| 12. | Supporting documentation | 85 |
| 13. | Fees for external proponents | 85 |
| 14. | Declarations | 86 |
| 15. | References | 87 |
| | Appendix A: Sandy Point Road Landslide Remediation – Ecological Assessment | 89 |
| | Appendix B: Statement of Fire Management Intent – Manning Valley Lowlands Fire Planning Landscape | 90 |
| | Appendix C: Section 199 Statutory Notification to DPI Fisheries | 91 |
| | Appendix D: Section 205 Permit to Harm Marine Vegetation | 95 |
| | Appendix E: Statutory Notification to DPHI Crown Lands | 96 |
| | Appendix F: Detailed Design for Slope Stabilisation Works | 104 |
| | Appendix G: Geotechnical Assessment Landslides in Riverbank at Sandy Point | |
| | Appendix H: AHIMS Search Results | 106 |

List of figures

| | |
|---|----|
| Figure 1: Location of the proposal | 2 |
| Figure 2: Overview of the proposal | 31 |
| Figure 3: Concept remediation design (source: RGS, 2024) | 32 |
| Figure 4: Quaternary geology occurring proximate the subject site | 43 |
| Figure 5: Mapped Acid Sulfate Soils proximate the subject site | 45 |
| Figure 6: Mapped watercourses and key fish habitat proximate the landslide | 47 |
| Figure 7: Coastal management zones proximate the subject site | 48 |
| Figure 8: State mapped vegetation communities proximate the subject site | 51 |
| Figure 9: Mapped estuarine macrophytes (Mangroves) proximate the subject site | 53 |
| Figure 10: Previously recorded threatened flora species within the study area | 56 |
| Figure 11: Previously recorded threatened fauna species within the study area | 57 |

List of tables

| | |
|---|---|
| Table 1: Consistency with s 30J(2) principles for nature reserves | 6 |
|---|---|

| | |
|--|----|
| Table 2: Consistency of the proposal with the powers and functions of the Service | 8 |
| Table 3: Consistency of the proposal with coastal environment values | 13 |
| Table 4: Consistency of the proposal with coastal use values | 14 |
| Table 5: Triggers for publication of the review of environmental factors | 25 |
| Table 6: Consultation triggers under the Transport and Infrastructure SEPP | 26 |
| Table 7: Summary of activity location | 30 |
| Table 8: Climate statistics for the Taree Airport AWS meteorological station (BoM, 2024) | 42 |
| Table 9: Structure and description of vegetation proximate the subject site | 49 |
| Table 10: Threatened fauna species likely to occur within the study area | 55 |
| Table 11: EPBC Act matters of national environmental significance | 59 |
| Table 12: Consideration of significance of impacts for each environmental factor | 83 |
| Table 13: Documents that accompany the review of environmental factors | 85 |

1. Introduction

1.1 Brief description of the proposal

A landslide has occurred on the outer bend of the Lansdowne River adjacent to Sandy Point Road (the subject site) in Lansdowne Nature Reserve (the reserve) where flood events occurring between 2021 and 2023 have caused scour at the toe of the bank. The proposed activity (proposal) is to carry out remediation works involving the placement of a rock protection layer to prevent further regression of the slide and potential impacts to the road and further environmental damage. Road stabilisation works will also occur following the placement of the rock protection layer.

Lansdowne Nature Reserve covers almost 14 ha of land on the banks of the Lansdowne River and is located approximately 20 km north of Taree on the mid-coast of NSW. The proposal will occur within the south-central portion of the reserve between Sandy Point Road and the Lansdowne River. The general location of the proposal is shown in Figure 1.

This review of environmental factors (REF) applies to land reserved under Part 4 of the *National Parks and Wildlife Act 1974* (NPW Act).

The proposal will be carried out by the Hunter Coast Central Branch of NPWS.

The proposal is situated within the MidCoast Local Government Area (LGA) for which MidCoast Council are responsible, and within the Legislative Assembly District of Myall Lakes.

The proposal will be carried out as development permitted without consent pursuant to section (s) 2.73(1)(a) of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Transport and Infrastructure SEPP) and is therefore being assessed under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). NPWS is the proponent while the Environment and Heritage group of the NSW Department of Climate Change, Energy, the Environment and Water (the department) is the determining authority for the proposal under Part 5 Division (Div) 5.1 of the EP&A Act.

Section 6 provides for a more detailed description of the proposal.

1.2 Estimated development cost of proposal

The estimated development cost of the proposal is \$60000.

1.3 Estimated duration of proposal

The proposal is proposed to commence in the second quarter of 2025 and take approximately 2 months to complete.

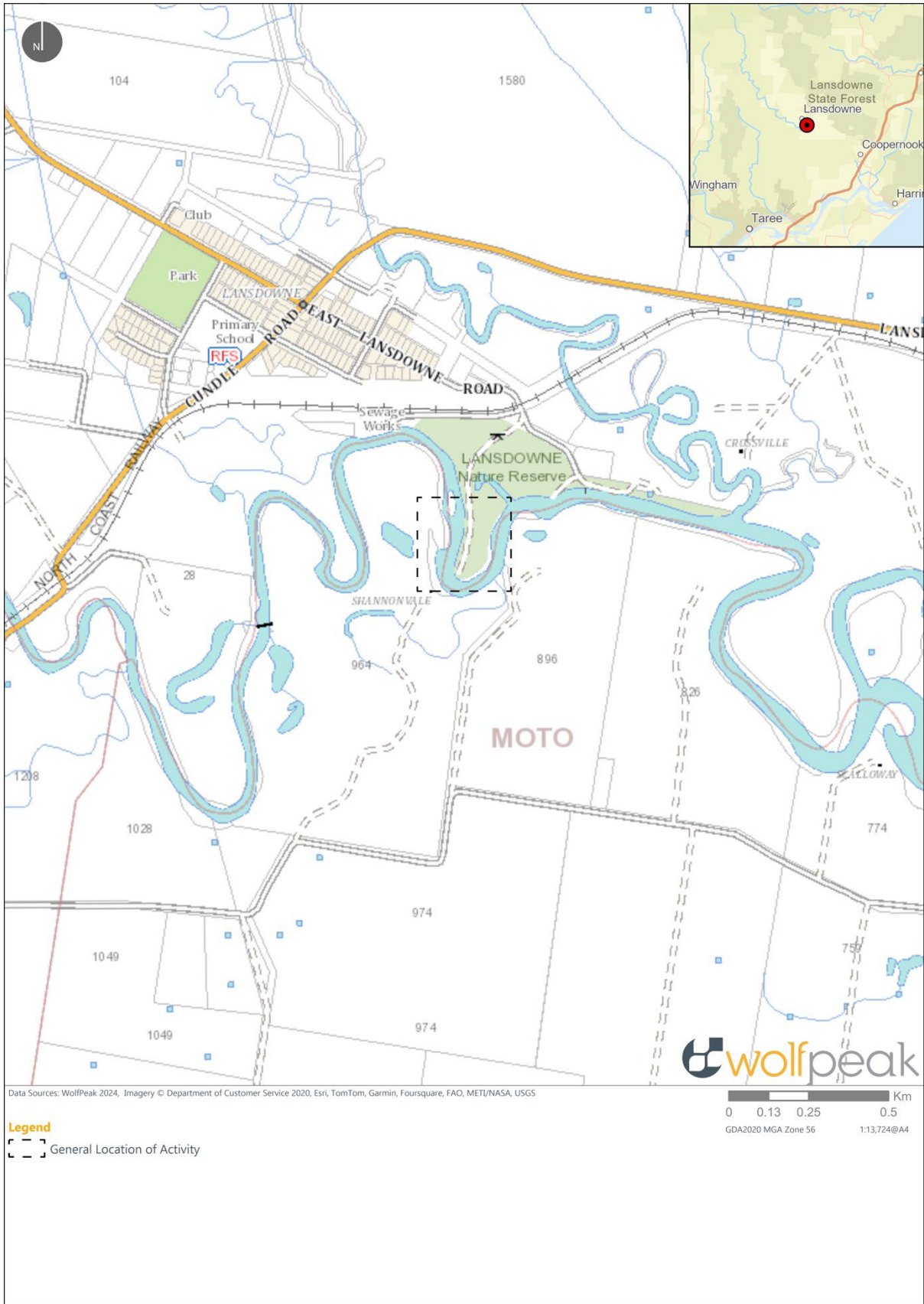


Figure 1: Location of the proposal

2. Proponent's details

| | |
|----------------------|--|
| Contact name | Tamara Campbell |
| Position | Area Manager, Manning Great Lakes Area |
| Street address | 4374 The Lakes Way, Booti Booti, NSW 2428 |
| Contact phone number | 0482 807 052 |
| Email | tamara.campbell@environment.nsw.gov.au |
| Manager | Kylie Yeend Branch Director NSW National Parks and Wildlife Service |

3. Permissibility and assessment pathway

3.1 Permissibility under NSW legislation

The following sections outline how the activity is permissible under applicable NSW legislation.

3.1.1 National Parks and Wildlife Act 1974

On land reserved or acquired under the National Parks and Wildlife Act 1974

Objects of the NPW Act (s 2A)

Under the NPW Act, the Secretary for the NSW Department of Climate Change, Energy, the Environment and Water (Secretary) has the responsibility for the care, control and management of all lands reserved and acquired under that Act and may arrange for the carrying out of such works as is considered necessary for or in connection with the management and maintenance of that land.

The objects of the NPW Act (s 2A(1)) are as follows:

- (a) the conservation of nature, including, but not limited to, the conservation of—
 - (i) habitat ecosystems and ecosystem processes, and
 - (ii) biological diversity at the community, species and genetic levels, and
 - (iii) landforms of significance, including geological features and processes, and
 - (iv) landscapes and natural features of significance including wilderness and wild rivers,
- (b) the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to—
 - (i) places, objects and features significance to Aboriginal people, and
 - (ii) places of social values to the people of New South Wales, and
 - (iii) fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation, and
- (c) fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation, and
- (d) providing for the management of land reserved under this Act in accordance with the management principles for each type of reservation.

Impacts of the proposal have been considered and shown to comply with the objects of the NPW Act. The primary objective of the Sandy Point Road Landslide Remediation project is to prevent further regression of the slide and potential impacts the access road. Additional objectives of the proposal are to facilitate the delivery of best practice conservation and management of the reserve by carrying out the proposal to reduce ongoing impacts.

Specifically:

- The proposal will not significantly impact on biodiversity and ecosystems or processes, with measures to conserve values and ameliorate potential impacts.
- The proposal will improve the condition and safety of the road which will contribute to reducing erosion and ongoing adverse impacts to the reserve.
- The proposal respects the cultural significance of the reserve, both Aboriginal and non-Aboriginal.
- Potential impacts to flora and fauna have been considered in Section 9.2, and safeguards also identified in that section.
- Potential impacts to cultural values have been considered in Section 9.5 and Section 9.6 of this REF, and safeguards have been identified within those sections.

- The proposal will be undertaken in line with the key management directions applicable to the reserve and relevant statement of management intent (refer below for discussion on consistency with the management principles and statement of management intent).

Ecologically sustainable development

References to ecologically sustainable development are included in New South Wales and Commonwealth legislation, and specifically the NPW Act. The principles of ecologically sustainable development, pursuant to s 6(2) of the *Protection of the Environment Administration Act 1991*, include:

- (a) the precautionary principle—namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions should be guided by—

- (i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
- (ii) an assessment of the risk-weighted consequences of various options,
- (b) inter-generational equity—namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,
- (c) conservation of biological diversity and ecological integrity—namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,
- (d) improved valuation, pricing and incentive mechanisms—namely, that environmental factors should be included in the valuation of assets and services, such as—
 - (i) polluter pays—that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,
 - (ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,
 - (iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) adopted the above definition of ecologically sustainable development and added a fifth principle:

- (e) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

This REF has been guided by these principles when assessing the potential impact of the proposal. Where uncertainty exists, a precautionary approach has been taken to mitigate and minimise potential environmental impacts. The proposal is considered to be ecologically sustainable within the meaning of the above principles.

Protection of the values for which land is reserved under the NPW Act and the appropriate management of those lands.

The purpose of reserving land as a nature reserve is to identify, protect and conserve areas containing outstanding, unique or representative ecosystems, species, communities or natural phenomena so as to enable those areas to be managed in accordance with the principles outlined in s 30J(2) of the NPW Act. The principles of s 30J(2) are addressed in Table 1.

Table 1: Consistency with s 30J(2) principles for nature reserves

| Section 30E(2) principles | Relevance to proposal |
|---|--|
| (a) the conservation of biodiversity, the maintenance of ecosystem function, the protection of geological and geomorphological features and natural phenomena | The <i>Statement of Management Intent: Lansdowne Nature Reserve</i> (SoMI) outlines the main values, issues, management directions and priorities of the NPWS for managing the reserve. This REF is in accordance with the SoMI and considers the existing environment and assess potential adverse impacts and how they relate to the key management directions for conservation, maintenance and protection of the reserve. Safeguards have been recommended to avoid or minimise adverse impacts to the reserve's natural values. |
| (b) the conservation of places, objects, features and landscapes of cultural value | The NPW Act specifies that the Secretary shall be responsible for the proper care, preservation and protection of any Aboriginal object or Aboriginal place on any land reserved under this Act. It is an offence under the NPW Act to harm or desecrate an object that a person knows is an Aboriginal object. The SoMI mandates that 'non-intrusive works may be undertaken where necessary to protect cultural heritage items from further deterioration, to ensure the safety of visitors, to protect wildlife or to prevent damage to park assets'. This REF is in accordance with the SoMI and considers the existing natural and cultural values and how they relate to the key management directions. Safeguards have been recommended to avoid or minimise potential adverse impacts to the reserve's cultural values. |
| (c) the promotion of public appreciation, enjoyment and understanding of the nature reserve's natural and cultural values | The SoMI identifies that the primary purpose of nature reserve is to conserve nature, and that nature reserves differ from national parks in that they do not have the provision of visitor use as a management purpose or principle. Notwithstanding, the proposal will contribute to improving access throughout the reserve which facilitates enjoyment and understanding of the reserve's natural and cultural values. This REF recommends safeguards to avoid or minimise potential impacts to the reserve's natural and cultural values. |
| (d) provision for appropriate research and monitoring | The SoMI identifies a number of unique natural values which are protected by the reserve. The proposal will contribute to ensuring ongoing safe |

| Section 30E(2) principles | Relevance to proposal |
|--|---|
| | access for the provision for appropriate research and monitoring. |
| (e) provision for the carrying out of development in any part of a special area (within the meaning of the <i>Hunter Water Act 1991</i>) in the nature reserve that is permitted under section 185A having regard to the conservation of the nature reserve's natural and cultural values | Not applicable to the proposal. |

Part 6 Aboriginal objects and Aboriginal places

Section 85(2)(a) provides 'for the proper care, preservation and protection of any Aboriginal object or Aboriginal place on any land reserved under this Act'.

Section 86 of the NPW Act mandates that:

- (2) a person must not harm an Aboriginal object, and...
- (4) a person must not harm or desecrate an Aboriginal place.

Pursuant to s 87:

- (2) it is a defence to a prosecution for an offence under section 86(2) if the defendant shows that the defendant exercised due diligence to determine whether the act or omission constituting the alleged offence would harm an Aboriginal object and reasonably determined that no Aboriginal object would be harmed.
- (3) The regulations may provide that compliance with requirements specified in the regulations, or in a code of practice adopted or prescribed by the regulations, is taken for the purposes of subsection (2) to constitute due diligence in determining whether the act or omission constituting the alleged offence would harm an Aboriginal object.

Pursuant to s 57 of the *National Parks and Wildlife Regulation 2021* (NPW Regulation), compliance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW, 2010) is taken for the purposes of s 87(2) of the NPW Act to constitute due diligence in determining whether the act or omission constituting the alleged offence would harm an Aboriginal object.

The proposal either does not comprise exempt development, or it is the subject of a complying development certificate; therefore, it is not a low impact activity pursuant to s 58 of the NPW Regulation. Therefore, the generic due diligence process as determined by the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales has been applied. A number of safeguards are recommended for the proposal and are detailed in Section 9.5 to protect Aboriginal cultural heritage.

Section 81 Operations under a plan of management

Section 81(1) of the NPW Act states that 'where the Minister has adopted a plan of management for a national park, historic site, nature reserve, karst conservation reserve, Aboriginal area or wildlife refuge, it shall, subject to subsections (5) and (6), be carried out and given effect to by the Secretary'. No operations may be undertaken in relation to the lands to which the plan relates unless the operations are in accordance with the plan.

Lansdowne Nature Reserve does not have an adopted plan of management; however, a statement of management intent has been prepared for the reserve in accordance with the NPWS *Managing parks prior to a plan of management policy* to guide the management of the reserve. One of the key management directions of the *Lansdowne Nature Reserve Statement of Management Intent* is to provide options to help stabilise the eroding

riverbanks in the reserve. The proposal involves remediation works to stabilise the existing landslide; therefore, the proposal is in accordance with the statement of management intent. The proposal will also be carried out in accordance with the key management directions which mandates that 'all management activities will be preceded by the preparation of an environmental assessment or heritage assessment where this is a requirement of NPWS policy or legislation' (OEH, 2014). This REF fulfils the requirements of the required environmental assessment.

Assets of intergenerational significance

Part 12A of the NPW Act allows the Minister for the Environment to declare an area to be an environmental or cultural asset of intergenerational significance (AIS). An AIS can be any area of exceptional value that warrants special protection including dedicated management measures.

The proposal will not be undertaken on land declared an AIS nor will the proposal occur in close proximity to land declared as AIS.

No conservation action plans apply to the proposal as no land declared under Part 12A of the NPW Act exist within the study area.

Leasing, licensing and easement provisions

Not applicable, as this is an internal NPWS activity.

Internal NPWS projects

Section 8(3) of the NPW Act requires that the Secretary shall 'arrange for the carrying out of such works as the Secretary considers necessary for or in connection with the management and maintenance' ... of a nature reserve. As the proposal is consistent with the SoMI and would meet the conservation outcomes under the NPW Act, the Secretary is the appropriate authority to authorise the proposal. The proposal is considered to be relevant to the management and maintenance practices used to protect the reserve's natural and cultural values, and is therefore consistent with s 8 of the NPW Act.

Pursuant to s 12 of the NPW Act, 'the Service is to carry out such works and activities as the Minister may direct, either generally or in a particular use case, in relation to' ... the items listed in Table 2.

Table 2: Consistency of the proposal with the powers and functions of the Service

| Powers and functions of the Service (s 12) | How proposal is consistent |
|---|--|
| (a) the conservation and protection of land reserved under this Act or acquired for reservation under this Act and of land for which the National Parks and Wildlife Reserve Trust is the Crown land manager, | The proposal will improve the safety and condition of road infrastructure on Sandy Point Road which will assist with managing and conserving values associated with the reserve. |
| (b) the conservation and protection of wildlife (including threatened species, populations and ecological communities, and their habitats), | The proposal will improve the safety and condition of road infrastructure on Sandy Point Road which will facilitate ongoing management activities associated with the conservation and protection of wildlife. |
| (c) the conservation and protection of wilderness areas and wild rivers, | Not applicable |

| Powers and functions of the Service (s 12) | How proposal is consistent |
|---|--|
| (d) the identification, conservation and protection of, and prevention of damage to, Aboriginal objects and Aboriginal places, | No Aboriginal sites or Aboriginal places have previously been recorded close to the subject site; however, a number of safeguards are detailed in Section 9.5 to protect Aboriginal cultural heritage. |
| (e) conservation agreements and conservation areas, | Not applicable |
| (f) the provision of facilities and opportunities for sustainable visitor or tourist use and enjoyment on land reserved under this Act, | The proposal will improve the safety and condition of road infrastructure on Sandy Point Road which will facilitate ongoing opportunities for sustainable visitor or tourist use within the reserve. |
| (g) the identification and protection of buildings, places and objects of non-Aboriginal cultural values on land reserved under this Act, | Not applicable |
| (h) the conduct of research into and the monitoring of any of the matters referred to in paragraphs (a)–(e), | This REF provides adequate research, monitoring, evaluation and reporting of the proposal against all matters referred to in paragraphs (a)–(e). |
| (i) the undertaking of public education in relation to any of the matters referred to in paragraphs (a)–(e). | Not applicable |

The proposal is considered consistent with the powers and functions of NPWS under s 12 of the NPW Act.

3.1.2 Wilderness Act 1987 (for activities in wilderness areas)

The objects of the *Wilderness Act 1987* are to provide for the permanent protection and proper management of wilderness areas and to promote the education of the public in the appreciation, protection and management of wilderness.

Pursuant to s 5.5(3) of the EP&A Act, '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'. No land within Lansdowne Nature Reserve has been declared as wilderness; therefore, the *Wilderness Act* does not apply.

3.1.3 Biodiversity Conservation Act 2016

The purpose of the *Biodiversity Conservation Act 2016* (BC Act) is 'to maintain a healthy, productive, and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development'.

Pursuant to s 7.8(2) of the BC Act, an activity under Part 5 of the EP&A Act that is 'likely to significantly affect threatened species' is regarded 'as an activity likely to significantly affect the environment'.

Where a significant impact is likely to occur, a species impact statement must be prepared in accordance with the Secretary's requirements or, if the proponent elects, a biodiversity development assessment report must be prepared by an accredited assessor in accordance with the Biodiversity Assessment Method (DPIE, 2020). However, an environmental impact statement is not required if the likely significant effect on threatened species is the only likely

significant effect on the environment. In this situation, a species impact statement or a biodiversity development assessment report is still required.

Pursuant to s 7.2(1) of the BC Act, an activity is likely to significantly affect threatened species if:

- (a) it is likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in section 7.3, or...
- (c) it is carried out in a declared area of outstanding biodiversity value.

Reliance on the Biodiversity Value Map is not relevant to this assessment as the biodiversity offsets scheme does not apply to development under Part 5 of the EP&A Act (s 7.2(2) of the BC Act).

The proposal has been assessed in accordance with the requirements of the BC Act, and an Ecological Assessment (Appendix A). A test of significance as prescribed under s 7.3 of the BC Act has been prepared to determine whether the proposal is likely to significantly affect threatened species or ecological communities, or their habitats and is included within the Ecological Assessment. The test of significance determined that the proposal would not result in a significant impact on threatened species or ecological communities, or their habitats.

3.1.4 NSW Reconstruction Authority Act 2022

The primary objective of the *NSW Reconstruction Authority Act 2022* (NSW RA Act) is 'to promote community resilience to the impact of disasters in New South Wales through':

- (a) disaster prevention, preparedness and adaptation, and
- (b) recovery and reconstruction following disasters.

Pursuant to Part 4, Div 3, s 38(4) of the NSW RA Act, NPWS 'must have regard to the State disaster mitigation plan and any relevant disaster adaptation plan in exercising any of the relevant entity's functions that are prescribed by the regulations for the purposes of this section'.

The NSW RA Act commenced on 17 December 2022 but did not include the commencement of Part 4 (as per s 2(a)). Pursuant to s 2(b), other parts of the NSW RA Act (including Part 4) will commence 'on a day or days to be appointed by proclamation'; therefore, the NSW RA Act does not currently apply to this REF.

3.1.5 Rural Fires Act 1997

The objects of the *Rural Fires Act 1997* (RF Act) are to provide—

- (a) for the prevention, mitigation and suppression of bush and other fires in local government areas (or parts of areas) and other parts of the State constituted as rural fire districts, and
- (b) for the co-ordination of bush fire fighting and bush fire prevention throughout the State, and
- (c) for the protection of persons from injury or death, and property from damage, arising from fires, and
- (c1) for the protection of infrastructure and environmental, economic, cultural, agricultural and community assets from damage arising from fires, and
- (d) for the protection of the environment by requiring certain activities referred to in paragraphs (a)–(c1) to be carried out having regard to the principles of ecologically sustainable development described in section 6 (2) of the *Protection of the Environment Administration Act 1991*.

As a firefighting authority for the purposes of the RF Act, NPWS recognises that its fire access and fire trail network is critical to its immediate wildfire suppression response and programmed hazard reduction works.

A Statement of Fire Management Intent (Appendix B) has been prepared for Lansdowne Nature Reserve which outlines the requirements to protect lowland rainforest and the importance that fire trails play in this strategy. The proposal will strengthen the fire trail network in the reserve and improve the ability of NPWS and other bush firefighting agencies to fully utilise Sandy Point Road to undertake operations to protect life, property or the environment making it consistent with the objects of the RF Act.

3.2 Environmental Planning and Assessment Act 1979

3.2.1 Assessment pathway

The Environmental Planning and Assessment Act regulates development carried out in New South Wales. Part 5 of the EP&A Act permits activities to be assessed by a determining authority. Pursuant to s 5.1(1) of the EP&A Act:

- the proposal is an ‘activity’ which includes the carrying out of work
- ‘determining authority’ includes a ‘public authority by or on whose behalf the activity is to be carried out’.

Pursuant to s 1.4 of the EP&A Act, a ‘public authority’ includes a ‘Public Service agency’. NPWS is a Public Service agency of the NSW Department of Climate Change, Energy, the Environment and Water and is therefore a public authority as defined in s 1.4 of the EP&A Act. For the purposes of the proposal, NPWS is the proponent and the department’s Environment and Heritage group is the determining authority under Part 5 Div 5.1 of the EP&A Act.

The relevant sections of the EP&A Act include:

- s 5.5(1) which requires the determining authority 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’
- s 5.5(3) which requires the determining authority to ‘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’
- s 5.6 which requires the determining authority to address the regulations for environment impact assessments (currently the *Environmental Planning and Assessment Regulation 2021*);
- s 5.7 which requires an environmental impact statement to be prepared if the proposed activity is ‘a prescribed activity, an activity of a prescribed kind or an activity that is likely to significantly affect the environment’.

The EP&A Act permits public authorities to carry out development without consent if an environmental planning instrument provides that specified development may be carried out without the need for development consent.

The proposal may be undertaken without development consent pursuant to s 2.73 of the Transport and Infrastructure SEPP:

Section 2.73

(1) Development for any purpose may be carried out without consent—

- (a) on land reserved under the *National Parks and Wildlife Act 1974*, or acquired under Part 11 of that Act, if the development is for a use authorised under that Act.

Pursuant to s 1.7 of the EP&A Act, ‘the Act has effect subject to the provisions of Part 7 of the *Biodiversity Conservation Act 2016* and Part 7A of the *Fisheries Management Act 1994* that relate to the operation of this Act in connection with the terrestrial and aquatic

environment'. The provisions of the BC Act and *Fisheries Management Act 1994* (FM Act) are discussed in Sections 3.1.3 and 3.3.6 (respectively). The proposal would not result in a significant impact on threatened species or ecological communities, or their habitats.

Further:

- The proposal is not 'designated development' under Schedule 3 of the *Environmental Planning and Assessment Regulation 2021*.
- The proposal is not declared to be state significant infrastructure under s 2.13 of the *State Environmental Planning Policy (Planning Systems) 2021*.
- The proposal is not identified within a State Environmental Planning Policy (SEPP) as not permissible without development consent under another environmental planning instrument that prevails over the Transport and Infrastructure SEPP. In particular:
 - the proposal is not in a coastal wetland or littoral rainforest or does not otherwise meet the criteria for development requiring consent outlined in s 2.7(2) of the *State Environmental Planning Policy (Resilience and Hazards) 2021*
 - the proposal is not coastal protection works or, if coastal protection works, the proposal is one of the types of coastal protection works that may be carried out by or on behalf of a public authority without development consent
 - the proposal is not a type of development requiring development consent under s 2.9 of the *State Environmental Planning Policy (Resources and Energy) 2021*.
- The proposal is not declared to be exempt development under an environmental planning instrument or fails to fully meet the requirements for exempt development.

3.2.2 Environmental Planning Instruments

State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 4 Koala habitat protection

Chapter 4 of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (Biodiversity and Conservation SEPP) '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'.

Chapter 4 applies to each local government area listed in Schedule 2 of the SEPP which includes the 'Mid-Coast' local government area; however, pursuant to s 4.4(3)(a), Chapter 4 does not apply to land dedicated or reserved under the *National Parks and Wildlife Act 1974*, or acquired under Part 11 of that Act'.

Notwithstanding, the requirements of Chapter 4 have been considered. The Ecological Assessment has determined there are numerous Koala records within the locality, one of which is recorded within the reserve. No primary food trees will be removed; however, minor indirect impacts may result during construction works which relate to potential noise and vibration which may deter individuals from using the area temporarily. Given the relatively low impact nature of the proposal, impacts to Koalas are not considered significant.

Chapter 6 Water catchments

The proposal is not located within a water catchment listed under Chapter 6 of the Biodiversity and Conservation SEPP.

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

The *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* (Exempt and Complying Development Codes SEPP) 'aims to provide streamlined assessment processes for development that complies with specified development standards'.

The Exempt and Complying Development Codes SEPP is not relevant as the proposal is not a development listed under an exempt development code.

State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 2 Coastal management

Chapter 2 of the *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP) aims 'to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objectives of the *Coastal Management Act 2016*, including the management objectives for each coastal management area'.

Division 1 Coastal wetlands and littoral rainforests area

The proposal is not situated on land identified as 'coastal wetlands' or 'littoral rainforest' on the Coastal Wetlands and Littoral Rainforests Area Map.

Division 2 Coastal vulnerability area

The proposal is not situated on land that is within the area identified as 'coastal vulnerability' on the Coastal Vulnerability Area Map.

Division 3 Coastal environment area

The proposal is situated on land that is within the 'coastal environment area'. Section 2.10 requires the consent authority to consider whether the proposed development is likely to cause an adverse impact on coastal environment areas prior to consent of an application. Section 2.10 only applies to development applications under Part 4 of the EP&A Act and therefore does not apply to this proposal. Notwithstanding, potential impacts to the coastal environment area have been considered in Table 3.

Table 3: Consistency of the proposal with coastal environment values

| Coastal environment values | How proposal is consistent |
|---|--|
| (a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment | The proposal does not involve significant ground disturbance or vegetation removal to an extent that would impact on the receiving biophysical, hydrological and ecological environment. Conversely, the proposal will contribute to stabilising the existing landslide and improve the resilience of the biophysical surface. Safeguards are provided in Section 9 to mitigate potential impacts. |
| (b) coastal environmental values and natural coastal processes | The proposal does not involve significant ground disturbance or vegetation removal to an extent that would impact on coastal environmental values and natural coastal processes. Safeguards are provided in Section 9 to mitigate potential impacts. |
| (c) the water quality of the marine estate (within the meaning of the <i>Marine Estate Management Act 2014</i>), in particular, the cumulative impacts of the proposed development on any of | Not applicable |

| Coastal environment values | How proposal is consistent |
|--|---|
| the sensitive coastal lakes identified in Schedule 1 | |
| (d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms | The proposal will have a minor direct impact on native vegetation and aquatic habitats. The proposal would remove up to 3 canopy trees, one of which is a hollow-bearing tree, as well as shrubs, groundcovers and a small area of mangroves. The mangroves affected are small regenerating River Mangroves that have recently colonised part of the slip area. No works will occur on undeveloped headlands or rock platforms. |
| (e) existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability | The proposal may create traffic delays along the length of Sandy Point Road during construction; however, these are expected to be short-term and minor in nature. Existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability, will not be impacted. |
| (f) Aboriginal cultural heritage, practices and places | No Aboriginal sites or Aboriginal places have been recorded within or near the subject site; however, safeguards are provided in Section 9 to mitigate potential impacts to Aboriginal cultural heritage. |
| (g) the use of the surf zone | Not applicable |

Division 4 Coastal use area

The proposal is situated on land within the 'coastal use area'. Section 2.11 requires the consent authority to consider whether the proposed development is likely to cause an adverse impact on coastal use areas prior to consent of an application. Section 2.11 only applies to development applications under Part 4 of the EP&A Act and therefore does not apply to this proposal. Notwithstanding, potential impacts to the coastal use area have been considered in Table 4.

Table 4: Consistency of the proposal with coastal use values

| Coastal use values | How proposal is consistent |
|---|---|
| (i) existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability | The proposal will create traffic delays along the length of Sandy Point Road during construction; however, these are expected to be short-term and minor in nature. Existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability, will not be impacted. |
| (ii) overshadowing, wind funnelling and the loss of views from public places to foreshores | The proposal will not create overshadowing, wind funnelling or the loss of views from public places to foreshores. |
| (iii) the visual amenity and scenic qualities of the coast, including coastal headlands | No works will occur which will impact the visual amenity or scenic qualities of the coastal use area. |
| (iv) Aboriginal cultural heritage, practices and places | No Aboriginal sites or Aboriginal places have been recorded within or near the subject site; however, safeguards are provided in Section 9 to mitigate potential impacts to Aboriginal cultural heritage. |

| | |
|---|---|
| (v) cultural and built environment heritage | One heritage site spans the northern portion of the reserve. No works will occur which will impact cultural and built heritage; however, safeguards are provided in Section 9 to mitigate potential impacts to heritage values. |
|---|---|

Chapter 4 Remediation of land

Chapter 4 of the Resilience and Hazards SEPP provides a state-wide planning approach for the remediation of contaminated land and aims to promote the remediation of contaminated land to reduce the risk of harm to human health or the environment. Section 4.6(1) requires the consent authority to consider whether land is contaminated prior to consent of an application; however, Chapter 4 only applies to development applications under Part 4 of the EP&A Act and therefore does not apply to the proposal.

Notwithstanding, potential impacts from contaminated land have been considered in the preparation of this REF. Searches of the NSW Environment Protection Authority (EPA) List of Notified Sites (NSW EPA, 2024a), the Contaminated Land Public Record (NSW EPA, 2024b), and the NSW Government PFAS Investigation Program (NSW EPA, 2023) were undertaken on 13 September 2024. No contaminated land sites were found to occur in proximity to the subject site.

3.2.3 Strategic plans

Hunter Regional Plan 2041

The Hunter Regional Plan 2041 (regional plan) (DPE, 2022) is a land use plan prepared under the EP&A Act and ‘applies to the local government areas (LGAs) of Cessnock, Dungog, Lake Macquarie, Maitland, MidCoast, Muswellbrook, Newcastle, Port Stephens, Singleton and Upper Hunter’. The regional plan draws from each council’s local strategic planning statements and acknowledges common interests without duplicating effort.

Objective 6 of the regional plan aims to ensure areas of high environmental value are protected to contribute to a sustainable region. The regional plan describes that the NSW Government has adopted that national parks and reserves meet the criteria of a high environmental value (DPE, 2022). The proposal will contribute to the performance outcomes of Objective 6 of by improving access within the reserve; therefore, improving management activities associated with protecting the natural and cultural values of the park.

MidCoast Council Local Strategic Planning Statement September 2020

The MidCoast Council Local Strategic Planning Statement (LSPS) (MidCoast Council, 2020) guides decisions on future planning to achieve the community’s vision and values whilst protecting the environment.

Planning Priority 7 of the LSPS addresses the requirements for the MidCoast area to improve resilience to natural disasters. Action 7.1 of Planning Priority 7 is to ‘work with NSW Government to establish improved bushfire preparedness and flood planning practices’ (MidCoast Council, 2020). The proposal will contribute to the ability of NPWS and other bush firefighting agencies to fully utilise the reserve’s existing fire trail network to undertake operations to protect life, property or the environment.

Manning River Estuary and Catchment Management Program 2022-2032

The Manning River Estuary and Catchment Management Program 2022-2032 (Manning River ECMP) (MidCoast Council, 2022) sets out a ten-year action program for MidCoast Council, the community and partner organisations to improve the health and resilience of the

Manning River and estuary. The Manning River ECMP was prepared under the CM Act and requires MidCoast Council to achieve the objects of both the CM Act and the *Marine Estate Management Act 2014* (MEM Act). In accordance with the CM Act, the Manning River ECMP identifies the Coastal Environment Area and Coastal Use Area of the Resilience and Hazards SEPP as coastal management areas to be managed for social, cultural and economic well-being. Consistency of the proposal with the values of the coastal environment is assessed in Section 3.2.2. The proposal is unlikely to impact the values of the coastal environment, and safeguards are provided in Section 9 to avoid or minimise potential impacts to these areas.

3.3 Other relevant NSW legislation

3.3.1 Aboriginal Land Rights Act 1983

The purposes of the *Aboriginal Land Rights Act 1983* (ALR Act) include:

- (a) to provide land rights for Aboriginal persons in New South Wales,
- (b) to provide for representative Aboriginal Land Councils in New South Wales,
- (c) to vest land in those Councils...

Local Aboriginal Land Councils (LALCs) must comply with the ALR Act and the *Aboriginal Land Rights Regulation 2020* when they want to 'deal with land' that is 'vested' in them. This includes the requirements for the LALC to apply to/notify dealings with the New South Wales Aboriginal Land Council. However, pursuant to s 42A(1) of the ALR Act, 'an Aboriginal Land Council must not deal with land that is vested in it and that is reserved or dedicated under Part 4 of the NPW Act except in accordance with that Act'.

The proposal does not require a dealing to be entered into with a LALC; therefore, there is no legislative requirement for application or notification with the NSW Aboriginal Land Council under the ALR Act.

Section 54(4) of the ALR Act mandates that a Local Aboriginal Land Council has the following functions in relation to Aboriginal culture and heritage—

- (a) to take action to protect the culture and heritage of Aboriginal persons in the Council's area, subject to any other law,
- (b) to promote awareness in the community of the culture and heritage of Aboriginal persons in the Council's area.

The proposal is located within the boundary of the Purfleet/Taree LALC. This REF has been assessed in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales; therefore, would fulfil the LALC's obligations under the ALR Act.

Further, native title rights (refer to Section 5.1) are different to and separate from the statutory right of Aboriginal Land Councils to make claims for land under the ALR Act.

3.3.2 Biosecurity Act 2015

The primary objective of the *Biosecurity Act 2015* is to provide a framework for the prevention, elimination and minimisation of biosecurity risks posed by biosecurity matter, dealing with biosecurity matter, carriers and potential carriers, and other activities that involve biosecurity matter, carriers or potential carriers.

Part 3 of the Biosecurity Act provides mandatory measures which require persons who deal with biosecurity matter or carriers to take specified actions to prevent, eliminate or minimise a biosecurity risk posed or likely to be posed by the biosecurity matter, carrier or dealing.

NPWS therefore have a general biosecurity duty to ensure the risk of further weed contamination is prevented, eliminated or minimised, so far as reasonably practicable. Mitigation measures are provided in Section 9.2 to reduce the risk of spreading weeds.

3.3.3 Coal Mine Subsidence Compensation Act 2017

The proposal does not involve the erection or alteration of an improvement of a NPWS asset within the mapped mine subsidence district as specified under the *Coal Mine Subsidence Compensation Act 2017*.

3.3.4 Coastal Management Act 2016

The objects of the *Coastal Management Act 2016* (CM Act) 'are to manage the coastal environment of New South Wales in a manner consistent with the principles of ecologically sustainable development for the social, cultural and economic well-being of the people of the State'.

The proposal is located within the coastal zone pursuant to s 5 of the CM Act and will contribute to the following objects of the CM Act:

- (b) to protect and support the social and cultural values of the coastal zone and maintain public access, amenity, use and safety...
- (e) to facilitate ecologically sustainable development in the coastal zone and promote sustainable land use planning decision-making.

Division 4 of the CM Act provides obligations for public authorities which exercise functions in connection with the coastal zones are to have regard to coastal management programs and the coastal management manual. The Manning Valley Coastal Zone Management Plan January 2018 does not identify Lansdowne Nature Reserve within its study area; therefore, Division 4 does not apply. Notwithstanding, the proposal is consistent with the applicable coastal zones (refer section 3.2.2), and the Manning River ECMP (refer Section 3.2.3).

3.3.5 Contaminated Land Management Act 1997

The general objective of the *Contaminated Land Management Act 1997* 'is to establish a process for investigating and (where appropriate) remediating land that the EPA considers to be contaminated significantly enough to require regulation'. No contaminated land has been recorded near the subject site, and no remediation is proposed.

3.3.6 Fisheries Management Act 1994

The Fisheries Management Act 'applies to all waters that are within the limits of the State of New South Wales'. It aims, amongst other things, to conserve fish stocks and key fish habitats, threatened species, populations and ecological communities of fish and marine vegetation, and promote ecologically sustainable development, including the conservation of biological diversity.

Part 7, Div 3 of the FM Act aims to provide for the management of dredging work and reclamation work, consistent with the objectives of ecologically sustainable development.

Pursuant to s 198A of the FM Act:

Dredging work means—

- (a) any work that involves excavating water land, or
- (b) any work that involves moving material on water land or removing material from water land that is prescribed by the regulations as being dredging work to which this Division applies.

Reclamation work means any work that involves—

- (a) using any material (such as sand, soil, silt, gravel, concrete, oyster shells, tyres, timber or rocks) to fill in or reclaim water land, or
- (b) depositing any such material on water land for the purpose of constructing anything over water land (such as a bridge), or
- (c) draining water from water land for the purpose of its reclamation.

Water land means land submerged by water—

- (a) whether permanently or intermittently, or
- (b) whether forming an artificial or natural body of water,

and includes wetlands and any other land prescribed by the regulations as water land to which this Division applies.

The proposal is situated on the bank of the Lansdowne River which is a fifth order stream under the Strahler method and is mapped as key fish habitat under the FM Act. The proposal involves both dredging and reclamation works on 'water land'; therefore, pursuant to s 199 of the FM Act:

- (1) A public authority (other than a local government authority) must, before it carries out or authorises the carrying out of dredging work or reclamation work—
 - (a) give the Minister written notice of the proposed work, and
 - (b) consider any matters concerning the proposed work that are raised by the Minister within 21 days after the giving of the notice (or such other period as is agreed between the Minister and the public authority).

Notification of the proposal was provided to the Department of Primary Industries and Regional Development (DPIRD) on 18 November 2024. A response was received from DPIRD Fisheries on 13 December 2024 which confirmed that DPIRD Fisheries reviewed the REF and has no objection to the proposed works provided that they occur as described in the REF (Appendix C). DPIRD Fisheries recommended a number of general environmental mitigation measures which have been incorporated into Section 9.

Part 7, Div 4 of the FM Act provides requirements for the protection of mangroves and certain other marine vegetation. Several regenerating River Mangroves (*Aegiceras corniculatum*) and pneumatophores that have recently colonised part of the slip area are present within the construction footprint and will be harmed during construction. Pursuant to s 205 of the FM Act, an application for a permit to harm marine vegetation was provided to DPIRD on 18 November 2024. A permit (PN24/501) was received on 13 December 2024 (Appendix D) which permits the harm of marine vegetation in associated with or in relation to removal of 15 m² of juvenile mangroves and associated pneumatophores within the landslip remediation works footprint.

Part 7A, Div 12 of the FM Act applies to environmental assessments under Part 5 of the EP&A Act (s 221ZT(b)).

Pursuant to s 221ZX, an activity under Part 5 of the EP&A Act that is 'likely to significantly affect threatened species, populations or ecological communities' is considered to be an activity that is 'likely to significantly affect the environment'.

Consideration of the requirements of s 221ZV are therefore required to determine whether the proposal is likely to significantly affect threatened species, populations or ecological communities. Searches of the Fisheries NSW Spatial Data Portal (DPI, 2018) does not identify any aquatic species listed under Schedules 4, 4A or 5 of the FM Act with the potential to occur within the locality, and no species or ecological communities listed under the FM Act were recorded on site. Therefore, no species listed under the FM Act have been evaluated for their potential to occur on the site and the proposal is not likely to 'significantly affect threatened species, populations or ecological communities'.

Further, an approval pursuant to ss 144, 201, or 219 of the FM Act is not required.

3.3.7 Heritage Act 1977

The objectives of the *Heritage Act 1977* include to encourage the conservation of the State's heritage and to assist owners with the conservation of items of State heritage significance. Section 4 of the Heritage Act broadly defines environmental heritage as comprising 'those places, buildings, works, relics, moveable objects, and precincts, of State or local heritage significance'.

The Heritage Act defines a relic as:

any deposit artefact, object or material evidence that—

- (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and
- (b) is of State or local heritage significance.

Sections 139 to 145 within Div 9 of the Heritage Act prevent the excavation or disturbance of land for the purpose of discovering, exposing or moving a relic, except by a qualified archaeologist to whom an excavation permit from Heritage NSW has been issued.

Section 146 of the Heritage Act requires that a person who is aware or believes that he or she has discovered or located a relic (in any circumstances, and whether or not the person has been issued with a permit) must—

- (a) within a reasonable time after he or she first becomes aware or believes that he or she has discovered or located that relic, notify the Heritage Council of the location of the relic, unless he or she believes on reasonable grounds that the Heritage Council is aware that the Heritage Council is aware of the location of the relic, and
- (b) within the period required by the Heritage Council, furnish the Heritage Council with such information concerning the relic as the Heritage Council may reasonably require.

Searches have been undertaken of the NSW State Heritage Inventory, Schedule 5 Environmental heritage of the *Greater Taree Local Environmental Plan 2010* (LEP) and the Historic Heritage Information Management System (HHIMS) under s 170 of the Heritage Act. No items of State or agency significance are recorded near the subject site; however, one item of local significance occurs across the entire northern portion of the reserve. The item comprises the Lansdowne Wharf Remains which is listed as an archaeological site with map reference A83. No works will occur within or near the site; therefore, no impacts are likely to occur.

3.3.8 Local Land Services Act 2013

The objects of the *Local Land Services Act 2013* (LLS Act) include 'to ensure the proper management of natural resources in the social, economic and environmental interests of the State, consistently with the principles of ecologically sustainable development'. The LLS Act regulates the clearing of native vegetation across the State applies to all rural areas of the State with the exception of those areas listed in s 60A. Pursuant to s 60A(b)(ii) of the LLS Act, land reserved under the NPW Act, or land acquired under Part 11 of that Act, are not considered areas of the State to which the LLS Act applies. Therefore, consideration of the LLS Act of is not required.

3.3.9 Marine Estate Management Act 2014

The *Marine Estate Management Act 2014* (MEM Act) aims 'to provide for the management of the marine estate of New South Wales consistent with the principles of ecologically sustainable development in a manner that:

- (i) promotes a biologically diverse, healthy and productive marine estate, and
- (ii) facilitates—
 - economic opportunities for the people of New South Wales, including opportunities for regional communities, and
 - the cultural, social and recreational use of the marine estate, and
 - the maintenance of ecosystem integrity, and
 - the use of the marine estate for scientific research and education...

The proposal would not affect, nor does it directly adjoin a marine park or aquatic reserve in this location, therefore, consideration of the MEM Act is not required.

3.3.10 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) is the key environmental protection and pollution statute. The POEO Act is administered by the EPA and establishes a licensing regime for waste, air, water and pollution. Relevant sections of the POEO Act are listed below:

- Part 5.3 Water Pollution
- Part 5.4 Air Pollution
- Part 5.5 Noise Pollution
- Part 5.6 Land Pollution and Waste.

Any work potentially resulting in pollution must comply with the POEO Act. Relevant licences must be obtained if required; however, no licences pursuant to ss 47, 48, 49 or 122 of the POEO Act are required.

Further, the proposal is not a scheduled activity or scheduled development work identified in Schedule 1 of the POEO Act.

3.3.11 Roads Act 1993

The proposal involves carrying out works within the road corridor of Sandy Point Road which is an unnamed local road as per the Transport for NSW (TfNSW) NSW Road Network Classifications (TfNSW, 2024). In accordance with the Transport for NSW Schedule of Classified Roads and Unclassified Regional Roads (TfNSW, 2023), local roads are unclassified roads.

The **Dictionary** of the *Roads Act 1993* provides the following definitions:

- an **unclassified road** means a public road that is not a classified road, and
- a public road means—
 - (a) any road that is opened or dedicated as a public road, whether under this or any other Act or law, and
 - (b) any road that is declared to be a public road for the purposes of the Act.

Pursuant to section 138 of the Roads Act:

- (1) A person must not—
 - (a) erect a structure or carry out work in, on or over a public road, or
 - (b) dig up or disturb the surface of a public road, or
 - (c) remove or interfere with a structure, work or tree on a public road, or
 - (d) pump water into a public road from any land adjoining the road, or
 - (e) connect a road (whether public or private) to a classified road.

The proposal therefore involves works on a public road which is reserved under Part 4 of the NPW Act; however, pursuant to s 188B of the NPW Act, 'section 138 of the *Roads Act 1993* does not apply to anything done under a provision of this Act in relation to a road that is, or is on, land reserved under this Act'.

3.3.12 Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) aims, among other things, to encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecologically sustainable development, to ensure resource management options are considered against a hierarchy, and to minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste. The WARR Act acknowledges that certain material present either human or environmental risk, requiring classification, treatment and disposal of in accordance with specific waste management provisions.

The proposal would generate waste during the construction phase; however, the principles of the waste management hierarchy and other relevant waste management requirements shall be implemented onsite. Further assessment of waste generation is provided in Section 9.

3.3.13 Water Management Act 2000

The *Water Management Act 2000* (WM Act) outlines approval requirements for activities at a specified location in, on or under waterfront land. The WM Act also outlines water access rights and surface water runoff.

Pursuant to s 91E(1), a 'controlled activity approval' is required to carry out a 'controlled activity' in, on or under 'waterfront land', which are defined in the **Dictionary** of the WM Act as:

controlled activity means—

- (a) the erection of a building or the carrying out of a work (within the meaning of the *Environmental Planning and Assessment Act 1979*), or
- (b) the removal of material (whether or not extractive material) or vegetation from land, whether by way of excavation or otherwise, or
- (c) the deposition of material (whether or not extractive material) on land, whether by way of landfill operations or otherwise, or
- (d) the carrying out of any other activity that affects the quantity or flow of water in a water source

waterfront land means—

- (a) the bed of any river, together with any land lying between the bed of the river and a line drawn parallel to, and the prescribed distance inland of, the highest bank of the river, or
- (a1) the bed of any lake, together with any land lying between the bed of the lake and a line drawn parallel to, and the prescribed distance inland of, the shore of the lake, or
- (a2) the bed of any estuary, together with any land lying between the bed of the estuary and a line drawn parallel to, and the prescribed distance inland of, the mean high water mark of the estuary, or
- (b) if the regulations so provide, the bed of the coastal waters of the State, and any land lying between the shoreline of the coastal waters and a line drawn parallel to, and the prescribed distance inland of, the mean high water mark of the coastal waters,

where the prescribed distance is 40 metres or (if the regulations prescribe a lesser distance, either generally or in relation to a particular location or class of locations) that lesser distance. Land that falls into 2 or more of the categories referred to in paragraphs (a), (a1) and (a2) may be waterfront land by virtue of any of the paragraphs relevant to that land.

river includes—

- (a) any watercourse, whether perennial or intermittent and whether comprising a natural channel or a natural channel artificially improved, and
 - (b) any tributary, branch or other watercourse into or from which a watercourse referred to in paragraph (a) flows, and
 - (c) anything declared by the regulations to be a river,
- whether or not it also forms part of a lake or estuary, but does not include anything declared by the regulations not to be a river.

The proposal meets the requirements of a ‘controlled activity’; however, pursuant to s 41 of the *Water Management (General) Regulation 2018*, ‘a public authority is exempt from section 91E(1) of the Act in relation to all controlled activities that it carries out in, on or under waterfront land’.

NPWS is a ‘public authority’ as defined in s 1.4 of the EP&A Act and is therefore exempt from s 91E of the WM Act and a controlled activity approval is not required.

3.4 Commonwealth legislation

3.4.1 Environment Protection and Biodiversity Conservation Act 1999

The Environment Protection and Biodiversity Conservation Act is the primary Commonwealth environmental legislation and is administered by the Commonwealth Department of Climate Change, Energy, the Environment and Water. It provides the legal framework to protect and manage nationally and internationally important values, including flora, fauna, ecological communities and heritage places defined under the EPBC Act as matters of national environmental significance (MNES).

The EPBC Act requires that proposed ‘actions’ that the proponent believes will, or may be likely to, significantly impact MNES, the environment of Commonwealth land, or the environment generally if they are being carried out by an Australian Government agency, must be referred to the Australian Minister for the Environment and Water for assessment. The approval of the Minister is required if an action is likely to have a significant impact on or involve:

- World Heritage properties
- National Heritage places
- wetlands of international importance
- nationally threatened species and ecological communities
- migratory species
- Commonwealth marine areas
- the Great Barrier Reef Marine Park
- nuclear actions
- a water resource, in relation to coal seam gas development and large coal mining development.

Under the EPBC Act, any action which has a significant impact on a MNES value triggers a referral to the Australian Minister for the Environment and Water for assessment. There are no significant impacts detected on MNES values on or near the study area and therefore the EPBC Act is not triggered by this proposal.

Evaluations of species and communities listed under the EPBC Act have been incorporated into Section 8.5 and 9.7, and assessed within the Ecological Assessment. The EPBC Act Protected Matters Report is also attached in the Ecological Assessment in Appendix A.

3.4.2 Native Title Act 1993

Compliance with the Commonwealth *Native Title Act 1993* would also require compliance with the New South Wales *Native Title Act 1994*, as such, it is considered to not require separate consideration as the two Acts are inextricably linked.

Pursuant to s 223(1) of the Native Title Act, **native title** means:

the communal, group or individual rights and interests of Aboriginal peoples or Torres Strait Islanders in relation to land or waters, where:

- (a) the rights and interests are possessed under the traditional laws acknowledged, and the traditional customs observed, by the Aboriginal peoples or Torres Strait Islanders; and
- (b) the Aboriginal peoples or Torres Strait Islanders, by those laws and customs, have a connection with the land or waters; and
- (c) the rights and interests are recognised by the common law of Australia.

People who hold native title have a right to continue to practice traditional activities over their traditional lands and waters while respecting other Australian laws. Traditional activities generally involve visiting sites of significance, performing rites or other ceremonies, or carrying out hunting, fishing, gathering or camping activities. Further, when a native title claimant application is registered by the National Native Title Tribunal, the people seeking native title recognition gain a right to consult or negotiate with anyone who wants to undertake a proposal on the area claimed.

The main objects of the Native Title Act are:

- (a) to provide for the recognition and protection of native title; and
- (b) to establish ways in which future dealings affecting native title may proceed and to set standards for those dealings; and
- (c) to establish a mechanism for determining claims to native title; and
- (d) to provide for, or permit, the validation of past acts, and intermediate period acts, invalidated because of the existence of native title.

Determination of validity of the proposal under the Native Title Act is assessed in Section 5.1.

3.5 Consistency with national parks policy

| Policy name | How proposal is consistent |
|--------------------------|--|
| Landslides and rockfalls | <p>This REF has been prepared in accordance with the following policies of the Landslides and rockfalls (Environment and Heritage, 2024a) policy:</p> <p>1. NPWS has a duty of care to park visitors and to people working in parks (i.e. NPWS staff, contractors or volunteers) to minimise the risks of landslides and rockfalls.</p> <p>5. The extent of reasonable measures taken by NPWS to manage the risk of landslides and rockfalls to park visitors, workers in parks, and neighbouring landholders depends on:</p> <ul style="list-style-type: none"> • seriousness of the risk • cost and difficulty of risk mitigation • feasibility of alternative management approaches • risk to workers treating the risk • relevant provisions of National Parks and Wildlife legislation |

| Policy name | How proposal is consistent |
|---|---|
| | <ul style="list-style-type: none"> resources available to NPWS and landowners to deal with the problem. <p>15. NPWS will, in addition to assessing risk to life and property consistent with duty of care obligations under relevant NSW civil liability law, consider other factors when determining how and whether it is feasible to manage landslide and rockfall hazards to sufficiently reduce the risk to visitors and workers in parks:</p> <ol style="list-style-type: none"> environmental impacts of alternative management responses (particularly impacts on biodiversity and cultural heritage) available resources, including funds, trained staff, and management capacity to manage all risks (for example, will it divert resources from another risk management activity?) impact of response on park management and use (e.g. will the response require the removal of a significant number of camping sites?) cumulative impact of responses that may occur over time and across visitor areas, parks and branches relevant plans or standards community views and expectations (including on the extent of modifications to a location). |
| Managing parks prior to a plan of management policy | <p>No plan of management has been prepared for Lansdowne Nature Reserve; therefore, the reserve is managed by a Statement of Management Intent which guides its management.</p> <p>This REF is consistent with the following policies of the Managing parks prior to a plan of management policy (Environment and Heritage, 2024b):</p> <ul style="list-style-type: none"> 6. Any activities proposed by Statement of Management Intent will be subject to: <ul style="list-style-type: none"> an appropriate level of environmental assessment including a review of environmental factors. 28. NPWS should maintain at current standards any tracks, trails, roads, bridges and lookouts that are to be retained. If upgrading is considered essential for public safety or fire management purposes, this must be included in a statement of management intent or approved by a branch director. |
| Vehicle access policy | <p>The proposal involves improving the safety and condition of vehicle passage on Sandy Point Road and is consistent with the objectives of the Vehicle access policy (Environment and Heritage, 2024c) in that the proposed works would:</p> <ul style="list-style-type: none"> not cause unacceptable impacts on the environment and cultural heritage; be designed with sensitivity to the landscape; and be appropriate and necessary to meet park management needs. |
| Visitor safety policy | <p>The proposal is consistent with the objectives of the Visitor safety policy (Environment and Heritage, 2024d) in that the proposed works would:</p> <ul style="list-style-type: none"> contribute to NPWS' duty of care for visitor safety and prohibit conduct which does not discharge that duty prioritise and resource higher rated risks than lesser-rated risks approach risk management that promotes conservation of alternatives which may compromise conservation protect property (including park infrastructure) contribute to the objectives of the plan of management which is a management planning instrument consistent with the policy. |

3.6 Summary of licences and approvals

3.6.1 Approval required from National Parks and Wildlife Service

Internal NPWS approval or authorisation, including expenditure, is required.

3.6.2 Other approvals

As determined in Section 3.3.6, a permit to harm marine vegetation is required from DPIRD – Fisheries was obtained on 13 December 2024 (Appendix D).

3.6.3 Publication triggers

The publication triggers under s 171(4) of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) are set out in Table 5. This REF requires publication on the NPWS website or the NSW planning portal following determination as it requires a permit under s 205 of the FM Act.

Table 5. Triggers for publication of the review of environmental factors

| Permit or approval | Applicable? |
|---|-------------|
| <i>Fisheries Management Act 1994</i> , ss 144, 200, 205 or 219 | Yes |
| <i>Heritage Act 1977</i> , s 57(1) (commonly known as a s 60 and not an Exemption under s 57(2)) | No |
| <i>National Parks and Wildlife Act 1974</i> , s 90 (Aboriginal Heritage Impact Permit) | No |
| <i>Protection of the Environment Operations Act 1997</i> , ss 47–49 or 122 | No |

4. Consultation – general

4.1 Statutory consultation

4.1.1 Transport and Infrastructure SEPP

The Transport and Infrastructure SEPP requires consultation with relevant authorities as identified in the following table.

Table 6. Consultation triggers under the Transport and Infrastructure SEPP

| Authority (Transport and Infrastructure SEPP section) | Trigger | Applicable to proposal? |
|--|---|----------------------------|
| Consultation with local council (s 2.10) | Development with impacts on council infrastructure or services (such as stormwater, sewer, water, roads and footpaths) | No |
| Consultation with local council (s 2.11) | Development with impacts on heritage items listed under the local environmental plan (LEP) | No |
| Consultation with local council (s 2.12) | Development that will change flood patterns on flood-labile land | No |
| Consultation with State Emergency Service (s 2.13) | Development on flood-labile land | No |
| Consultation with local council (s 2.14) | Development that is inconsistent with a certified coastal management program affecting land within the mapped coastal vulnerability area | No |
| Consultation with NPWS (s 2.15(2)(a)) | Development adjacent to land reserved or acquired under the NPW Act | No |
| Consultation with NPWS (s 2.15(2)(b)) | Development on land in Zone C1 that is yet to be reserved under the NPW Act | No |
| Consultation with Transport for NSW (s 2.15(2)(c)) | Development comprising a fixed or floating structure in or over navigable waters | No |
| Consultation with the Director of the Siding Spring Observatory (s 2.15(2)(d)) | Development that may increase the amount of artificial light in the night sky and that is on land within the mapped dark sky region | No |
| Consultation with the Cth Department of Defence (s 2.15(2)(e)) | Development located within the buffer around the defence communications facility near Morundah as mapped under the Lockhart, Narrandera or Urana LEPs | No |
| Consultation with the Subsidence Advisory NSW (s 2.15(2)(f)) | Development on land in a mine subsidence district | No |
| Consultation with the Willandra Lakes Region World Heritage Advisory Committee and Heritage NSW (s 2.15(2)(g)) | Development on, or reasonably likely to have an impact on, a part of the Willandra Lakes Region World Heritage Property | No |

| Authority (Transport and Infrastructure SEPP section) | Trigger | Applicable to proposal? |
|--|--|----------------------------|
| Consultation with the Western Parkland City Authority (s 2.15(2)(h)) | Development within a Western City operational area (Western Parkland City Authority Act 2018, Schedule 2) with a capital investment value of \$30 million or more | No |
| Consultation with Transport for NSW (s 2.221) | Traffic-generating development listed in Schedule 3 | No |

4.1.2 Other statutory consultation

No other statutory consultation has been identified for the proposal.

4.2 Targeted consultation

4.2.1 Adjacent landowners

The proposal involves works on the riverbank and within the water of the Lansdowne River. The river is mapped as Crown waterway; however, following the 2022 flood event the alignment of the river has encroached into the reserve; therefore, consultation with the Department of Planning, Housing and Infrastructure – Crown Lands was carried out to determine whether consent was required prior to carrying out the proposal. Responses were received from Crown Lands on the 3rd and 10th of October 2024 (Appendix E) which confirmed that the subject site is not located within the waterway boundaries of the Lansdowne River; therefore, consent from Crown Lands is not required.

4.2.2 Wider community consultation and/or notification of works

Notification would be undertaken prior to the commencement of works which would include temporary signage in place for the duration of construction and notification of the proposal on the NPWS website. The NPWS website will list the road as 'closed' and include the duration of the activity.

4.2.3 Interest groups and/or notification

Notification of the activity will be placed on the NPWS website.

5. Consultation – Aboriginal communities

5.1 Native title notification requirements

1. Is the land subject to an Indigenous land use agreement (ILUA)? No

An online search of the National Native Title Tribunal Native Title Vision geospatial viewer (NNTT, 2024) was undertaken on 16 September 2024 which did not identify any ILUAs present within or close to the proposal.

2. Has native title been **extinguished**? No or unclear
3. Has there been a determination of native title applicable to the land or is there a native title claim pending? No

An online search of the National Native Title Register was undertaken on 16 September 2024 which did not identify any Native Title Applications or Determinations over the study area.

4. If native title is not confirmed as extinguished, **and** the activity is occurring on land reserved as park on or before 23 December 1996, is it an act in accordance with the purpose of reservation **and will it**:
- a. be a 'public work' as per subdivision 24J of the Native Title Act (e.g. a building or other structure that is fixed to the landscape, a road or bridge, a well or a bore, or involves major earthworks, carried out by a public authority)
 - or**
 - b. involve the grant of a lease or easement?
- No
5. If native title is not confirmed as extinguished and the circumstances of Question 4 do not otherwise apply (e.g. the park was reserved after 23 December 1996), is the activity either:
- a. a facility for service to the public (as defined in subdivision 24K of the Native Title Act)
 - or**
 - b. a low-level activity (as defined in subdivision 24L of the Native Title Act)?
- Yes

Subdivision L – Low impact future acts

Subdivision L, s 24LA of the Native Title Act applies to a future act if:

- (a) the act takes place before, and does not continue after, an approved determination of native title is made in relation to the land or waters, if the determination is that native title exists; and
- (b) the act does not consist of, authorise or otherwise involve:
 - (i) the grant of a freehold estate in any of the land or waters; or
 - (ii) the grant of a lease over any of the land or waters; or
 - (iii) the conferral of a right of exclusive possession over any of the land or waters; or
 - (iv) the excavation or clearing of any of the land or waters; or
 - (v) mining (other than fossicking by using hand-held implements); or
 - (vi) the construction or placing on the land, or in the waters, of any building, structure, or other thing (other than fencing or a gate), that is a fixture; or

- (vii) the disposal or storing, on the land or in the waters, of any garbage or any poisonous, toxic or hazardous substance.

Pursuant to s 24LA(2), Subparagraph (1)(b)(iv) does not apply to:

- (a) excavating or clearing that is reasonably necessary for the protection of public health or public safety; or
- (b) tree lopping, clearing of noxious or introduced animal or plant species, foreshore reclamation, regeneration or environmental assessment or protection activities.

The landslide has caused scour at the toe of the bank which will impact the safety and condition of the road if remediation works are not carried out; therefore, the proposed rock fill option will improve the safety of visitors to the reserve. The proposal is therefore necessary for the protection of public safety; therefore, this subdivision applies to a future act. The act is therefore valid pursuant to s 24LA(3) of the Native Title Act.

5.2 Parks under joint management arrangements other than an indigenous land use agreement

The management of the park is not subject to another joint management arrangement such as a memorandum of understanding.

5.3 Other parks

Not applicable.

6. Proposed activity (or activities)

6.1 Location of activity

Table 7 provides a summary of the location of the proposal.

Table 7. Summary of activity location

| | | | |
|-------------------------|---|----------------------|------------------|
| Description of location | Lansdowne Nature Reserve is located approximately 20 km north of Taree on the mid-coast of NSW. The proposal will occur within the south-central portion of the reserve between Sandy Point Road and the Lansdowne River. | | |
| Site commonly known as | Sandy Point Road | | |
| Park name | Lansdowne Nature Reserve | | |
| Other tenures | This REF applies only to land reserved under Part 4 of the NPW Act. | | |
| Lot/DP | Lot 305 DP722610 | | |
| Street address | Not applicable | | |
| Site reference | Easting: 456439 | Northing: 6482760 | MGA zone: 56J |

6.2 Description of the proposed activity

NPWS propose to carry out landslide remediation works of a section of scour and instability in the bank of the Lansdowne River adjacent to Sandy Point Road within Lansdowne Nature Reserve at Lansdowne, NSW. The failure comprises a 6 m slump and scour in the riverbank which is affecting the land between the riverbank and the road.

The section of road trends along a peninsular formed by a sharp meander in the river where there is evidence of ongoing and periodic scour and instability. The road is approximately 3 m above river level. The ground and the surrounding area are flat. The ground slopes steeply down the river bank approximately 4 to 5 m from the road.

The scarp of the slide is 1.2 m from the edge of the road and further regression of the slide is likely to impact the road. Such regression could be caused by further scour at the toe of the slope, which would be expected to occur during high or rapid flow during adverse weather events.

The proposed remediation works involve the placement of a berm of large rock fill to provide scour protection at the toe of the bank, as well as a mass for gravity retention at the toe of the slope. Benching of the remaining batter will be required to form a suitable foundation. A layer of class D geofabric will be placed over the upper portion of the rockfill and benches. The remaining batter will be reconstructed to 1V:1.5H or flatter by placing 150-400 mm diameter rockfill.

Sheet 6 of RGS50209.1-AC 'Detailed design for stabilisation works' – Sandy Point, Lansdowne (Appendix F) illustrate the methodology and specification for the landslide remediation works. The existing condition of the landslide and adjacent riverbank are shown in Photo 1 to Photo 4.



Figure 2: Overview of the proposal

Review of environmental factors: Lansdowne Nature Reserve Landslide Remediation

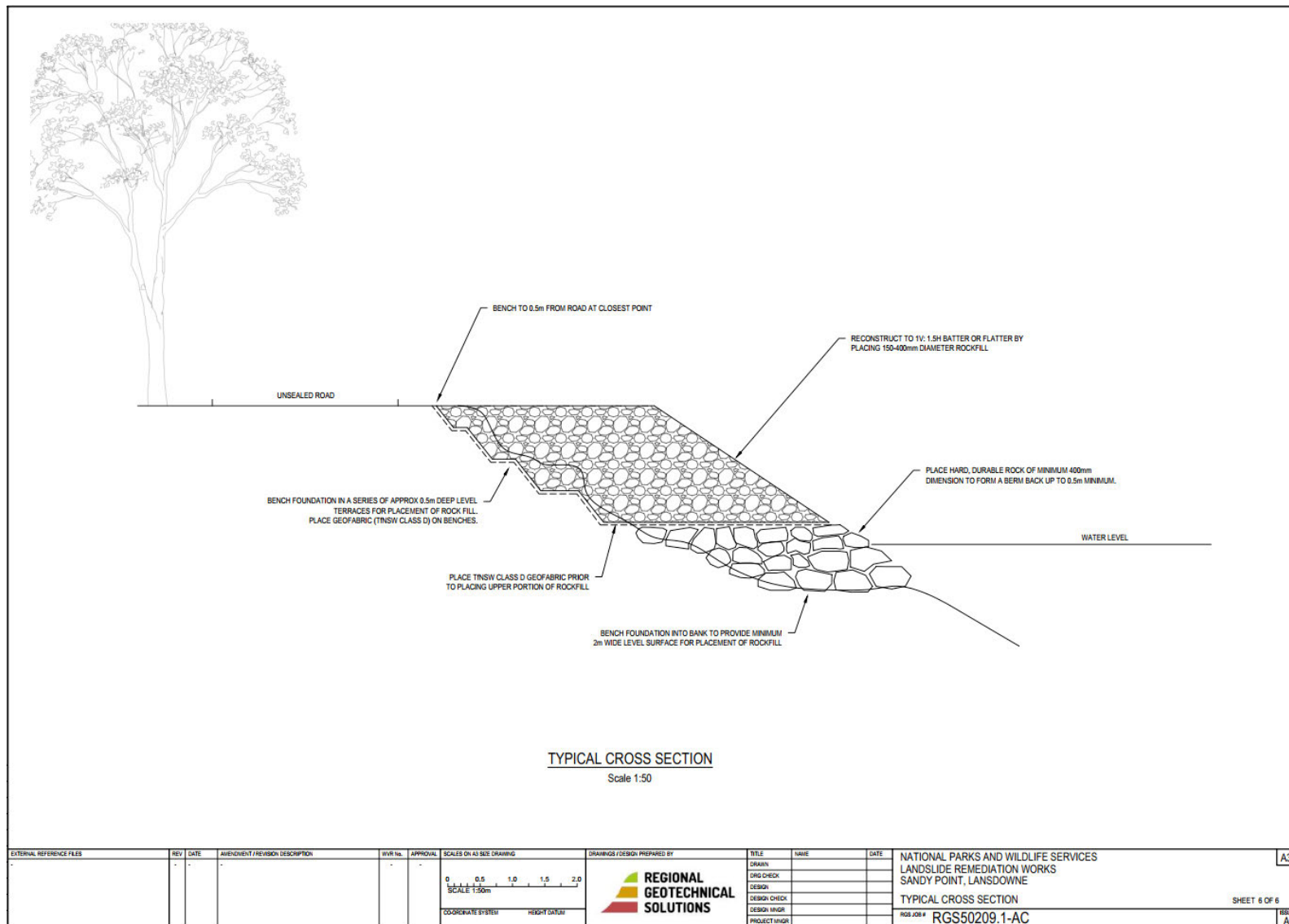


Figure 3: Concept remediation design (source: RGS, 2024)



Photo 1: Existing condition of the landslide looking north



Photo 2: Existing condition of the landslide looking south



Photo 3: Proximity of the landslide to Sandy Point Road



Photo 4: General overview of the landslide and proximity to Sandy Point Road

6.2.1 The proposed activity: pre-construction, construction, operation and remediation

Pre-construction

- Prior to the removal of any vegetation, a qualified ecologist or suitably experienced NPWS representative shall thoroughly inspect the clearing area to identify and mark trees and/or other habitat features to be retained. Vegetation requiring removal is to be clearly marked using a separate method to vegetation being retained.
- A thorough survey is to be conducted by a qualified ecologist or suitably experienced NPWS representative prior to commencement of clearing works to check for fauna.
- Install work signs and WHS signage as necessary. The road will also be closed at the gate on the start of the road and the NPWS website will be updated with the closure.
- All personnel working on site shall be made aware of the environmental protection requirements to be implemented during the project. This is to include site inductions and regular 'toolbox' briefings. Site specific areas of high sensitivity may include Aboriginal object and/or places, threatened species, their habitat, and threatened ecological communities.
- Erosion and sediment (ERSED) controls consistent with the NPWS field guide for Erosion and Sediment Control on Unsealed Roads and currently accepted best management practice (i.e., Landcom [2004] Managing Urban Stormwater: Soils and Construction [4th Edition] – the Blue Book) are to be installed to prevent sediment moving off-site and sediment laden water entering drainage lines.
- Sediment control devices will be progressively installed during benching toward the lower slope of the slip to prevent sediment entering the waterway during construction.
- A floating silt curtain shall be installed within the waterway to contain any silt from the works entering/dispersing into the Lansdowne River.
- 'No Go' areas are to be identified and clearly delineated to prevent vegetation harm beyond what has been assessed and marked.
- Any tools or machinery used during construction are to be appropriately cleaned, degreased and serviced prior to use/entry at the site.

Construction

- Trim slope within the failed area to remove overhangs, debris, and logs or vegetation from the proposed work area. This will require trimming the slope over a width of approximately 15 m.
- Install silt trap around work zone in water.
- Excavate a bench at water level for the placement of rock.
- Place large, clean, hard, durable rock with minimum diameter of 400 mm up to approximately 0.5 m above river water level. Allow rock to spill over front of toe to protect face below water level against concentrated flow and scour.
- Cleaned log stumps will be placed at the tow to provide for fish habitat.
- Place a layer of TfNSW Class D geofabric over the surface of the rock.
- Place the fabric on the rear face of the excavation prior to placing rock fill. Continue to place rockfill 150-400 mm up to road level.
- The outer face should be battered to 1V:1.5H or flatter. to ensure compaction extends to the face of the batter the fill should be over-placed and then trimmed back to the design batter.

- Drainage should be adjusted to controlled discharge points where it can drain off or around the fill batter without causing scour and erosion of the formation.
- Extract silt trap.

Post-work remediation

- All waste generated will be removed from the site and recycled/disposed of as necessary.
- Monitor all works for settling and manage as required.
- Monitor all sites for weed establishment and treat as necessary.
- Remove temporary erosion and sedimentation controls once sites have been stabilised and controls are no longer required.
- Disturbed areas will be regenerated using a diverse combination of local native plants or native vegetation mulch.
- Regular inspection of the remediation works will be incorporated into the NPWS maintenance program to ensure the works are maintained to the required standards and no further regression occurs.

6.2.2 The activity footprint (size of the area of impact)

The maximum footprint of disturbance has been assessed to be approximately 175 m² which includes 75 m² of landslide remediation works and 100 m² for equipment and material storage at the stockpile location.

6.2.3 Proposed construction methods, materials and equipment

Appropriate erosion and sediment control measures will be implemented at the works site prior to the commencement of work, including sediment fences, silt traps and sediment traps. Erosion and scour protection will be installed where required.

A combination of large and small plant (predominately excavators) will be used to prepare the site and place rock fill. Compaction will be by remote controlled trench compactors. Posi tracks or graders may be used to reinstate the road to a suitable condition following completion of the remediation works.

Materials used in construction shall comply with all guidelines and approved construction documents, specifically the detailed design RGS50209.1-AC, and will generally include the following:

- geofabric (RMS Class D)
- 200mm of DGS40 or similar road base
- hard, durable quarried rock of minimum 400 mm dimension for water zone and to 0.5 m above, and 150 mm to 400 mm above water, meeting the following requirements:
 - wet strength >150 kN
 - wet/dry strength variation <25 %
 - specific Gravity >2.4 t/m³
 - water absorption <1.5 %
 - sodium sulphate loss <6 %.

6.2.4 Receival, storage and on-site management for materials used in construction

Materials and equipment will be delivered to the site and stored temporarily either on the road or within the pre-existing cleared area associated with the picnic area turning area (Photo 5). Where practicable, adjacent aquatic areas to be protected from runoff and stockpiled soil, road base and excavated material by sediment fencing, and silt and sediment and traps.



Photo 5: Existing cleared area to be used for material and equipment storage

6.2.5 Earthworks or site clearing including extent of vegetation to be removed

Earthworks required involve trimming the slope over a width of approximately 15-metres within the failed area to remove overhangs, debris, and logs or vegetation. A bench will then be excavated at water level to facilitate the placement of rock.

The proposal would remove up to 3 canopy trees, one of which is a hollow-bearing tree, as well as shrubs, groundcovers and a small area of mangroves. The mangroves affected are small regenerating River Mangroves that have recently colonised part of the slip area. The tree roots from removed trees will be re-used as fish habitat at the toe of the imported rock.

No earthworks or clearing are required for the material and equipment storage site.

6.2.6 Environmental safeguards and mitigation measures

The proposed areas of impact have been surveyed and inspected for natural, cultural and heritage values by suitably qualified persons during the preparation of this REF. A number of safeguards and mitigation measures have been identified in order to minimise potential adverse environmental impacts associated with the proposal. The safeguards and mitigation measures outlined in Section 9 shall be applied prior and during the construction and operation stages. Compliance with the safeguards and mitigation measures, and any associated approval conditions, shall be periodically audited during the construction and operation stages.

6.2.7 Sustainability measures – including choice of materials and water/energy efficiency

- Labour and materials are to be sourced from local suppliers where possible.
- Vegetation removed is not to be burnt.
- Vegetation clearing shall not occur beyond what has been marked and assessed.
- Any waste generated to be segregated to maximise recycling opportunities.
- Regular maintenance of construction equipment shall be carried out to improve their energy efficiency and reduce their environmental impact.
- Water-efficient practices to be implemented during construction, such as using recycled or treated water for non-potable uses to minimise water wastage.
- Energy-efficient equipment and practices will be used where possible, such as selecting electric equipment and machinery, and optimising their use to minimise energy consumption during construction activities.
- Avoid the use of plastic bags during waste removal where practicable.
- Waste disposal shall be undertaken in accordance with the WARR Act.

6.2.8 Construction timetable and staging and hours of operation

Works are proposed to commence in the first quarter of 2025 and take approximately two (2) months to complete. Works will be undertaken during the working hours as outlined below:

- Monday to Saturday: 6am to 6pm.
- Sunday, Public Holidays and school holidays – with written approval from the Area Manager or their delegate.

If works are required outside of the standard hours on weekends or nights, it will need to be clearly justified and approved in writing by the Area Manager or their delegate.

Other construction outside the recommended standard hours may include:

- The delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads.
- Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm.
- Maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours.

7. Reasons for the activity and consideration of alternatives

7.1 Objectives and reasons for the proposal

The primary objective of the proposal are to remediate and stabilise the scarp to reduce the potential for reactivation and regression of the instability, which would potentially encroach into the road in future events. The proposal will also improve the safety and condition of the road which is required for ongoing management of the reserve.

7.2 Consideration of alternatives

Option 1: Do Nothing

The Geotechnical Assessment (Appendix G) carried out in August 2024 determined the landslide is expected to regress further into the road cause by further scour at the toe of the slope, which could be expected to occur during high or rapid flow during adverse weather events. The 'do nothing' option is not consistent with the key management directions of the SoMI and further regression is likely to impact on the receiving environment.

Option 2: Rock Fill Remediation (Preferred Option)

The proposed rock fill remediation is the preferred option to prevent further regression of the scarp into the road. This option was selected based on discussions with NPWS and based on similar landslide events in recent years. This option will also contribute to improving the safety and condition of Sandy Point Road for ongoing management of the reserve in line with the key management directions of the SoMI.

7.3 Justification for preferred option

Option 2 is the preferred option for the following reasons:

- The existing landslide is likely to regress further into the road with future adverse weather events.
- The remediation works will contribute to the safety and condition of Sandy Point Road to allow NPWS to carry out management activities associated with the reserve.
- Contribute to enhancing the reserve fire trail network and associated infrastructure to meet the RFS standards and management requirements under the RF Act.
- Have a significantly positive impact on the ability of the NPWS and other fire agencies to fully utilise Sandy Point Road to undertake operations to protect life, property or the environment making it consistent with the objects of the RF Act.
- The landslide has disturbed the existing environment; therefore, carrying out the works within the proposed location will minimise adverse impacts on the receiving environment.

8. Description of the existing environment

8.1 Overview of the project area

Lansdowne Nature Reserve covers almost 14 ha of land on the banks of the Lansdowne River and is located approximately 20 km north of Taree on the mid-coast of NSW. The closest relevant meteorological station is the Taree Airport AWS station located approximately 11.5 km south of the landslide. The station is detailed as follows:

Site name: Taree Airport AWS

Site number: 060141

Latitude: 31.89 °S **Longitude:** 152.51 °E

Elevation: 8m

Commenced: 1997 **Status:** Open

The mean maximum and minimum temperatures, and the mean rainfall statistics for the years 1997-2024 are detailed in Table 8.

Table 8: Climate statistics for the Taree Airport AWS meteorological station (BoM, 2024)

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---------------------------|------|-------|-------|-------|------|------|------|------|------|------|-------|------|--------|
| Mean max temp (°C) | 29.0 | 28.4 | 26.8 | 24.4 | 21.4 | 18.9 | 18.7 | 20.3 | 23.1 | 24.8 | 26.0 | 27.8 | 24.1 |
| Mean min temp (°C) | 18.5 | 18.3 | 16.8 | 13.7 | 10.1 | 7.9 | 6.7 | 6.9 | 9.3 | 12.0 | 14.9 | 16.8 | 12.7 |
| Mean rainfall (mm) | 93.8 | 155.9 | 195.4 | 104.8 | 79.5 | 93.2 | 66.3 | 44.6 | 47.8 | 83.7 | 105.3 | 90.0 | 1155.2 |

8.2 Natural values

8.2.1 Geology, geomorphology and topography

Lansdowne Nature Reserve is predominately situated on the Pappinbarra Formation of the New England Orogen which comprises turbiditic lithic and volcanolithic sandstone and interbedded siltstone with minor conglomerate, tuff, calcareous sandstone, crinoidal sandstone and limestone of the Carboniferous (Mississippi) Age (DPIRD, 2024).

The landslide has occurred adjacent the Lansdowne River within a subaqueous alluvial channel of the Holocene Age which comprises fluvial sand, gravel, silt and clay (DPIRD, 2024). The ancillary site is situated on a floodplain comprising fluvial sand to mud of the Holocene Age. Quaternary geology associated with the proposal is shown in Figure 4.

A search of NSW State mapping (DPHI, 2018) was undertaken on 18 September 2024 which did not identify any naturally occurring asbestos present within Lansdowne Nature Reserve.

Topography of the landscape is defined by gently undulating plains to rolling plains comprised of floodplains and meander plains on Quaternary alluvium in the north east of the Hunter Region (DPIE, 2024).



Figure 4: Quaternary geology occurring proximate the subject site

8.2.2 Soil types and properties (including contamination)

The subject site and all areas within 150 m of the landslide are situated on the Koppin Yarratt soil landscape which comprises deep (100 - <150 cm), well-drained Haplic Brown Dermosols and Kandosols (Brown Earths and Alluvial Soils); moderately deep to deep (50 - <150 cm), imperfectly drained Brown Kandosols and Dermosols (Alluvial Soils); and shallow to moderately deep (25 - <100 cm), rapidly drained Fluvic Stratic Rudosols (Alluvial Soils) (DPIE, 2024).

Qualities and limitations associated with this soil landscape include widespread foundation hazard, widespread productive arable land, localised recharge zone, localised discharge zone, widespread streambank erosion hazard, localised high run-on, localised seasonal waterlogging, widespread flood hazard (DPIE, 2024).

The SoMI indicates one of the key issues with the reserve includes ongoing lateral erosion and undercutting of the riverbank which results in riverbank erosion that is likely to continue. This erosion causes damage to native vegetation on the floodplain in the reserve, and in the future the narrow neck of land may eventually cut through, cutting off the meander and forming an oxbow lake (OEH, 2014).

The NSW State-wide land and soil mapping (DPIE, 2024) maps the subject site and all surrounding land as occurring on Dermosols as per the Australian Soil Classification.

A search of the Greater Taree LEP indicates the site is situated on Class 3 Acid Sulfate Soils (ASS), while the Lansdowne River is mapped as Class 1 ASS (Figure 5). Class 1 ASS have the potential to be disturbed by disturbance to any soil profile, while Class 3 ASS are typically disturbed by works which occur more than 1 m below the natural ground surface, or by works in which the watertable is likely to be lowered more than 1-metre below the natural ground surface.

Searches were also undertaken of the NSW Environment Protection Authority List of Notified Sites, the Contaminated Land Public Record and the NSW Government PFAS Investigation Program which did not identify any contaminated land sites occurring in proximity to the subject site. Further, a search of the Unexploded Ordnance (UXO) in Australia database (Department of Defence, 2024) did not identify any potential areas for UXO to occur within or proximate the subject site.

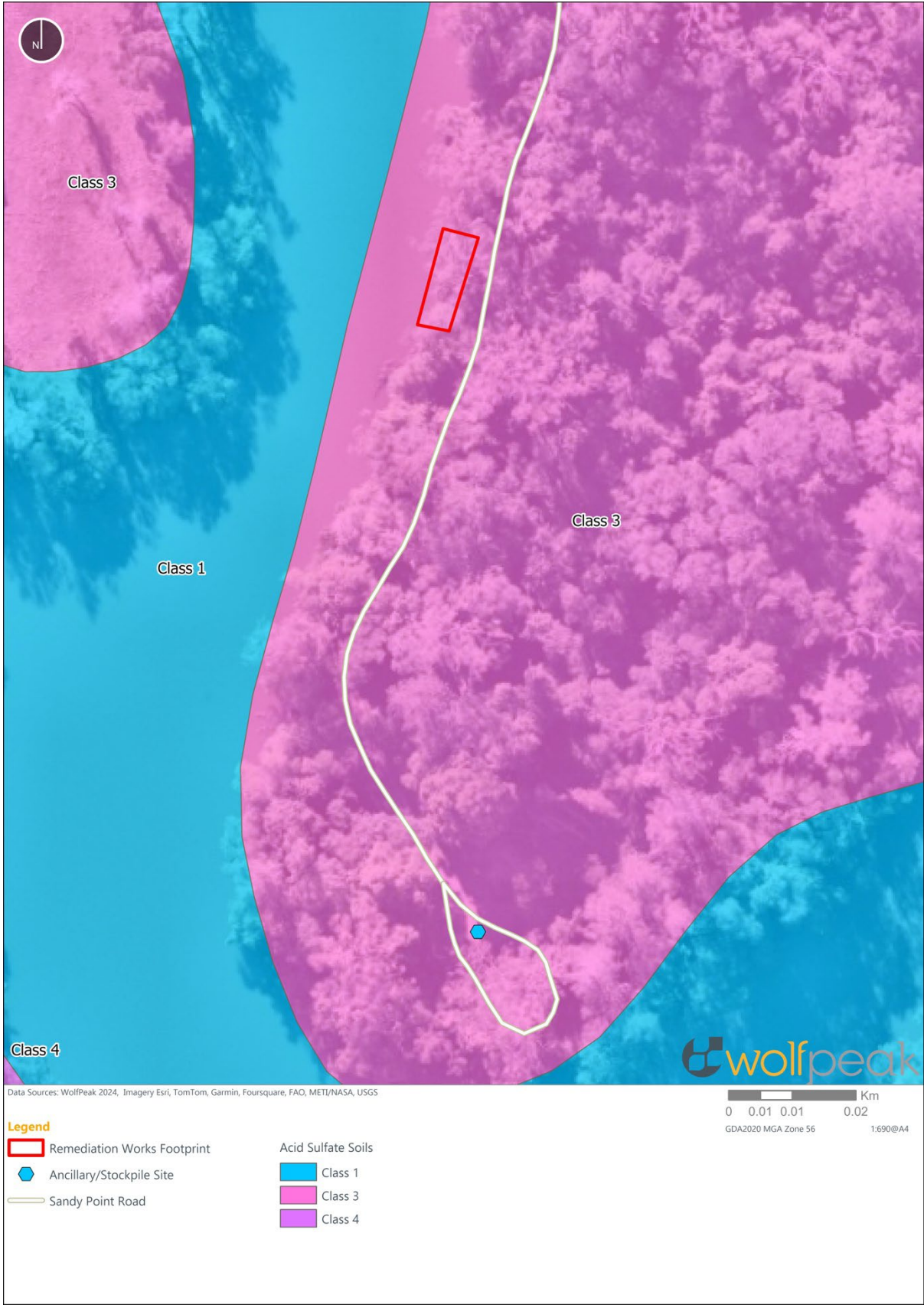


Figure 5: Mapped Acid Sulfate Soils proximate the subject site

8.2.3 Watercourses, waterbodies and their catchments

The landslide has occurred on the outer bend of the Lansdowne River which is a fifth order stream under the Strahler method. The river is mapped as key fish habitat under the FM Act (Figure 6) and is a tributary to the Manning River. No coastal wetlands under the Resilience and Hazards or flood planning area under the Greater Taree LEP occur near the subject site.

Lansdowne Nature Reserve is situated within the Manning catchment which is bordered in the north-east by the Hastings catchment, in the north by the Macleay catchment, in the north-west by the Namoi catchment, in the south-west by the Hunter, and to the south by the Karuah catchment (NSW Government, 2024).

The Manning has an area of approximately 8,420-square-kilometres and flows for 250-kilometres, rising in the Great Dividing Range and flowing south-east through a coastal floodplain to Taree where it splits in two. The southern arm meets the Pacific Ocean at Old Bar, and the northern arm is joined by the Dawson and Lansdowne rivers, meeting the ocean at Harrington (NSW Government, 2024).

8.2.4 Coasts and estuaries

The reserve is located on the mid-coast of NSW and is situated adjacent the Lansdowne River, which is a tributary to the Manning River, a major coastal river system. The proposal is situated on land both within the coastal environment area (Part 2.2, Div 3) and coastal use area (Part 2.2, Div 4) as determined under the Resilience and Hazards SEPP (Figure 7). Potential impacts to the coastal zone are assessed in Section 3.2.2, with safeguards provided in Section 9. The proposal is consistent with the requirements of Chapter 2 of the Resilience and Hazards SEPP, and it is considered unlikely any adverse impacts to the coastal zone would occur as a result of the proposal.

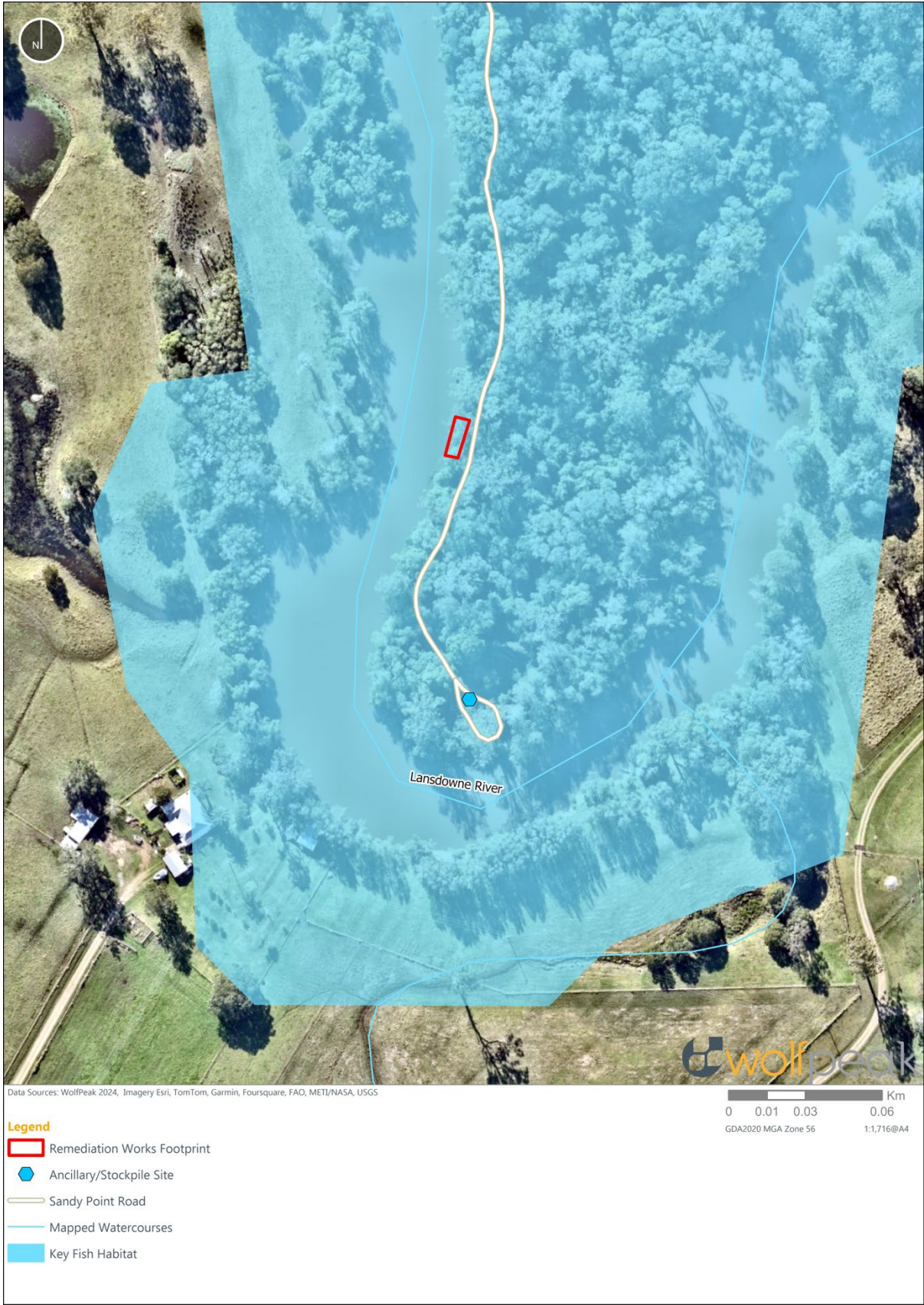


Figure 6: Mapped watercourses and key fish habitat proximate the landslide

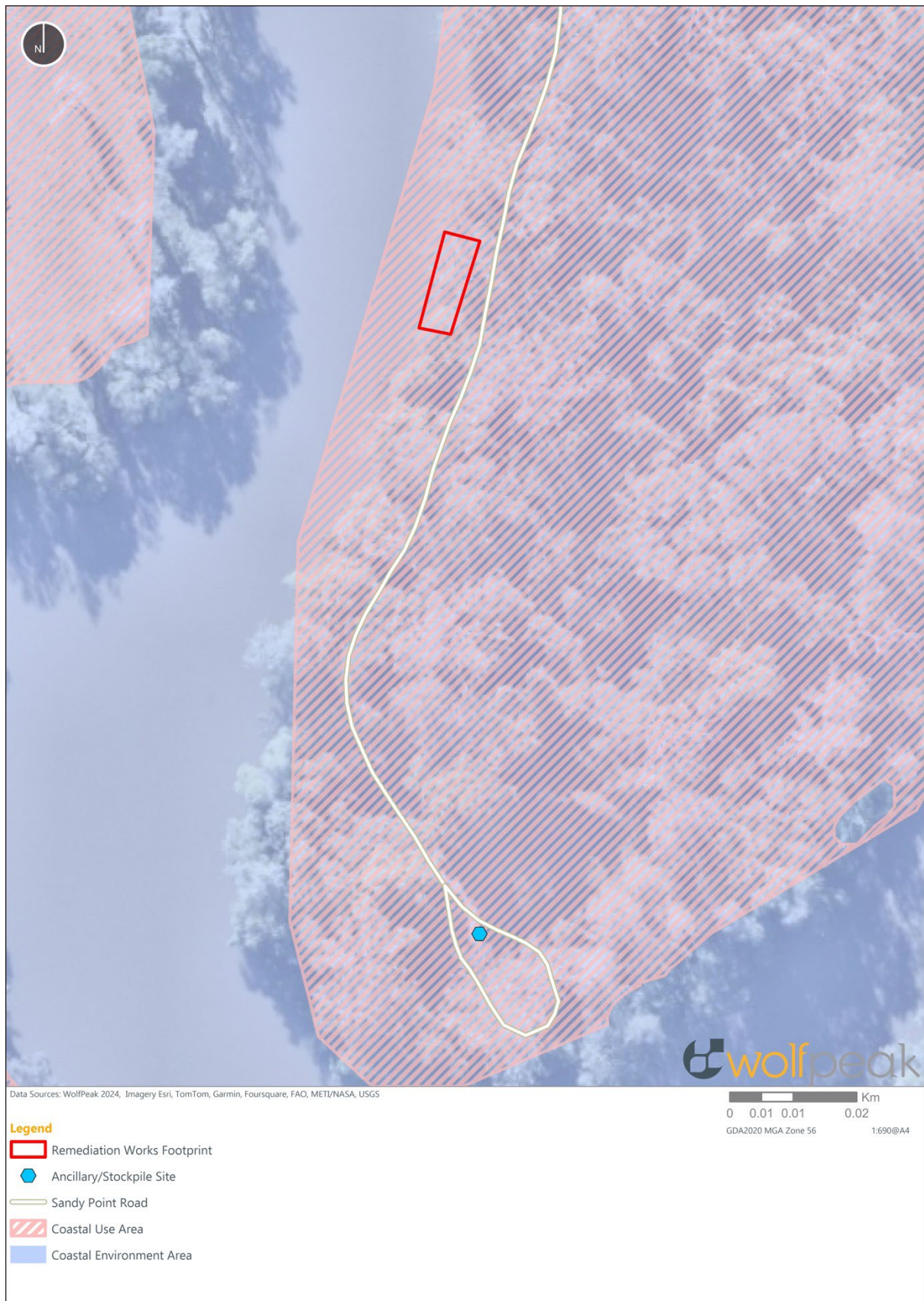


Figure 7: Coastal management zones proximate the subject site

8.2.5 Biodiversity

Overview of terrestrial and aquatic biodiversity

Terrestrial Biodiversity

The reserve protects dry and wet sclerophyll forest and mangrove communities which is dominated by Grey Gum (*Eucalyptus propinqua*), Cabbage Gum (*E. amplifolia*) and Forest Red Gum (*E. tereticornis*). Regenerating wet sclerophyll forest also occurs within the reserve. The SoMI states the reserve supports the only known example of floristic co-dominance by the otherwise uncommon yellow pear-fruit (*Mischocarpus pyramidalis*) (OEH, 2014).

A review of the NSW State Vegetation Type Map (SVTM) (Environment and Heritage, 2024e), which provides a regional-scale map of NSW Plant Community Types (PCTs) across all tenures in NSW, identifies several dominant PCTs occurring within proximity to the subject site (Figure 8), including:

- PCT 0 – Not Classified, which represents cleared lands which does not conform to a native vegetation community
- PCT 3089 – Lower North Waterhousea Riparian Rainforest
- PCT 4043 – Mid North Lowland Riparian Wet Forest.

The Ecological Assessment determined the vegetation occurring at the subject site comprises a wet sclerophyll forest with shrubby formation which matches the mapped PCT 4043. Table 9 provides a description of the vegetation community as per the Ecological Assessment.

Table 9: Structure and description of vegetation proximate the subject site

| Vegetation Structure | Description of structure and species present |
|----------------------|---|
| Canopy | Canopy species comprise of Flooded Gum (<i>Eucalyptus grandis</i>) and Brush Box (<i>Lophostemon confertus</i>) within the subject site, Hairy Rosewood (<i>Dysoxylum rufum</i>) was also present within the study area, this layer ranged in height from 16-24 . |
| Understory | A sparse understory is present comprising stands of natives such as Green Wattle (<i>Acacia irrorata</i>), Sandpaper Fig (<i>Ficus coronata</i>) and Poison Peach (<i>Trema tomentosa</i>). Exotic species Wild Tobacco Bush (<i>Solanum mauritianum</i>) also occurs. This layer ranges from 2-6 m in height. |
| Shrub layer | The groundcover was mixed with exotics and native groundcover species such as, Broadleaf Paspalum (<i>Paspalum mandiocanum</i>), Wandering Jew (<i>Tradescantia fluminensis</i>), Whiteroot (<i>Lobelia purpurascens</i>), Wiry Panic (<i>Entolasia stricta</i>) and Flaxleaf Fleabane (<i>Conyza bonariensis</i>). Other exotic species such as Cobblers Pegs (<i>Bidens pilosa</i>) and Fireweed (<i>Senecio madagascariensis</i>) also occur in lower numbers. |
| Ground layer | Several vine species occurred throughout all strata including Monkey Rope (<i>Parsonsia straminea</i>) and Coastal Morning Glory (<i>Ipomoea cairica</i>) which were dominant. Scrambling Lily (<i>Geitonoplesium cymosum</i>) and Strangler Fig (<i>Ficus</i> sp.) also occurred. |
| Aquatic | River Mangrove occurred in two patches across the lower bank of the subject site up to 1 m in height. |

The SoMI states the diversity of vegetation of the reserve supports a range of threatened native animals including the Eastern Osprey (*Pandion cristatus*) and Koala (*Phascolarctos*

cinereus), and that several unique insects, not previously recorded within the region nor within Australia, have been recorded in the reserve (OEH, 2014).

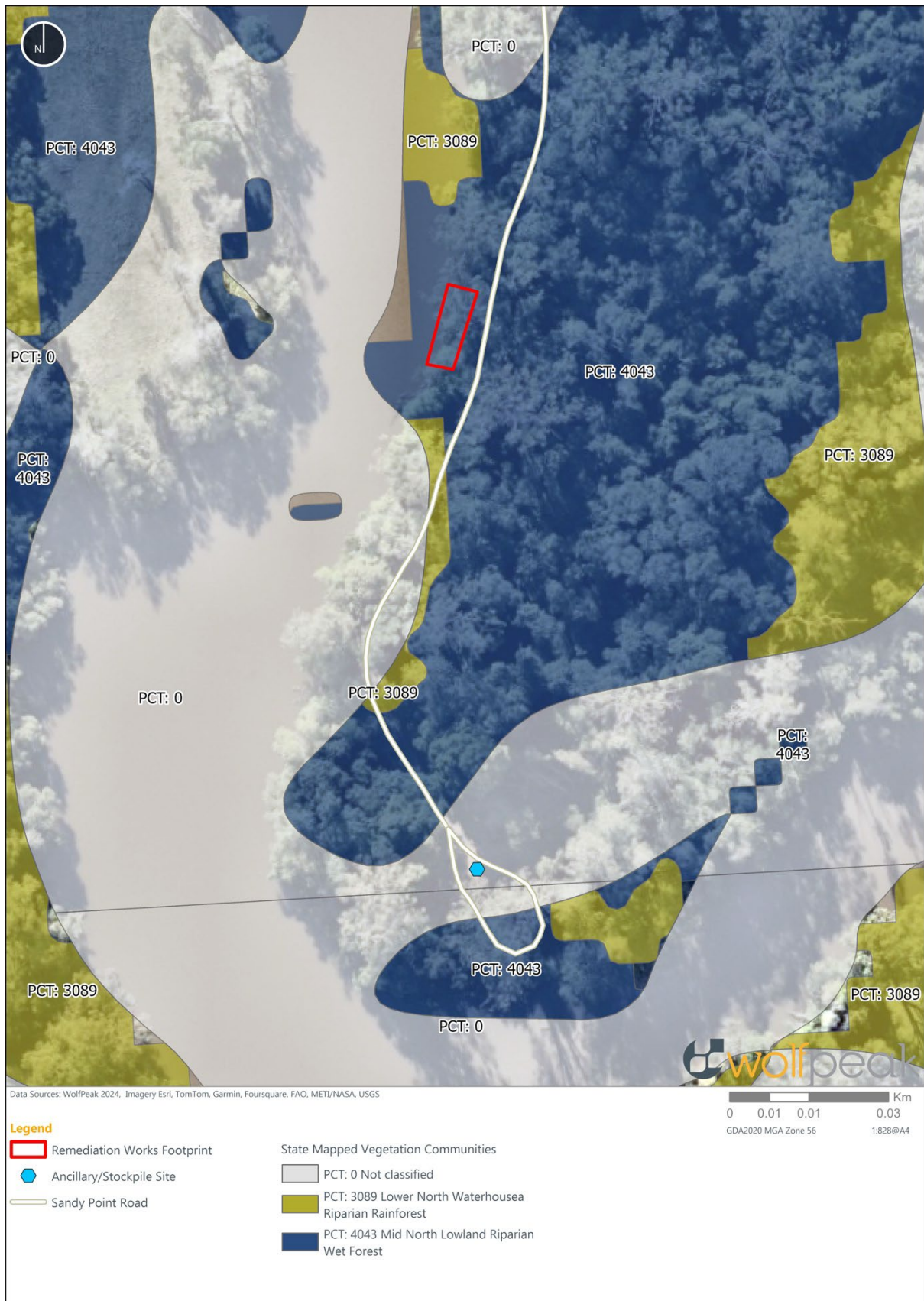


Figure 8: State mapped vegetation communities proximate the subject site

Aquatic Biodiversity

Lansdowne River is a tidal waterway and a tributary to the Manning estuary. It is a fifth order stream under the Strahler system and is mapped as key fish habitat under the FM Act. As per the Policy and guidelines for fish habitat conservation and management (DPI, 2013), the Lansdowne River classifies as a 'Type 2 – Moderately sensitive key fish habitat' and 'Class 1 – major key fish habitat'. The NSW Fisheries NSW Spatial Data Portal does not map any potentially occurring threatened freshwater species occurring near the subject site; however, estuarine macrophytes consisting of Mangrove species are mapped within 23-metres of the landslide (Figure 9). The site inspection confirmed a number of River Mangrove juveniles and pneumatophores are present within and adjacent the landslide and construction footprint (Photo 1 and Photo 2).

To date, one endangered marine vegetation population¹ and 4 endangered aquatic ecological communities² have been listed under the FM Act. These comprise:

- *Posidonia australis* seagrass in the Port Hacking, Botany Bay, Sydney Harbour, Pittwater, Brisbane Waters and Lake Macquarie regions¹
- Lowland Darling River aquatic ecological community²
- Lowland Lachlan River aquatic ecological community²
- Lowland Murray River aquatic ecological community²
- Snowy River aquatic ecological community².

These do not occur within the study area and are not considered likely to occur based on geographical limitations.



Figure 9: Mapped estuarine macrophytes (Mangroves) proximate the subject site

Areas of outstanding biodiversity value or critical habitat

The proposal will not directly or indirectly affect an area of outstanding biodiversity value or critical habitat as none are mapped as occurring within or proximate to the proposed works area.

Environmental assets of intergenerational significance

The proposal will not directly or indirectly affect any environmental AIS as none are mapped as occurring within or in close proximity to the proposed works area.

Threatened ecological communities

Biodiversity Conservation Act 2016

The Ecological Assessment has determined that the vegetation community occurring at the site does not qualify as a threatened ecological community (TEC) listed under the BC Act. The community has some elements of the TEC Subtropical Coastal Floodplain Forest and River Flat Eucalypt Forest TEC's; however, the dominant canopy species are not indicative of these TECs, and other understorey and shrub species present suggest it is not a floristic match.

Environment Protection and Biodiversity Conservation Act 1999

The Ecological Assessment has determined that the vegetation community occurring at the site does not qualify as a TEC listed under the EPBC Act.

Threatened species and populations

NSW BioNet searches for threatened species and populations were carried out on 17 September 2024 to determine all valid records of listed threatened species within the study area.

An EPBC Act Protected Matters Report was generated on 2 September 2024 and is included in the Ecological Assessment which indicates a number of threatened species likely to occur within the study area.

Both searches were carried out within a 10 km radius of the subject site.

Threatened Flora

No threatened flora species were recorded within the study area at the time of survey.

The BioNet search returned a total of 649 records of 10 threatened flora species previously recorded within the study area. Previously recorded threatened flora records proximate the subject site is shown in Figure 10.

Threatened Fauna

No fauna species listed as threatened under the BC Act or the EPBC Act were recorded during the field survey.

The BioNet search returned a total of 506 records of 43 threatened fauna species previously recorded within the study area.

Table 10 lists threatened species which are considered to be potentially occurring within the study area, while previously recorded threatened fauna records proximate the subject site is shown in Figure 11.

Table 10: Threatened fauna species likely to occur within the study area

| Common Name | Scientific Name | Status (BC Act) | Status (EPBC Act) |
|------------------------|---------------------------------------|-----------------|-------------------|
| Grey-headed Flying-fox | <i>Pteropus poliocephalus</i> | Vulnerable | Vulnerable |
| Koala | <i>Phascolarctos cinereus</i> | Endangered | Endangered |
| Large Bent-winged Bat | <i>Miniopterus orianae oceanensis</i> | Vulnerable | - |
| Little Bent-winged Bat | <i>Miniopterus australis</i> | Vulnerable | - |
| Wompoo Fruit-Dove | <i>Ptilinopus magnificus</i> | Vulnerable | - |

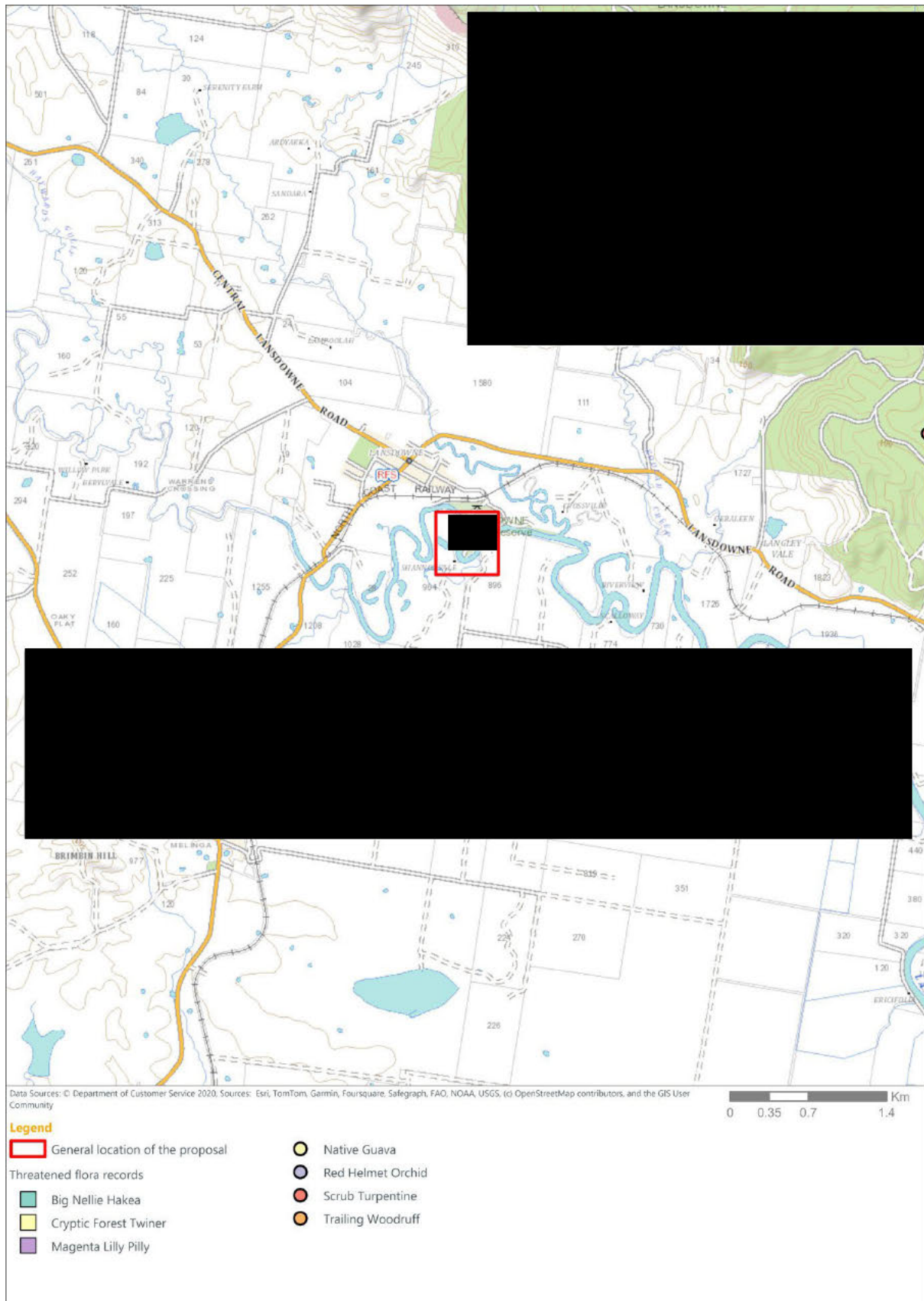


Figure 10: Previously recorded threatened flora species within the study area

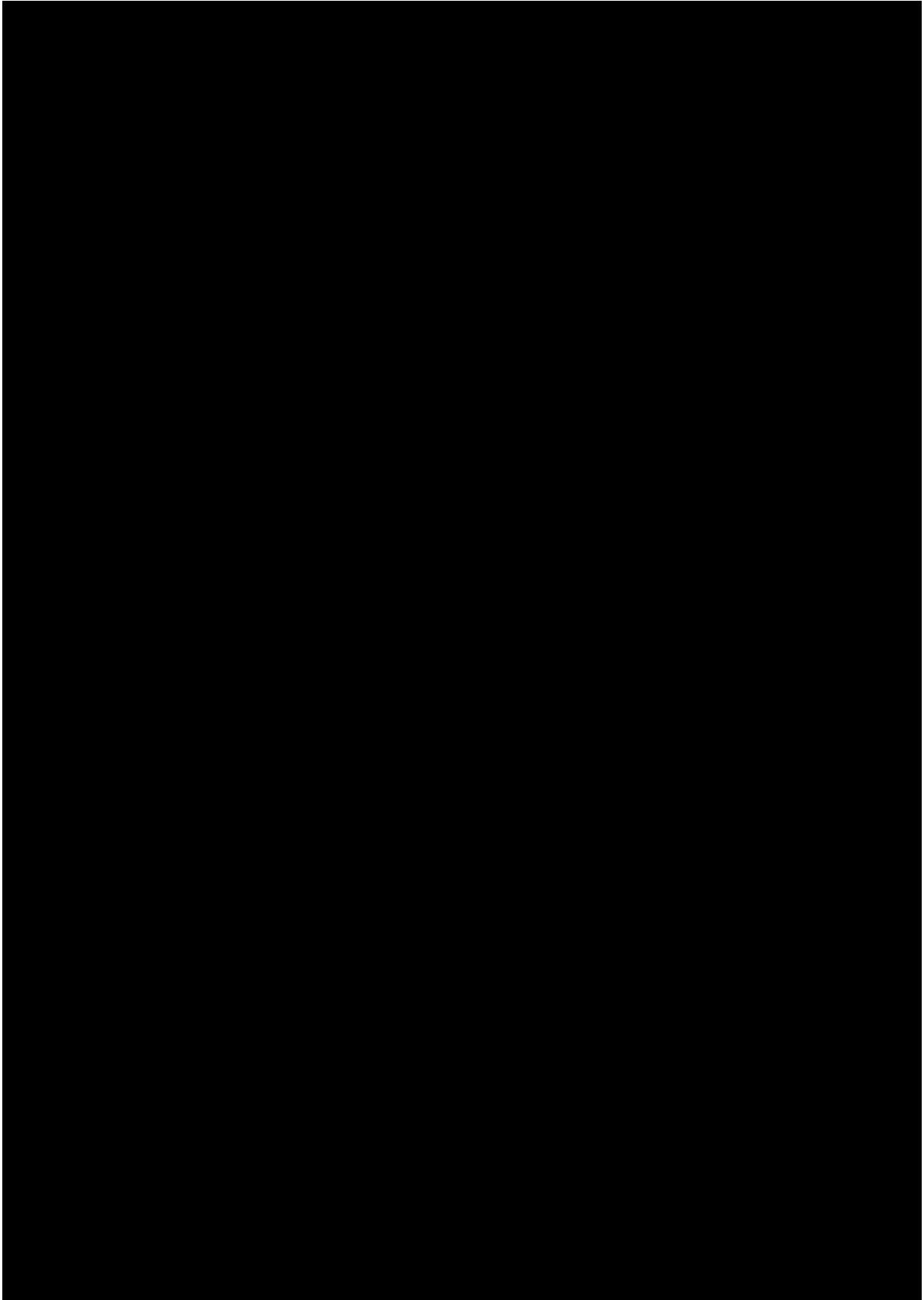


Figure 11: Previously recorded threatened fauna species within the study area

8.3 Cultural values

8.3.1 Aboriginal cultural heritage

Aboriginal communities have a strong connection to the land and water, which is central to their spirituality and identity. They view natural resources as essential for food, medicine, land care, cultural transmission, kinship, and social bonds, and this inseparable heritage and connection to nature requires integrated landscape management.

Lansdowne Nature Reserve is located within the administrative boundary of the Purfleet/Taree LALC. A search of the Aboriginal Heritage Information Management System (AHIMS) (Appendix H) was carried out on 2 September 2024 which did not identify any Aboriginal sites or Aboriginal places within or near the proposal location.

Given the proposal will occur within areas which have previously been disturbed, and that no Aboriginal sites or places are recorded within the reserve, it is considered unlikely Aboriginal sites would be impacted. Safeguards are provided in Section 9 to limit potential impacts to unrecorded Aboriginal sites.

8.3.2 Historic heritage values

Historic heritage within the reserve is predominately associated with the steamship period in the region. The SoMI provides a description of historic heritage values associated with the reserve, which is described as follows:

'The reserve contains one of only four remaining examples of an historic wharf from the steamship period in the region, which dates back to the 1880s. The wharf is significant because of its relationship to the once important coastal and river shipping, with transport in the region almost entirely reliant on water before the arrival of the railway in 1913. Lansdowne is at the former head of navigation of the Lansdowne River and the wharf was important in the early development of Lansdowne village and the region's timber and dairying industries' (OEH, 2014).

Searches have been undertaken of Australia's National Heritage List, the NSW State Heritage Inventory, Schedule 5 Environmental heritage of the Greater Taree LEP, and the HHIMS database. One item of local significance occurs across the entire northern portion of the reserve, which consists of the Lansdowne Wharf Remains. Vehicle access will occur along Sandy Point Road which traverses the archaeological site; however, this will not differ from pre-existing access.

8.4 Social values

8.4.1 Recreation values

The SoMI states that the reserve is popular for picnicking, fishing and swimming particularly at Sandy Point and Greenbank. A boat ramp situated at Greenbank provides access to the Lansdowne River via canoe or small watercraft (OEH, 2014). The Lansdowne River is also known to be a popular boating area.

8.4.2 Scenic and visually significant areas

Sandy Point Road runs parallel to the Lansdowne River which provides visual amenity to from the reserve to the aquatic environment; however, no scenic or visually significant areas are known to occur within or the near reserve.

8.4.3 Education and scientific values

The SoMI states the reserve is an important scientific reference point and regularly used by research institutions. A particular research emphasis is on the regeneration and conservation of lowland rainforest; this has produced several published scientific papers (OEH, 2014).

8.4.4 Interests of external stakeholders

Lansdowne Nature Reserve is valued by a variety of external stakeholders for a variety of purposes, including:

- Recreational and social values associated with day use activities.
- Neighbouring landowners.
- Aboriginal communities who maintain a connection to the reserve for education and spiritual purposes.
- Other government agencies including:
 - NSW Department of Primary Industries and Regional Development.
 - Crown Lands.
 - NSW Rural Fire Service.

8.5 Matters of national environmental significance

The provisions of the EPBC Act require determination of whether the proposal has, will or is likely to have a significant impact on MNES. These matters have been addressed in the Ecological Assessment.

In accordance with the EPBC Act significant impact guidelines, the Ecological Assessment has determined there is unlikely to be a significant impact on relevant MNES and that referral to the Cth DCCEEW is not required.

A summary of the results is provided in Table 11.

Table 11: EPBC Act matters of national environmental significance

| Matters of National Environmental Significance | Results | Comment |
|--|--|--|
| Any significant impact on a World Heritage property? | None | The proposal will not impact a World Heritage property as none are occurring within or in close proximity to the reserve. |
| Any significant impact on a National Heritage Place? | None | The proposal will not impact a National Heritage place as none are occurring within or in close proximity to the reserve. |
| Any significant impact on a wetland of international importance (Ramsar)? | None | The proposal will not impact a wetland of international importance as none are occurring within or in close proximity to the reserve. |
| Any significant impact on a listed threatened species or ecological community? | 88 threatened species and four (4) threatened ecological communities | A number of threatened species and/or ecological communities occur within the study area; however, the Ecological Assessment has determined that no listed threatened species or ecological communities are likely to be significantly impacted by the proposal. |

| Matters of National Environmental Significance | Results | Comment |
|--|---------|--|
| Any significant impact on listed migratory species? | 43 | Several migratory species are considered potential occurrences in the study area; however, the Ecological Assessment has determined that no migratory species are likely to be significantly impacted by the proposal. |
| Any significant impact on Commonwealth marine areas? | None | The proposal will not impact a Commonwealth marine area as none are occurring within or in close proximity to the reserve. |
| Any significant impact on the Great Barrier Reef Marine Park? | None | The proposal will not impact the Great Barrier Reef Marine Park. |
| Does the proposed activity involve a nuclear action (including uranium mining)? | N/A | The proposal does not involve a nuclear action (including uranium mines). |
| Is there any impact on a water resource, in relation to coal seam gas development and large coal mining development? | N/A | The proposal is not related to coal seam gas development and large coal mining development, therefore, will not impact (directly, indirectly or cumulatively) on a water resource. |

9. Impact assessment during all stages of the activity

9.1 Physical and chemical impacts

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|--|--|---|
| 1. impact on soil quality or land stability? | Yes | Low, adverse | <p>The proposal includes minor disturbance to soil profiles which are required to trim the batter face, remove overhangs, debris and logs or vegetation within the impact area. A bench will also be excavated at water level for the placement of rock. The proposal therefore has the potential to contribute to a risk of erosion and sedimentation through:</p> <ul style="list-style-type: none"> • Erosion of disturbed soils. • Transport of sediments in runoff and deposition. <p>The proposal is situated on Class 3 ASS while the Lansdowne River is mapped as Class 1 ASS; therefore, there is potential to encounter and disturb ASS.</p> | <ul style="list-style-type: none"> • Prior to works commencing, a Safe Work Method Statement (SWMS) shall be prepared to ensure any risks associated with the disposal of waste or likelihood of disturbance to ASS will be mitigated. • An Acid Sulphate Soils Management Plan in accordance with the NSW Acid Sulphate Soil Manual shall be prepared and approved by NPWS prior to works commencing. • If contaminated areas are encountered during construction, appropriate control measures will be implemented to manage the immediate risks of contamination. All other works which may impact on the contaminated area shall cease until the nature and extent of the contamination has been confirmed and any necessary site-specific controls or further actions identified in consultation with relevant government agencies (e.g., NSW EPA). |
| | | Positive | <p>Ongoing lateral erosion and undercutting of the riverbank is known to occur within the reserve; therefore, the remediation works will stabilise the landslide and significantly reduce further impacts to the soil profile of the slope and surrounding impact areas.</p> | <ul style="list-style-type: none"> • Erosion and sediment control measures in accordance with the NPWS field guide for Erosion and Sediment Control on Unsealed Roads and currently accepted best management practice (i.e., Landcom [2004] Managing Urban Stormwater: Soils and Construction [4th Edition] – the Blue Book) are to be implemented and maintained to: <ul style="list-style-type: none"> ○ Prevent sediment moving off-site and sediment laden water entering the river. |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|---|--|
| | | | | <ul style="list-style-type: none"> ○ Reduce water velocity and capture sediment on site. ○ Minimise the amount of material transported from the subject site to surrounding surfaces. ○ Divert upslope and clean water around the site. ○ Sediment controls shall be inspected regularly by the relevant contractor and by NPWS staff. ○ Sediment control measures shall be in place for the storage of any spoil as required. • Soil disturbance shall be limited to the areas required to undertake the proposal. • All areas disturbed by works will be stabilised and rehabilitated to ensure stable surfaces are obtained as soon as practical (progressively where possible). • Revegetation of exposed surfaces will be encouraged by maintaining suitable grades, carefully separating, retaining and respreading topsoil and covering exposed soil surfaces with weed-free mulch or matting to protect soils. |
| 2. affect a waterbody, watercourse, wetland or natural drainage system – either physically or chemically (e.g. due to runoff or pollution)? | Yes | Low, adverse | <p>The proposal is situated on the bank of the Lansdowne River. During construction, works have the potential to negatively impact on the river in the following ways:</p> <ul style="list-style-type: none"> • Erosion and sedimentation that may affect the watercourse. • Pollution of local water quality from machinery and construction materials and spills. • A variety of dispersible liquid materials would be used which pose a potential pollutant threat to local water quality. These liquids include but are not limited to diesel, | <ul style="list-style-type: none"> • Erosion and sedimentation, and waste management safeguards will be effectively implemented to minimise associated water quality impacts. • Visual monitoring of local water quality (i.e., turbidity, hydrocarbons spills/slicks) will be periodically undertaken to identify any water quality issues. • All equipment is to be maintained in good working condition and operated according to manufacturer's specifications. • Refuelling of plant and equipment is to occur a minimum of 40 m from the river and/or drainage lines. Refuelling, fuel decanting and equipment |

Review of environmental factors: Lansdowne Nature Reserve Landslide Remediation

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|---|--|
| | | Positive | <p>unleaded petrol, machinery oils and lubricants. The nature of these liquids and their ability to disperse away from the site means that they could have a negative impact on ground or surface water on or adjacent to the study area, especially during rain.</p> <p>The river bank is known to experience erosion; therefore, the rock fill will reduce ongoing erosion and associated adverse impacts to the watercourse.</p> | <p>maintenance work if required would take place in a designated sealed and bunded area.</p> <ul style="list-style-type: none"> • Stockpile sites are not to be located within 10 m of the river or drainage lines. • Stockpiles shall be located on previously disturbed areas, away from areas that receive concentrated runoff. • No work is to be undertaken during, or immediately following, periods of high rainfall. • Sediment fencing and sediment traps will be used to protect the watercourse and drainage lines during works. Works are only to be undertaken during periods of low flow. • Overhangs, debris, and logs or vegetation shall be removed prior to works commencing to minimise silt and debris entering the river. • Store oils and fuels in a suitably bunded, covered, and secure area with sufficient capacity to contain at least 110 % of the volume of the largest container. • Spare fuels to be stored in containers within pre-existing cleared areas and a minimum of 40 m from drainage lines or waterways. • Spill kits to be available on site and/or in construction vehicles. • Spills and leaks are to be contained within the worksite and site clean-up to occur. |
| 3. change flood or tidal regimes, or be affected by flooding? | Yes | Negligible, adverse | The proposal is not situated on land identified as flood prone in accordance with the Great Lakes LEP; however, the river is tidal which therefore has the potential to be impacted by storm events, flash flooding, and tidal regimes. | <ul style="list-style-type: none"> • Erosion and Sediment Controls as per the NPWS field guide for Erosion and Sediment Control on Unsealed Roads. • Regular inspection of the structure will be incorporated into the NPWS maintenance program |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|--|---|---|
| | | | | and assessed for damage following storm and flash flooding events. |
| | | | | <ul style="list-style-type: none"> Materials and construction methods should be selected to withstand events which could adversely impact the site. |
| 4. affect or be affected by coastal processes and coastal hazards, including those under climate change projections (e.g. sea level rise)? | Yes | Negligible, adverse | <p>The proposal is situated within the coastal environment area where processed including rainfall and runoff have the potential to create minor impacts to soil profiles; however, it is not anticipated that coastal processes and coastal hazards would significantly affect the new structure.</p> <p>The river is also known to be frequently used for boating activities which contribute to erosion via boat wash.</p> | <ul style="list-style-type: none"> Regular inspection of the rock fill shall be incorporated into the NPWS maintenance program and assessed for damage associated with coastal hazards. Materials and construction methods should be selected to withstand events which could adversely impact the site (e.g., rainfall, runoff and flooding). Site induction and delineation of no-go areas to ensure construction works do not impact on retained vegetation (including roots). |
| 5. involve the use, storage or transport of hazardous substances, or use or generate chemicals which may build up residues in the environment? | Yes | Low, adverse | <p>A variety of dispersible liquid materials would be used and stored which pose a potential threat of pollution. These liquids include but are not limited to diesel, unleaded petrol, machinery oils and lubricants. The nature of these liquids and their ability to disperse away from the site means that they could have a negative impact on ground or surface water on or adjacent to the study area, especially during rain.</p> <p>Machinery involved in the works may accidentally spill fluids hazardous to the environment.</p> <p>Spare fuels are likely to be stored in containers within construction vehicles.</p> | <ul style="list-style-type: none"> Store oils and fuels in a suitably bunded, covered and secure area with sufficient capacity to contain at least 110 % of the volume of the largest container. <p>Spare fuels to be stored in containers within pre-existing cleared areas and a minimum of 40 m from the river and drainage lines.</p> <ul style="list-style-type: none"> Spill kits to be available on site and/or in construction vehicles. Spills and leaks are to be contained within the worksite and site clean-up to occur. Where practicable, electric equipment should be used rather than diesel/petrol equipment to limit transport and storing fuels. Contractors shall be conversant with and adhere to the measures and controls outlined in the NSW Government's Code of Practice: Managing risks of |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|--|--|--|
| 6. involve the generation or disposal of gaseous, liquid or solid wastes or emissions? | Yes | Low, adverse | <p>The slope will be trimmed to remove overhangs, debris and logs or vegetation. Materials which cannot be reused or recycled will require disposal.</p> <p>No hazardous waste is anticipated to be generated.</p> <p>Minor consumable and putrescible waste will be generated from workers undertaking construction activities.</p> | <p>hazardous chemicals in the workplace to ensure gaseous, liquid, or solid wastes or emissions are managed appropriately.</p> <ul style="list-style-type: none"> If hazardous substances are discovered on the site, suspend all work which may result in exposure to such hazardous substances and notify the NPWS immediately. Asbestos, material containing asbestos, polychlorinated biphenyl (PCB) and lead based paints are recognised as hazardous substances. Other substances in certain situations are also considered hazardous and therefore require controlled handling. Resource management hierarchy principles shall be followed in accordance with the WARR Act: <ul style="list-style-type: none"> avoidance and reduction of waste re-use of waste recycling, processing or reprocessing waste recovery of energy disposal. Characterise and manage waste in accordance with the NSW EPA's Waste Classification Guidelines. Waste generated during construction will be collected and disposed of at a suitably licensed waste facility. Where feasible, recyclable material is to be segregated to maximise recycling opportunities. Use electric machinery instead of diesel/petrol powered machinery where practicable. Minimise the use of machinery and plant where practicable; turn off machinery when not in use and reduce throttle speed of machines; machinery shall be in good, serviced condition to reduce emissions. |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|---|--|
| 7. involve the emission of dust, odours, noise, vibration or radiation? | Yes | Low, adverse | <p>Vehicles will be used to transport workers, machinery, and tools to the work site; therefore, some low levels of dust and noise will be generated during construction activities associated with the works.</p> <p>The proposal is unlikely to produce significant emissions of dust, odours, noise, or vibration and would not impact adjacent landholders.</p> <p>The primary sources of emissions and airborne particulate matter generated would include:</p> <ul style="list-style-type: none"> • The delivery and transport of construction vehicles, staff, and materials to the works site • Vehicle and machinery (exhaust) emissions • Dust emissions from vegetation removal and soil disturbance. | <ul style="list-style-type: none"> • Machinery on site must be registered, clean and devoid of oil/fuel leaks. • Use electric machinery instead of diesel/petrol powered machinery where practicable. • Trucks are to be covered to minimise tracking of dust etc. when removing materials from the site. • Any vegetation removed is not to be burnt. • Noise generating works are to be limited to the following recommended hours: <ul style="list-style-type: none"> ○ Monday to Saturday 6am to 6pm. ○ No works on Sundays, Public Holidays or school holidays (without written approval from the Area Manager or their delegate). ○ If works are required outside of the standard hours or on weekends due to emergencies or weather patterns, it would need to be clearly justified and approved in writing by the Area Manager or their delegate. |

9.2 eBiodiversity impacts

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|--|--|--------------------------------|
| 1. affect a declared area of outstanding biodiversity value, critical habitat or environmental | No | Not applicable | No areas of outstanding biodiversity value, critical habitat or assets of intergenerational significance occur within or near the subject site. | Not applicable |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|---|---|
| asset of intergenerational significance? | | | | |
| 2. result in the clearing or modification of vegetation, including ecological communities and plant community types of conservation significance? ^ | Yes | Low, adverse | <p>The proposal will have a minor direct impact on native vegetation and aquatic habitats. The proposal would remove up to three (3) canopy trees comprising two (2) Flooded Gums (<i>Eucalyptus grandis</i>) and one (1) Brushbox (<i>Lophostemon confertus</i>), as well as shrubs, groundcovers and a small area of mangroves. The mangroves affected are small regenerating River Mangroves that have recently colonised part of the slip area.</p> <p>The Ecological Assessment has determined that the proposal would not result in a significant impact on ecological communities or plant community types of conservation significance.</p> | <ul style="list-style-type: none"> • Parking and storage of materials to be restricted to the existing vehicle areas. • The areas of vegetation to be cleared/modified should be clearly marked (e.g. with stakes and bunting) before clearing in order to prevent inadvertent clearance beyond what is required and has been assessed. Trees to be removed should be clearly marked with flagging tape or spray paint. • Exclusion zones are to be established around areas of adjoining vegetation and any retained mangroves. This is to be achieved via temporary fencing and signage. This must remain in place for the entire duration of the works. <ul style="list-style-type: none"> ○ Exclusion zones are to comprise Paramesh fencing with 'No Go' signage to prevent NPWS staff or contractors entering or placing materials within. ○ Exclusion zones are to remain in place for the entire duration of the works. • Onsite NPWS park induction process and toolbox meetings to ensure workers/contractors are aware of vegetation to be removed and retained. • A qualified ecologist or suitably trained NPWS representative shall be on site prior to any clearing works. • Trees are not to be felled into adjoining retained vegetation but are to be directed onto the existing |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|--|---|
| 3. endanger, displace or disturb terrestrial or aquatic fauna, including fauna of conservation significance, or create a barrier to their movement? ^ | Yes | Low, adverse | <p>The vegetation communities present within the works footprint provide habitat for a range of threatened terrestrial species; however, given that minimal vegetation is to be removed, it is not anticipated the proposal would endanger, displace or disturb terrestrial fauna.</p> <p>One large hollow-bearing tree comprising a Flooded Gum is anticipated to be removed; however, there were no obvious signs of fauna usage were noted during the survey. The tree contains 2 small and 2 medium sized branch hollows which are considered sufficient size to potentially support roosting for microbat species and small birds, and habitat for small-medium sized arboreal mammals and reptiles such as gliders and snakes.</p> <p>The Ecological Assessment has determined that the proposal would not result in a significant impact on threatened species or their habitats.</p> | <p>road. Trees can then be sectioned and placed in surrounding bushland..</p> <ul style="list-style-type: none"> The works area shall be inspected for fauna by a qualified ecologist or suitably trained NPWS representative immediately prior to commencement of any vegetation removal involving machinery and/or tree-felling The ecologist or NPWS representative is to flag any habitat features which may contain fauna and trees which contain nests or dreys. A qualified ecologist or suitably trained NPWS representative will remain available for any call outs during construction to assist with animal welfare management and rescue of any fauna within the impact areas. Works shall not be undertaken at night, and works shall be undertaken in the shortest timeframe possible to minimise the period which fauna may be impacted. Speed limits shall be enforced within and directly around the subject site and will be limited to a maximum of 40 kmph. Hollow-bearing trees are to be felled in a manner that will minimise the risk of injury/mortality of denning/roosting fauna within the limitation of Work Health and Safety Guidelines. This is to be achieved by the following general procedures: <ul style="list-style-type: none"> The hollow-bearing trees are to be gently bumped several times prior to removal to encourage any fauna present to vacate. Trees are to be felled in a manner that minimises injury to fauna. This includes gently |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---------------------------------------|-------------|--|--|---|
| | | | | <p>pushing or 'soft felling' with an excavator or gradual cut down by an arborist.</p> <ul style="list-style-type: none"> ○ A qualified ecologist is to be present during felling and sectioning of the hollow-bearing tree in case of animal injury. Hollows are to be inspected for fauna once the tree is deposited. All uninjured animals are to be released in the retained habitat on the development site. ○ If the hollow is determined to be occupied and fauna do not require assistance (e.g., roosting bats), the entrance is to be blocked, and the log placed in a shaded and protected area on the edge of the site. The obstacle is to be removed just prior to dusk to allow passive escape of the fauna within. The log may then be removed if required. • The following wildlife management protocols are to be established in the event that fauna is endangered or injured. <ul style="list-style-type: none"> ○ Wildlife management care groups and local veterinary clinics contact details are to be provided to workers. ○ A qualified ecologist or suitable trained NPWS representative shall be on standby to transport injured fauna if treatment is required. ○ Reporting protocols shall be implemented to report and notify NPWS of any injury or death of fauna. • Upon completion of clearing, a post clearance fauna management report (with photos) is to be prepared and submitted to NPWS within 14 days of the removal of the vegetation and hollow-bearing trees. The post clearance report must |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|--|--|--|
| | | | | detail the methods and results of the pre-clear surveys and clearing supervision, including the details and outcome of all fauna interactions during clearing works. The report must also include compliance checks of the ecological report recommendations. |
| 4. result in the removal of protected flora or plants or fungi of conservation significance? ^ | Yes | Low, adverse | A small amount of regenerating River Mangroves that have recently colonised part of the slip area will be removed from the bank of the Lansdowne River. | <ul style="list-style-type: none"> All works shall be carried out in accordance with the DPIRD Permit PN24/501. |
| 5. contribute to a key threatening process to biodiversity or ecological integrity? | Yes | Low, adverse | <p>There is potential for indirect impacts during works that could contribute to key threatening processes. For example, the introduction and establishment of weeds or the introduction of diseases and pathogens.</p> <p>Removal of native vegetation is required for the proposal. One (1) hollow-bearing tree is also anticipated to be removed.</p> <p>Human induced activities as a result of energy use will occur; however, would not be sufficient to significantly contribute to anthropogenic climate change.</p> | <ul style="list-style-type: none"> Basic hygiene protocols as per the NSW Hygiene Guidelines: Protocols to protect priority biodiversity areas in NSW from <i>Phytophthora cinnamomi</i>, myrtle rust, amphibian chytrid fungus and invasive plants would be implemented to reduce the risk of spreading weeds, diseases, and pathogens: <ul style="list-style-type: none"> Check personnel, clothing, footwear, backpacks and equipment for soil, plant material/propagules and other debris. Remove all soil, plant material and other debris. Remove seeds from clothing, footwear, tools and equipment by hand. Where possible, have a co-worker double-check that all seeds are removed. Where practicable, ensure hand, clothing, footwear, and equipment are dry before proceeding. Check the exterior and interior of vehicles and machinery for soil, plant material and other debris. |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|---|--|
| | | | | <ul style="list-style-type: none"> ○ Remove large clods of dirt and soil. ○ Remove all soil, plant material and other debris from vehicle interior. ○ Where practicable, allow vehicle or machinery to dry before proceeding. • The clearing extent shall be clearly marked on site prior to construction works commencing and works shall be restricted to the specified area. No vegetation clearance shall occur beyond what is specified and marked. • Minimise the use of machinery and plant where practicable; turn off machinery when not in use and reduce throttle speed of machines; machinery shall be in good, serviced condition to reduce emissions. • Use electric equipment instead of diesel/petrol equipment where practicable. |
| 6. introduce weeds, pathogens, pest animals or genetically modified organisms into an area? | Yes | Low, adverse | <p>There is a risk of the introduction or spread of diseases such as Phytophthora, Myrtle Rust, and Chytrid via contaminated tools, plant, vehicles, shoes, and clothing both in construction and remediation stages.</p> <p>Weeds are existing throughout the reserve, and there is a risk of introducing weeds through machinery, tools, materials and personal items (clothing, boots etc.).</p> <p>The works will generally be confined to the existing landslide and road footprint and would not significantly contribute to improving access for pest animals.</p> | <ul style="list-style-type: none"> • Basic hygiene protocols (as listed above) to be implemented to reduce the risk of spreading weeds, diseases, and pathogens. • The impact area shall be monitored for weeds post-construction and treated as necessary to ensure weed establishment does not occur.. • All machinery, equipment and tools are to be thoroughly inspected for the presence of weeds prior to works commencing or relocation to a new works area. Weed and seed/biosecurity checklists are to be undertaken and documented by NPWS • Invasive Biosecurity Act listed plants are appropriately treated and collected prior to clearing and are disposed of at a licensed landfill facility. |

9.3 Community impacts

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|--|--|--|
| 1. affect community services or infrastructure? | Yes | Low, adverse Positive | Sandy Point Road is typically open to the public and is used for access to the primary day use area of the reserve. During construction, the road will be closed to the public to facilitate construction vehicle movements and remediation works, which will create short-term access restrictions within the reserve. Upon completion, the safety and condition of the road will be significantly improved which will improve long-term accessibility throughout the reserve. | <ul style="list-style-type: none"> Notification of the works and trail closures to be placed on the NPWS website informing the public of the nature and duration of the works and that alternative routes should be considered. Ensure clear delineation between construction zones and areas of public access. During construction appropriate signage will be displayed and the area would be closed off to the public. |
| 2. affect sites important to the local or broader community for their recreational or other values or access to these sites? | Yes | Low, adverse Positive | Sandy Point Road is typically open to the public and is important to the local and broader community to access one of the day use areas of the reserve. During construction, the road will be closed to the public to facilitate construction vehicle movements and remediation works, which will create short-term access restrictions. Upon completion, the safety and condition of the road will be significantly improved which will improve long-term accessibility throughout the reserve. | <ul style="list-style-type: none"> Notification of the works to be placed on the NPWS website informing the public of the nature and duration of the works. Ensure clear delineation between construction zones and areas of public access. During construction appropriate signage will be displayed and the area would be closed off to the public. |
| 3. affect economic factors, including employment, industry and property value? | Yes | Positive | The proposal would have a small, but positive impact on the local economy through the employment of local staff/contractors undertaking the works. | None required |

Review of environmental factors: Lansdowne Nature Reserve Landslide Remediation

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|--|--|
| 4. have an impact on the safety of the community? | Yes | Low, adverse Positive | There is the potential for personal injury during construction (e.g., from construction related activities). Safety risks to the community are considered to be low and no public access would be permitted to the work sites during construction. Upon completion, the remediation works will stabilise the landslide and significantly reduce further impacts to the soil profile of the slope and surrounding impact areas; therefore, removing a high risk area. | <ul style="list-style-type: none"> • Regard to safety will always be maintained; and no public access to construction sites will be permitted. • The contractor will be responsible for the preparation and implementation of any Safe Work Method Statements in accordance with the <i>Work Health and Safety Act 2011</i>. |
| 5. cause a bushfire risk? | Yes | Negligible, adverse Positive | The proposal will occur within vegetation classified as Category 1 under the NSW Rural Fire Service Guide for Bush Fire Prone Land Mapping. Vegetation Category 1 is considered to be the highest risk for bush fire and has the highest combustibility and likelihood of forming fully developed fire including heavy ember production. There will be limited ignition risks and works would occur primarily within the cleared road corridor or adjacent the river. Upon completion, the proposal will have a significantly positive impact on the ability of the NPWS and other fire agencies to fully utilise Sandy Point Road to undertake operations to protect life, property or the environment. | <ul style="list-style-type: none"> • Appropriate fire extinguishing equipment, pumps, hoses etc. will be located on the construction site during periods of Extreme fire danger or as otherwise deemed necessary by NPWS. • Machinery use to be limited during periods of Extreme and above fire danger ratings. |
| 6. affect the visual or scenic landscape? ^ | Yes | Low, adverse | The visual landscape will be permanently altered by the removal of vegetation and installation the rock fill. | <ul style="list-style-type: none"> • Vegetation removal to be kept at the minimum necessary to complete works. • Construction sites are to be kept clean and tidy, and site clean-up to occur daily. |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---------------------------------------|-------------|--|---|---|
| | | Positive | <p>Given the proposal will occur within pre-existing disturbed areas, impacts are not anticipated to be significant.</p> <p>Upon completion, the remediation works will stabilise the landslide and significantly reduce further impacts to the slope and surrounding impact areas; therefore, reducing further regression and impacts to the visual landscape.</p> | <ul style="list-style-type: none"> Ensure post construction vegetation rehabilitation works are completed. |

9.4 Natural resource impacts

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|--|---|---|
| 1. result in the degradation of the park or any other area reserved for conservation purposes? | Yes | Low, adverse | There is potential for the introduction of weeds and pathogens which would contribute to the degradation of the reserve; however, this would not be different to existing areas of use. | <ul style="list-style-type: none"> Compliance with all safeguards and mitigation measures provided within this REF, and any associated approval conditions, shall be periodically audited during the construction and operation stages. |
| 2. affect the use of, or the community's ability to use, natural resources? | Yes | Negligible, adverse | The proposal will occur in an area which is typically open to the public; therefore, the works will create short-term temporary access restrictions within this section of the reserve. | <ul style="list-style-type: none"> Establish 'No Go' areas with signage and barriers to prevent public access to construction zones. During construction appropriate signage will be displayed and the area would be fenced off to the public. Detour signage should be placed at strategic location informing the public of alternative routes. |

Review of environmental factors: Lansdowne Nature Reserve Landslide Remediation

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|--|---|
| | | | | <ul style="list-style-type: none"> Notification of the works to be placed on the NPWS website informing the public of the nature and duration of the works. |
| 3. involve the use, wastage, destruction or depletion of natural resources including water, fuels, timber or extractive materials? [^] | Yes | Low, adverse | <p>Extractive materials will be used for the proposal.</p> <p>Minimal natural resources (fossil fuels) will be used to power machinery used during construction and ongoing maintenance of the assets.</p> | <ul style="list-style-type: none"> The proposal has been designed to avoid vegetation clearing as much as practicable. Gravel/rock shall be sourced from a certified supplier. Material use is to be minimised as much as practicable. Machinery and vehicles to be serviced regularly to prevent unnecessary use of resources. Machinery use to be limited where practicable. Use electric equipment rather diesel/petrol equipment where practicable. |
| 4. provide for the sustainable and efficient use of water and energy? [†] | Yes | Low, adverse | <p>The amount of water and energy used to undertake the proposal would be minimal; however, vehicles and machinery will be used which require the use of water and fossil fuels to generate energy.</p> | <ul style="list-style-type: none"> Contractors and materials to be sourced locally where practicable to reduce the use of energy. Minimise the use of machinery and plant where practicable; turn off machinery when not in use and reduce throttle speed of machines; machinery shall be in good, serviced condition to reduce emissions. Use electric equipment instead of diesel/petrol equipment where practicable. Limit vehicle and machinery movements to and from the site as far as practicable. |

9.5 Aboriginal cultural heritage impacts

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|--|--|---|
| 1. disturb the ground surface or any vegetation likely to contain culturally modified trees? | Yes | Low, adverse | Minor trimming of the slope, excavation, and minimal vegetation removal is required to facilitate construction. | <ul style="list-style-type: none"> • Works would proceed with caution, and if any Aboriginal objects or human remains are located during the proposed works, the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW would be followed. • Should unanticipated Aboriginal archaeological material be encountered during site works, all work must cease in the vicinity of the find and an archaeologist or suitably qualified NPWS representative contacted to assess the find and to advise on the course of action to be taken. Further archaeological assessment and Aboriginal community consultation may be required prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW. • If suspected human remains are discovered and/or harmed in, on or under the land within the footprint of the subject site, the following actions must be undertaken: <ul style="list-style-type: none"> ○ The remains must not be harmed/further harmed. ○ Immediately cease all works at that location. ○ Secure the area to avoid further harm to the remains. ○ Notify NPWS who will contact the NSW Police and the Environment Line (Heritage NSW) on 131 555 as soon as practicable and provide any details of the remains and their location. ○ Do not recommence any work at that location unless authorised in writing by Heritage NSW. |

Review of environmental factors: Lansdowne Nature Reserve Landslide Remediation

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|--|--------------------------------|
| 2. affect or occur near known Aboriginal objects, Aboriginal places or an Aboriginal cultural asset of intergenerational significance? If so, can impacts be avoided? How? | No | Not applicable | A search of AHIMS did not identify any recorded Aboriginal sites or Aboriginal places within Lansdowne Nature Reserve. | As above. |
| 3. affect areas: a. within 200 m of waters b. within a sand dune system c. on a ridge top, ridge line or headland d. within 200 m below or above a cliff face e. in or within 20 m of a cave, rock shelter or a cave mouth? If so, can impacts be avoided? How? | Yes | Low, adverse | The proposal involves works within and adjacent a watercourse which is a landscape feature indicative of the presence of Aboriginal objects. | As above. |
| 4. affect wild resources which are used or valued by the Aboriginal community or affect | No | Not applicable | The proposal will not affect wild resources which are used or valued by the Aboriginal community or affect access to those resources. | Not applicable |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|--|--------------------------------|
| access to these resources? | | | | |
| 5. affect access to culturally important locations? | No | Not applicable | The proposal will not affect access to culturally important locations. | Not applicable |

9.6 Other cultural heritage impacts

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|---|--|
| 1. affect or occur near places, buildings or landscapes of heritage significance? ^ | Yes | Negligible, adverse | The northern section of Sandy Point Road traverses the curtilage of the Lansdowne Wharf Remains which is an archaeological site listed on the Greater Taree LEP; however, no works are proposed to occur within or close the heritage site. | <ul style="list-style-type: none"> Vehicles to remain within the road corridor when travelling to and from the work site. No ground disturbance or vegetation clearing shall occur in addition to what has been assessed in this report. |
| 2. impact on relics or moveable heritage items, or an area with a high likelihood of containing relics? ^ | No | Not applicable | The proposal would not impact on relics or moveable heritage items, or an area with a high likelihood of containing relics. | Not applicable |
| 3. impact on vegetation of cultural landscape value (e.g. gardens and settings, introduced exotic | No | Not applicable | The proposal would not impact on vegetation of cultural landscape value. | Not applicable |

| Is the proposed activity likely to... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|--|--|--------------------------------|
| species, or evidence of broader remnant land uses)? | | | | |

9.7 Impacts on matters of national environmental significance

| Is the proposal likely to affect MNES, including: | Applicable? | Likely impact (negligible, low, medium or high adverse; or positive; or N/A) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|---|--|--------------------------------|
| 1. listed threatened species or ecological communities)? | Yes | Low, adverse | <p>The proposal would see very minor modification of potential habitat of a number of threatened fauna species. The impacts comprise a minimal level of vegetation removal. Breeding, foraging, dispersal, etc., processes would remain as current.</p> <p>The Ecological Assessment has determined that no listed threatened species or ecological communities are likely to be significantly impacted by the proposal.</p> | As detailed in Section 9.2. |
| 2. listed migratory species? | Yes | Negligible, adverse | <p>The proposal would see very minor impact on the potential habitat of such species. Breeding, foraging, dispersal, etc., processes would remain as current; and no barrier to movement, entanglement or strike risk would be created.</p> <p>The Ecological Assessment has determined that no migratory species are likely to be significantly impacted by the proposal.</p> | As detailed in Section 9.2. |

| Is the proposal likely to affect MNES, including: | Applicable? | Likely impact (negligible, low, medium or high adverse; or positive; or N/A) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|--|---|--------------------------------|
| 3. the ecology of Ramsar wetlands? | No | Not applicable | The proposal would not impact on the ecology of Ramsar wetlands as none are located close to the works area. | Not applicable |
| 4. world heritage values of World Heritage properties? | No | Not applicable | The proposal will not impact on the values of any World Heritage properties as none are recorded within the area. | Not applicable |
| 5. the national heritage values of national heritage places? | No | Not applicable | The proposal will not impact the values of national heritage places as none are recorded within the area. | Not applicable |

9.8 Cumulative impacts

| When considered with other projects, is the proposed activity likely to affect... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|-------------|---|--|---|
| 1. natural landscape or biodiversity values through cumulative impacts? | Yes | Low, adverse | Vegetation removed to carry out construction has the potential to cumulatively impact biodiversity values including a reduction of available habitat. There will be an increase of human induced activities throughout the reserve during construction which has the potential to temporarily displace fauna. | <ul style="list-style-type: none"> All works must be coordinated to minimise impacts to natural landscape or biodiversity values. Coordinate delivery of resources to limit vehicle and machinery movements to and from the site as far as practicable. |
| 2. cultural (Aboriginal, shared and historic heritage) values | No | Not applicable | The proposal is unlikely to contribute to cumulative impacts to cultural (Aboriginal, shared and historic heritage) values. | Not applicable |

Review of environmental factors: Lansdowne Nature Reserve Landslide Remediation

| When considered with other projects, is the proposed activity likely to affect... | Applicable? | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment and proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|--|-------------|---|--|---|
| through cumulative impacts? | | | | |
| 3. social (amenity, recreation, education) values through cumulative impacts? | Yes | Negligible, adverse | <p>During construction, there may be short-term, temporary access delays to facilitate the works which may reduce access to social values. The works will be carried out on an 'as needed' basis determined by safety and available contractors and materials.</p> <p>Upon completion, maintenance of the rock fill may be incorporated into the NPWS maintenance schedule. General maintenance activities including clearing and soil disturbance, additional vehicle movements and noise generating activities will occur on a regular basis which has the potential to impact social values. Activities associated with the proposal will not be substantially different to routine NPWS activities and will be well regulated and managed on a project-by-project basis.</p> | <ul style="list-style-type: none"> All works must be coordinated to minimise impacts to social values. |
| 4. the community through cumulative impacts on any other part of environment (e.g. due to traffic, or waste generation)? | Yes | Low, adverse | <p>There will be an increase of vehicle/machinery activity during construction stages from the delivery of workers, material and machinery required to undertake the works.</p> <p>All access will be via Sandy Point Road and resources will be delivered on an as-needed basis.</p> | <ul style="list-style-type: none"> Coordinate delivery of resources to limit vehicle and machinery movements to and from the site as far as practicable. |

10. Proposals needing more information

10.1 Lease or licence proposals under s 151 National Parks and Wildlife Act

No lease or licencing requirements are attached to the Sandy Point Road Landslide Remediation project. Any and all future commercial business or ecotourism proposals would be addressed separately in accordance with the NPWS Park Policy – [Parks Eco Pass program for commercial tour operators | NSW Environment and Heritage](#).

10.2 Telecommunications facilities

The Sandy Point Road Landslide Remediation project has no telecommunication facility component so assessment under s 153D of the NPW Act is not required.

10.3 Activities within regulated catchments

The Sandy Point Road Landslide Remediation project does not fall within any regulated catchment, including the Sydney Drinking Water Catchment so further assessment is not required.

10.4 Activities in River Murray riverine land

The Sandy Point Road Landslide Remediation project is not located within lands defined as Murray riverine land so further assessment is not required.

11. Summary of impacts and conclusions

Table 12. Consideration of significance of impacts for each environmental factor

| Environmental factor | Consideration | Significance of impact* |
|--|--|-------------------------|
| 1. the environmental impact on the community | Social, economic and cultural impacts as described in Sections 9.3, 9.5 and 9.6. | Not significant |
| 2. the transformation of the locality | Human and non-human environment as described in Sections 9.1, 9.2 and 9.4. | Not significant |
| 3. the environmental impact on the ecosystems of the locality | Amount of clearing, loss of ecological integrity, habitat connectivity/fragmentation and changes to hydrology (both surface and groundwater) as described in Sections 9.1, 9.2 and 9.4 and, for nationally listed threatened ecological communities, in Section 9.7. | Not significant |
| 4. reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality | Visual, recreational, scientific and other impacts as described in Section 9.3. | Not significant |
| 5. the effects on any locality, place or building that has— a. aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or b. other special value for present or future generations | Impacts to Aboriginal and historic heritage associated with a locality (including intangible cultural significance), architectural heritage, social/community values and identity, scenic values and others, as described in Sections 9.3, 9.5 and 9.6 and (for MNES heritage places) Section 9.7. | Not significant |
| 6. the impact on the habitat of protected animals, within the meaning of the Biodiversity Conservation Act | Impacts to all native terrestrial species, including but not limited to threatened species, and their habitat requirements, as described in Section 9.2. | Not significant |
| 7. the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air | Impacts to all listed terrestrial and aquatic species, and whether the proposal increases the impact of key threatening processes, as described in Section 9.2. | Not significant |
| 8. long-term effects on the environment | Long-term residual impacts to ecological, social and economic values as described in all parts of Section 9. | Not significant |
| 9. degradation of the quality of the environment | Ongoing residual impacts to ecological, social and economic as described in Section 9.4. | Not significant |
| 10. risk to the safety of the environment | Impacts to public and work health and safety, from contamination, bushfires, sea level rise, flood, storm surge, wind speeds, extreme heat, rockfall and landslip, and other risks likely to increase due to climate change as described in Sections 9.1, 9.3 and 9.4. | Not significant |

| Environmental factor | Consideration | Significance of impact* |
|---|---|-------------------------|
| 11. reduction in the range of beneficial uses of the environment | Impacts to natural resources, community resources and existing uses as described in Sections 9.3 and 9.4. | Not significant |
| 12. pollution of the environment | Impacts due to air pollution (including odours and greenhouse gases); water pollution (water quality health); soil contamination; noise and vibration (including consideration of sensitive receptors); or light pollution, as described in Sections 9.1 and 9.3. | Not significant |
| 13. environmental problems associated with the disposal of waste | Transportation, disposal and contamination impacts as described in Section 9.3. | Not significant |
| 14. increased demands on natural or other resources that are, or are likely to become, in short supply | Impacts to land, soil, water, gravel, minerals and energy supply as described in Section 9.4. | Not significant |
| 15. the cumulative environmental effect with other existing or likely future activities | The negative synergisms with existing development or future activities as considered in Section 9.8. | Not significant |
| 16. the impact on coastal processes and coastal hazards, including those under projected climate change conditions | Impacts arising from the proposed activity on coastal processes, and impacts on the proposed activity from those coastal processes and hazards, both current and future, as considered in Section 9.1. | Not significant |
| 17. applicable local strategic planning statements, regional strategic plans or district strategic plans made under the EP&A Act, Div 3.1 | Inconsistency with the objectives, policies and actions identified in local, district and regional plans, as considered in Section 3.2.3. | Not significant |
| 18. other relevant environmental factors. | Native title has been considered in section 5 and other relevant factors in section 3.1 | Not significant |

In conclusion:

- There is not likely to be a significant effect on the environment and an environmental impact statement is not required.

Reason(s): This REF has examined and taken into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the proposed activity.

This has included consideration of impacts on cultural values (including Aboriginal and non-Aboriginal heritage), socio-economic values (including potential impacts on the community resulting from construction works) and threatened species, populations and ecological communities and their habitats. It has also considered potential impacts to threatened species and matters of national environmental significance listed under the EPBC Act.

A number of potential environmental impacts from the proposal have been identified and amended during the design development and options assessment. The proposal as described in the REF best meets the project objectives and will result in some impacts on the biological values. These will be short-term in nature. Safeguards and management measures as detailed in this REF will ameliorate or minimise these expected impacts. The

proposal will also provide positive environmental, social, cultural and economic benefits. On balance the proposal is considered justified. The project will significantly improve the safety and condition of Sandy Point Road to improve access and safety for NPWS staff and users of this section of Lansdowne Nature Reserve.

- There **is not** likely to be a significant effect on threatened species, populations, ecological communities or their habitats and a species impact statement **is not** required.

Reason(s): Threatened species tests of significance pursuant s 7.3 of the BC Act and s 221ZV of the FM Act have been undertaken as part of the Ecological Assessment to determine whether the proposed activity is likely to have a significant effect on threatened species, populations, ecological communities or their habitats. The tests of significance concluded that the proposed activity is unlikely to result in a significant impact on threatened species, populations, ecological communities or their habitats; therefore, a Species Impact Statement is not required.

- The activity **is not** likely to have a significant impact on matters of national environmental significance listed under the Cth Environment Protection and Biodiversity Conservation Act and so **will not** require referral to the Australian Government.

Reason(s): In accordance with the EPBC Act significant impact guidelines, the Ecological Assessment has determined there is unlikely to be a significant impact on relevant MNES and that referral to the Cth DCCEE is not required.

- The activity **will not** require certification to the Building Code of Australia, Disability (Access to Premises – Buildings) Standards 2010 or Australian Standards in accordance with the NPWS [Construction Assessment Procedures](#).

12. Supporting documentation

Please provide details of documentation included with this application.

Table 13. Documents that accompany the review of environmental factors

| Document title | Author | Date |
|---|---------------------------------|----------------|
| Sandy Point Road Landslide Remediation Ecological Assessment | WolfPeak | October 2024 |
| Section 199 Statutory Notification to DPI Fisheries | WolfPeak | 13/12/2024 |
| Section 205 Permit to Harm Marine Vegetation | WolfPeak | 13/12/2024 |
| Statutory Notification to DPHI Crown Lands | WolfPeak | 16/10/2024 |
| Geotechnical Assessment – Landslides in Riverbank at Sandy Point Road Lansdowne | Regional Geotechnical Solutions | August 2024 |
| AHIMS Search Results | Heritage NSW | September 2024 |

13. Fees for external proponents

Not relevant as the proponent is not external to NPWS.

14. Declarations

As the person responsible for the **preparation** of the REF, I certify that, to the best of my knowledge, this REF is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under s 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.

| | |
|----------------|---|
| Signature |  |
| Name (printed) | Grant Bennett |
| Position | Environmental Consultant |
| Date | 12/03/2025 |

By endorsing the REF, the proponent confirms that the information in the REF is accurate and adequate to ensure that all potential impacts of the activity can be identified.

| | |
|----------------|--|
| Signature | |
| Name (printed) | Tamara Campbell |
| Position | Area Manager, Manning Great Lakes Area |
| Date | 24/03/2025 |

Seal (if signing under seal):

15. References

- Bureau of Meteorology (2024). Monthly climate statistics: *Summary statistics Taree Airport AWS*. Retrieved from http://www.bom.gov.au/climate/averages/tables/cw_060141.shtml
- Department of Defence (2024). *Unexploded Ordnance (UXO) in Australia*. Retrieved from <https://uxo-map.defence.gov.au/>
- Department of Environment, Climate Change and Water (2010). *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. Retrieved from <https://www2.environment.nsw.gov.au/sites/default/files/due-diligence-code-of-practice-aboriginal-objects-protection-100798.pdf>
- Department of Planning and Environment (2022). *Hunter Regional Plan 2041*. Retrieved from <https://www.planning.nsw.gov.au/sites/default/files/2023-03/hunter-regional-plan-2041.pdf>
- Department of Planning, Housing and Infrastructure (2018). *Naturally Occurring Asbestos in NSW*. Retrieved from <https://trade.maps.arcgis.com/apps/PublicInformation/index.html?appid=87434b6ec7dd4aba8cb664d8e646fb06>
- Department of Planning, Industry and Environment (2020). *The Biodiversity Assessment Method*. Retrieved from <https://www2.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/about/biodiversity-assessment-method>
- Department of Planning, Industry and Environment (2024). *eSPADE*. Retrieved from <https://www.environment.nsw.gov.au/eSpade2Webapp/>
- Department of Primary Industries (2013). *Policy and guidelines for fish habitat conservation and management: Update 2013*. Retrieved from https://www.dpi.nsw.gov.au/data/assets/pdf_file/0009/468927/Policy-and-guidelines-for-fish-habitat.pdf
- Department of Primary Industries (2018). *Fisheries NSW Spatial Data Portal*. Retrieved from https://webmap.industry.nsw.gov.au/Html5Viewer/index.html?viewer=Fisheries_Data_Portal
- Department of Primary Industries and Regional Development (2024). *MinView*. Retrieved from <https://minview.geoscience.nsw.gov.au/#/?lon=152.5393&lat=-31.78832&z=15.7&bm=bm3&l=ge611:n:100,ge610:n:100,ge69:n:100,ge68:n:100,ge67:y:36,ge66:n:100,ge65:n:100,ge64:n:100,ge63:n:100,ge62:n:100,ge61:n:100,ge612:n:40,hi1:n:25,wa1:n:100,ut1:n:50,ad0:n:100>
- Environment and Heritage (2024a). *Landslides and rockfalls*. Retrieved from <https://www2.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-policies/landslides-and-rockfalls>
- Environment and Heritage (2024b). *Managing parks prior to a plan of management policy*. Retrieved from <https://www2.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-policies/managing-parks-prior-to-a-plan-of-management>
- Environment and Heritage (2024c). *Vehicle access policy*. Retrieved from <https://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-policies/vehicle-access>

- Environment and Heritage (2024d). *Visitor safety policy*. Retrieved from <https://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-policies/visitor-safety>
- Environment and Heritage (2024e). *State Vegetation Type Map*. Retrieved from <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet/state-vegetation-type-map>
- MidCoast Council (2020). *Local Strategic Planning Statement: September 2020*. Retrieved from <https://www.midcoast.nsw.gov.au/Your-Council/About-MidCoast-Council/Plans-strategies-and-policies/Other-strategic-plans/Future-land-use-planning-strategies>
- MidCoast Council (2022). Manning River Estuary: Coastal Management Program 2022-2032. Retrieved from https://hdp-au-prod-app-midcst-haveyoursay-files.s3.ap-southeast-2.amazonaws.com/7216/6613/2095/Manning_Estuary_CMP_FINAL_Jul_22_compressed.pdf
- National Native Title Tribunal (2024). *Native Title Vision*. Retrieved from <https://nntt.maps.arcgis.com/apps/webappviewer/index.html?id=6af521616eff4f34b503c1ef4dd83720>
- NSW Environment Protection Authority (2023). *The NSW Government PFAS Investigation Program*. Retrieved from <https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program>
- NSW Environment Protection Authority (2024a). *List of notified sites*. Retrieved from <https://www.epa.nsw.gov.au/your-environment/contaminated-land/notified-and-regulated-contaminated-land/list-of-notified-sites>
- NSW Environment Protection Authority (2024b). *Search the contaminated land record*. Retrieved from <https://app.epa.nsw.gov.au/prclmapp/searchregister.aspx>
- NSW Government (2024). Manning: *About the Manning catchment*. Retrieved from <https://water.dpie.nsw.gov.au/about-us/learn-about-water/basins-and-catchments/catchments/manning>
- Office of Environment and Heritage (2014). *Statement of Management Intent: Lansdowne Nature Reserve*. Retrieved from <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected-areas/Parks-statement-of-management-intent/lansdowne-nature-reserve-statement-of-management-intent-140185.pdf>
- Department of Primary Industries and Regional Development (2024). *MinView*. Retrieved from <https://minview.geoscience.nsw.gov.au/#/?lon=152.5393&lat=-31.78832&z=15.7&bm=bm3&l=ge611:n:100,ge610:n:100,ge69:n:100,ge68:n:100,ge67:y:36,ge66:n:100,ge65:n:100,ge64:n:100,ge63:n:100,ge62:n:100,ge61:n:100,ge612:n:40,hi1:n:25,wa1:n:100,ut1:n:50,ad0:n:100>
- Transport for NSW (2023). *Schedule of Classified Roads and Unclassified Regional Roads*. Retrieved from <https://www.transport.nsw.gov.au/system/files/media/documents/2023/classified-roads-schedule.pdf>
- Transport for NSW (2024). NSW Road Network Classifications. Retrieved from <https://maps.transport.nsw.gov.au/egeomaps/road-network-classification/>

Appendix A: Sandy Point Road Landslide Remediation – Ecological Assessment

Refer to supporting document: 'Appendix A-Sandy Point Road Landslide Remediation – Ecological Assessment'.

Appendix B: Statement of Fire Management Intent – Manning Valley Lowlands Fire Planning Landscape

Refer to supporting document: 'Appendix B-Tab3.SFMIManningValleyLowlandsFinalMay24'.

Appendix C: Section 199 Statutory Notification to DPI Fisheries

Department of Primary Industries
and Regional Development



C24/1053
13 December 2024

NSW National Parks and Wildlife Service
Attn: Michael Thomas
78 Hargreaves Street,
Taree NSW 2430

Re: s.199 FM Act notification – Landslip Remediation Works at Lansdowne Nature Reserve – Sandy Point Road, Lansdowne NSW 2430 – Lot 892 DP 585066

Dear Michael,

Thank you for your referral dated 18 November 2024 regarding the above stated matter. This notification complies with s.199(1)(a) of the *Fisheries Management Act* (FM Act) concerning the proposed dredging and reclamation activities.

DPIRD Fisheries is responsible for ensuring that fish stocks are conserved and that there is no net loss of key fish habitats upon which they depend. To achieve this, DPIRD Fisheries ensures that developments comply with the requirements of the FM Act (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act, respectively), and the associated *Policy and Guidelines for Fish Habitat Conservation and Management (2013)*. DPIRD Fisheries is also responsible for ensuring the sustainable management of commercial, recreational and Aboriginal cultural fishing, aquaculture, marine parks and aquatic reserves in NSW.

Thank you for this s199 referral. DPIRD Fisheries has reviewed these works in light of those provisions and has no objections to the proposed works provided that they occur as described in the REF (Grant Bennett, Ver 2.0, 18/11/2024) for these works. DPIRD Fisheries recommends that the following general environmental mitigation measures be implemented during construction:

1. Erosion and sediment mitigation devices are to be erected in a manner consistent with current Best Management Practice (i.e. Managing Urban Stormwater: Soils and Construction 4th Edition Landcom, 2004) to prevent entry of sediment into the waterway prior to any earthworks being undertaken. These are to be maintained in good working order for the duration of the works and subsequently until the site has been stabilised and the risk of erosion and sediment movement from the site is minimal;

Ahp.central@dpi.nsw.gov.au
dpird.nsw.gov.au

0455 794 560

1

2. There is to be no complete blockage of fish passage during the works. Environmental protection measures or (if required) coffer dams are to be erected in a semi-circular arrangement around each bridge abutment so that fish passage is maintained in the waterway. These measures are to be removed from the site once the site has been stabilised and the risk of sediment movement is minimal;
3. An acid sulfate soil management plan is to be prepared by a suitably qualified person in accordance with the *Acid Sulfate Soil Assessment and Management Guidelines* (Acid Sulfate Soil Management Advisory Committee 1998) and developed consistent with best management practice outlined in *Restoring The Balance: Guidelines for Managing Floodgates and Drainage Systems on Coastal Floodplains* available at: www.dpi.nsw.gov.au/_data/assets/pdf_file/0007/167875/restoring-balance-guidelines.pdf The plan is to be submitted to the satisfaction of the contact officer prior to the commencement of works.
4. Any material removed from the waterway that is to be temporarily deposited or stockpiled on land is to be located well away from the waterway and to be contained by appropriate erosion and sediment control devices;
5. On completion of the works all disturbed soil is to be levelled, smoothed and sown with a mixture of sterile/native grass seeds to encourage rapid revegetation and planted out with native endemic riparian vegetation;
6. Only clean rock (no fines) is to be used during these works;
7. Prior to use at the site and/or entry into the waterway, machinery is to be appropriately cleaned degreased and serviced. Spill kits are to be available on site at all times during the works;
8. Works are to be undertaken during low flows in the waterway;
9. Any snags removed from the creek bed to carry out works be returned to a similar location upon completion of works. 'Snags' include in-stream woody habitat and large rocks and are essential habitat for many native fish species. Removal of snags from waterways can impact upon aquatic biodiversity, waterway structure, ecosystem function and fish populations both directly and indirectly.
10. DPIRD Fisheries (1800 043 536) and the Environment Protection Authority (EPA) (131 555) are to be notified immediately if any fish kills occur in the vicinity of the works. In this situation, all works other than emergency response procedures are to cease until the issue is rectified and approval is given by DPIRD Fisheries and/or the EPA for the works to proceed.

For any further information, please contact me at jess.hyland@dpi.nsw.gov.au

Sincerely,

ahp.central@dpi.nsw.gov.au

dpi.nsw.gov.au

0455 794 560

2



Jess Hyland
Fisheries Manager Coastal Systems
DPIRD Fisheries

Appendix D: Section 205 Permit to Harm Marine Vegetation

Refer to supporting document: 'Appendix D-Section 205 Permit to Harm Marine Vegetation'.

Appendix E: Statutory Notification to DPHI Crown Lands

Wednesday, October 16, 2024 at 09:24:08 Australian Eastern Daylight Time

Subject: Re: Re: Re: Proposed remediation works at Lansdowne Nature Reserve
Date: Wednesday 16 October 2024 at 9:18:37 AM Australian Eastern Daylight Time
From: Grant Bennett
To: Mandy Wispereit
Attachments: image001.png, image002.png, image003.png, image004.png, image005.png, image006.png, image007.png, image008.png

Hi Mandy,

Yes, the footprint of the project is still within the nature reserve,

Thanks again for the confirmation.

Kind regards,

Grant Benne)
Environmental Consultant



E: [gbenne\)@wolfpeak.com.au](mailto:gbenne)@wolfpeak.com.au)
M: 0412 828 090 P : 1800 979 716

Birpai Country
Suite 2, Level 1, 19 Short St
Port Macquarie, NSW 2444

At WolfPeak, we live by our values and are committed to building a better future by enabling prosperity, environmental protection and positive stakeholder outcomes. In doing so, we acknowledge the Traditional Owners of Country and all Aboriginal and Torres Strait Islander people with whom we collaborate with, and respect their continuous connection to the land, waters and community. We commit to amplifying their voices in all aspects of our business and recognise their continued custodianship over the lands that have built modern Australia.

This email is intended only for the addressee and may contain confidential information. If you receive this email in error, please delete it and any attachments and notify the sender immediately by reply email. WolfPeak takes all care to ensure that attachments are free from viruses or other defects. WolfPeak assume no liability for any loss, damage or other consequences, which may arise from opening or using an attachment.

Consider the environment. Please don't print this e-mail unless really necessary.

From: Mandy Wispereit <mandy.wispereit@crowland.nsw.gov.au>
Date: Wednesday, 16 October 2024 at 9:17 AM
To: Grant Bennett <gbennett@wolfpeak.com.au>
Subject: RE: Re: Re: Proposed remediation works at Lansdowne Nature Reserve

Hi Grant,

Thanks for the update, I am assuming the footprint of the project is still within the nature reserve

1 of 7

as well? as this image you provided is only showing a pin point location.

If that is the case, then you still do not require authorisation from Crown lands.

Regards

Mandy Wispereit
Crown Lands
T 02 4920 5089

From: Grant Benne) <gbenne@wolfpeak.com.au>
Sent: Wednesday, October 16, 2024 9:00 AM
To: Mandy Wispereit <mandy.wispereit@crowland.nsw.gov.au>
Subject: Re: Re: Re: Proposed remediation works at Lansdowne Nature Reserve

Hi Mandy,

We've completed an inspection of the site to support the preparation of the REF and determine the exact location of the landslide. Following up on our previous communication, the location of the landslide is different to the geotechnical report and what I previously provided to you; however, it is still within the mapped boundary of Lansdowne Nature Reserve and not within the waterway boundaries of the river.

Can you please review the attached map and confirm consent from Crown lands is not required, based on the updated location.

Kind regards,

Grant Benne)
Environmental Consultant



E: gbenne@wolfpeak.com.au
M: 0412 828 090 P : 1800 979 716

Birpai Country
Suite 2, Level 1, 19 Short St
Port Macquarie, NSW 2444

At WolfPeak, we live by our values and are committed to building a better future by enabling prosperity, environmental protection and positive stakeholder outcomes. In doing so, we acknowledge the Traditional Owners of Country and all Aboriginal and Torres Strait Islander people with whom we collaborate with, and respect their continuous connection to the land, waters and community. We commit to amplifying their voices in all aspects of our business and recognise their continued custodianship over the lands that have built modern Australia.

This email is intended only for the addressee and may contain confidential information. If you receive this email in error, please delete it and any attachments and notify the sender immediately by reply email. WolfPeak takes all care to ensure that attachments are free from viruses or other defects. WolfPeak assume no liability for any loss, damage or other consequences, which may arise from opening or using

an attachment.

Consider the environment. Please don't print this e-mail unless really necessary.

From: Mandy Wispereit <mandy.wispereit@crowland.nsw.gov.au>
Date: Thursday, 3 October 2024 at 9:42 AM
To: Grant Bennett <gbennett@wolfpeak.com.au>
Subject: RE: Re: Re: Proposed remediation works at Lansdowne Nature Reserve

You're welcome 😊

Regards

Mandy Wispereit
Crown Lands
T 02 4920 5089

From: Grant Benne) <[gbenne\)@wolfpeak.com.au](mailto:gbenne)@wolfpeak.com.au)>
Sent: Thursday, October 3, 2024 9:38 AM
To: Mandy Wispereit <mandy.wispereit@crowland.nsw.gov.au>
Subject: CM: Re: Re: Re: Proposed remediation works at Lansdowne Nature Reserve

Hi Mandy,

Thanks for your prompt reply.

I thought this might be the case but it's always better to check. Thanks so much for your help!

Kind regards,

Grant Benne)
Environmental Consultant



E: [gbenne\)@wolfpeak.com.au](mailto:gbenne)@wolfpeak.com.au)
M: 0412 828 090 P : 1800 979 716

Birpai Country
Suite 2, Level 1, 19 Short St
Port Macquarie, NSW 2444

At WolfPeak, we live by our values and are committed to building a better future by enabling prosperity, environmental protection and positive stakeholder outcomes. In doing so, we acknowledge the Traditional Owners of Country and all Aboriginal and Torres Strait Islander people with whom we collaborate with, and respect their continuous connection to the land, waters and community. We commit to amplifying their voices in all aspects of our business and recognise their continued custodianship over the lands that have built modern Australia.

This email is intended only for the addressee and may contain confidential information. If you receive this email in error, please delete it and any attachments and notify the sender immediately by reply email. WolfPeak takes all care to ensure that attachments are free from viruses or other defects. WolfPeak assume no liability for any loss, damage or other consequences, which may arise from opening or using an attachment.

Consider the environment. Please don't print this e-mail unless really necessary.

From: Mandy Wispereit <mandy.wispereit@crowland.nsw.gov.au>
Date: Thursday, 3 October 2024 at 9:36 AM
To: Grant Bennett <gbennett@wolfpeak.com.au>
Subject: RE: Re: Proposed remediation works at Lansdowne Nature Reserve

Hi Grant,

Based on the map attached, the works are not within the waterway boundaries.

Noting your information on recent flooding damage on the banks and the subsequent widening of the waterway.

This does not require consent from Crown lands.

Regards

Mandy Wispereit
Crown Lands
T 02 4920 5089

From: Grant Benne) <gbenne@wolfpeak.com.au>
Sent: Wednesday, October 2, 2024 3:30 PM
To: Mandy Wispereit <mandy.wispereit@crowland.nsw.gov.au>
Subject: CM: Re: Proposed remediation works at Lansdowne Nature Reserve

Hi Mandy,

Sorry about that.

Please find attached a quick map using the NSW ePlanning layers. We have not yet carried out a site inspection for this project, I'm just trying to jump on the front foot with licenses/permits etc. All works will be carried out in accordance with the plans in the Geotechnical Assessment.

The impact area on the attached map is approximately 45m long. This is 3x the required amount of 15m; however, the footprint was overlaid from the Geotechnical Assessment to provide a worst-case scenario.

Kind regards,

Grant Benne)
Environmental Consultant



Review of environmental factors: Lansdowne Nature Reserve Landslide Remediation

E: gbennett@wolfpeak.com.au

M: 0412 828 090 P : 1800 979 716

Birpai Country
Suite 2, Level 1, 19 Short St
Port Macquarie, NSW 2444

*At WolfPeak, we live by our values and are committed to building a better future by enabling prosperity, environmental protection and positive stakeholder outcomes. In doing so, **we acknowledge the Traditional Owners of Country and all Aboriginal and Torres Strait Islander people with whom we collaborate with, and respect their continuous connection to the land, waters and community.** We commit to amplifying their voices in all aspects of our business and recognise their continued custodianship over the lands that have built modern Australia.*

This email is intended only for the addressee and may contain confidential information. If you receive this email in error, please delete it and any attachments and notify the sender immediately by reply email. WolfPeak takes all care to ensure that attachments are free from viruses or other defects. WolfPeak assume no liability for any loss, damage or other consequences, which may arise from opening or using an attachment.

Consider the environment. Please don't print this e-mail unless really necessary.

From: Mandy Wispereit <mandy.wispereit@crowland.nsw.gov.au>

Date: Wednesday, 2 October 2024 at 2:15 PM

To: Grant Bennett <gbennett@wolfpeak.com.au>

Subject: RE: Proposed remediation works at Lansdowne Nature Reserve

You don't often get email from
mandy.wispereit@crowland.nsw.gov.au. [Learn why this is important](#)

Hi Grant,

Thanks for sending that through. Unfortunately, this hasn't clarified anything for me. Can you provide a plan that shows the waterway boundary and the exact footprint of where the works will be located?

Regards

Mandy Wispereit
Crown Lands
T 02 4920 5089

From: Grant Bennett <gbennett@wolfpeak.com.au>

Sent: Wednesday, October 2, 2024 12:06 PM

To: Mandy Wispereit <mandy.wispereit@crowland.nsw.gov.au>

Subject: Re: Proposed remediation works at Lansdowne Nature Reserve

Hi Mandy,

Thank you for your follow up email. You had my email mostly correct, there's just no 'e' on the end.

5 of 7

Please find attached a Geotechnical Assessment which has been carried out to provide a remediation for a landslide which has occurred on the bank of the Lansdowne River adjacent Lansdowne Nature Reserve.

The river is mapped as Crown waterway; however, following the 2022 flood event the alignment of the river has encroached into the reserve.

As discussed, we are preparing a Part 5 assessment (REF) under the *Environmental Planning and Assessment Act 1979* on behalf of NPWS to carry out the remediation works. Can you please confirm if a licence/permit is required from Crown Lands prior to this occurring.

Should you require anything further, please do not hesitate to contact me.

Kind regards,

Grant Benne)
Environmental Consultant



E: gbenne@wolfpeak.com.au
M: 0412 828 090 P : 1800 979 716

Birpai Country
Suite 2, Level 1, 19 Short St
Port Macquarie, NSW 2444

At WolfPeak, we live by our values and are committed to building a better future by enabling prosperity, environmental protection and positive stakeholder outcomes. In doing so, we acknowledge the Traditional Owners of Country and all Aboriginal and Torres Strait Islander people with whom we collaborate with, and respect their continuous connection to the land, waters and community. We commit to amplifying their voices in all aspects of our business and recognise their continued custodianship over the lands that have built modern Australia.

This email is intended only for the addressee and may contain confidential information. If you receive this email in error, please delete it and any attachments and notify the sender immediately by reply email. WolfPeak takes all care to ensure that attachments are free from viruses or other defects. WolfPeak assume no liability for any loss, damage or other consequences, which may arise from opening or using an attachment.

Consider the environment. Please don't print this e-mail unless really necessary.

From: Mandy Wispereit
Sent: Wednesday, October 2, 2024 11:40 AM
To: 'gbennette@wolfpeak.com.au' <gbennette@wolfpeak.com.au>
Subject: Proposed remediation works at Lansdowne Nature Reserve

Hi Grant,

Please provide a map and details of the proposed works (any plans also) for me to ascertain if there are any authorisation requirements from Crown lands.

Kind Regards,

Mandy Wispereit

Snr Natural Resource Management Officer

Crown Lands and Public Spaces

Department of Planning, Housing and Infrastructure

T 02 4920 5089 E mandy.wispereit@crowland.nsw.gov.au

dphi.nsw.gov.au

PO Box 2155, Dangar NSW 2309



I acknowledge the traditional custodians of the land and pay respects to Elders past and present. I also acknowledge all Aboriginal and Torres Strait Islander staff working with the NSW Government.

Please consider the environment before printing this email.

Appendix F: Detailed Design for Slope Stabilisation Works

Refer to supporting document: 'Appendix F-Detailed Design for Slope Stabilisation Works'.

Appendix G: Geotechnical Assessment Landslides in Riverbank at Sandy Point Road

Refer to supporting document: 'Appendix G-Geotechnical Assessment Landslides in Riverbank at Sandy Point Road'.

Appendix H: AHIMS Search Results



AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : Sandy Point Road

Client Service ID : 926369

Wolf Peak Pty Ltd - Sydney

Date: 02 September 2024

Level 10 189 Kent Street

Sydney New South Wales 2000

Attention: David Stubbs

Email: dstubbs@wolfpeak.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -31.7912, 152.536 - Lat, Long To : -31.7867, 152.5437, conducted by David Stubbs on 02 September 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

| | |
|---|---|
| 0 | Aboriginal sites are recorded in or near the above location. |
| 0 | Aboriginal places have been declared in or near the above location. * |

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette](https://www.legislation.nsw.gov.au/gazette) (<https://www.legislation.nsw.gov.au/gazette>) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.