

Minor Works Review of Environmental Factors

Hornby Lighthouse ground remediation & drainage improvement works

September 2025

Final

Document Status

Revision	Author	Reviewer	Review date
Final	Francisca Alvarez	Ryan Bennett	18/09/2025
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Certification

I certify that I have reviewed and endorsed the contents of this Minor Works Review of Environmental Factors (MWREF) document, and, to the best of my knowledge, it is in accordance with the *Environmental Planning and Assessment Act 1979* (NSW), the *Environmental Planning and Assessment Regulation 2021* (NSW), and the Guidelines approved under clause 170 of the *Environmental Planning and Assessment Regulation 2021* (NSW), and the information it contains is neither false nor misleading.

Ryan Bennett

Senior Manager, Planning and Sustainability

Determination

I, the Chief Executive Officer (CEO) of Port Authority of New South Wales (Port Authority), having considered the impact on the environment of the proposed activity referred to in this Minor Works Review of Environmental Factors (MWREF), pursuant to Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), have determined:

- the proposed activity is not likely to have a significant impact on the environment and therefore an Environmental Impact Statement (EIS) is not required.
- the proposed activity will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations or ecological communities, or their habitats or impact biodiversity values, meaning a Species Impact Statement (SIS) and/or Biodiversity Development Assessment Report (BDAR) is not required.
- the proposed activity may proceed subject to the implementation of the mitigation measures specified in Section 6 and Section 8 of this MWREF.

John McKenna

Chief Executive Officer

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1 Introduction and Summary

This Minor Works Review of Environmental Factors (MWREF) has been prepared by Port Authority of New South Wales (Port Authority) to assess the potential environmental impacts of the Hornby Lighthouse ground remediation and drainage improvement works project (the activity).

This MWREF has been prepared in accordance with the relevant provisions of Part 5, Division 5.1 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act), the *Environmental Planning and Assessment Regulation 2021* (NSW) (EP&A Regulation), the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (NSW) (Transport and Infrastructure SEPP) and the *State Environmental Planning Policy (Resilience & Hazards) 2021* (NSW) (Resilience and Hazards SEPP).

This MWREF fulfils the obligations under Section 5.5 of the EP&A Act *to examine and take into account to the fullest extent possible*, all matters affecting or likely to affect the environment *by reason of the activity*, including all factors listed in Section 171 of the EP&A Regulation and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). As the proposal would not have a significant impact on Matters of National Environmental Significance (MNES) or on Commonwealth land, a referral to the Commonwealth Ministers for the Environment is not required.

Port Authority is the determining authority for the proposed activity under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) due to the provisions of Clause 2.80(2)(a) and 2.137 of the Transport and Infrastructure SEPP. In addition, NSW National Parks and Wildlife Service (NPWS) is a co-determining authority as their approval as landowner is required for the activity.

The activity would not likely result in a significant impact on the environment and therefore an Environmental Impact Statement (EIS) is not required.

The activity would not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species or ecological communities, or their habitats or impact biodiversity values as defined in the *Biodiversity Conservation Act 2016* (NSW) (BC Act) and therefore a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR) is not required.

On this basis of the information presented in this MWREF it is concluded that by adopting the recommended mitigation measures in Section 6, and summarised in Section 8, it is unlikely there would be any significant environmental impacts associated with the activity.

2 Proposal Details

2.1 Background, need and project objectives

In 2024, largescale conservation works were completed to Hornby Lighthouse (owned and operated by Port Authority of New South Wales), to enhance the presentation of the tower and conserve its significant heritage fabric. Hornby Lighthouse is listed on Port Authority's Section 170 Heritage and Conservation Register (s170 register) and has endorsed State heritage significance and is listed on the State Heritage Register as part of South Head Cultural Landscape (SHR 02071). The Hornby Lighthouse is also listed on the National Trust Register (NSW), and the former Register of the National Estate, and in Schedule 5 of the Woollahra Local Environment Plan (LEP) 2014 (WLEP).

The soil remediation and drainage improvement work described in this REF (the **activity**) was not captured within the original scope of the 2024 conservation works.

The soil around the Hornby Lighthouse has been found to be contaminated with metals (specifically lead, copper and zinc) and to a lesser extent total recoverable hydrocarbons (TRHs). The lead-based contamination may have resulted from lead-based paint used on the external facades of the lighthouse before the conservation works undertaken in 2024. Water has also been found to be pooling in the soil, impacting the bottom section of the sandstone masonry of the Hornby Lighthouse.

The extent of contaminated soils has been analysed, with soil remediation identified as necessary within a limited footprint in the immediate vicinity of the lighthouse structure. The proposed remediation works and drainage improvement works (activity) would involve the removal of a shallow 150-250mm layer of lead paint contaminated soil around the base of the lighthouse down to bedrock and reinstatement with a clean fill material, topsoil and turf. A geotextile would be placed over the bedrock to protect and separate the bedrock from the placed material. The reinstated fill would be graded to drain water away from the base of the lighthouse to prevent flooding whilst maintaining existing flow paths offsite. Introduced materials would be a non-acidic fill to ensure erosion of the sandstone is not accelerated. Similarly, the drainage improvement works would be restricted to areas north of the Lighthouse where pooling occurs and would include installing a pipe within the reinstated fill to promote drainage flow away from the lighthouse structure. This pipe would be fully contained within the reinstated fill and would not be visible following completion of the activity.

The proposed activity would not involve any physical works to the structure of Hornby Lighthouse and would be limited to the immediate surroundings of the lighthouse structure.

2.1.1 Project objectives and justification

The objective of the proposed works is to remediate contaminated land, and improve drainage around the lighthouse, further conserving its significant heritage fabric.

2.1.2 Alternatives

The following is an assessment of soil remediation options and drainage improvement works options. Soil remediation options and assessment of the suitability of each was provided in the Remedial Action Plan (Appendix A) and is summarised in the table below (options 3 to 7).

Table 2-1 Alternatives assessment

Option	Option description	Assessment	Conclusion
1	Do nothing option.	The do-nothing alternative would mean soil contamination would be left as-is and potentially pose a risk to people passing by, and possibly seep into the surrounding soil and water, which together with the drainage issues at the site would result in	Unfeasible

		pooling of contaminated water near the lighthouse. This would not be an acceptable alternative.	
2	Drainage pipes into the rock & leave contamination on-site as-is	Install fixed drainage pipes into the rock to alleviate the water pooling. This would not be an acceptable solution, as this solution would pose an increased risk to damage to potential Aboriginal heritage and would not solve the drainage issues and soil contamination issue.	Unfeasible
3	On-site treatment of the soil.	Excavation is necessary for on-site soil treatment, and this would incorporate much of the contamination. Therefore, this option would not be feasible.	Unfeasible
4	Off-site treatment of excavated soil (after which it is returned to site).	As per option 3.	Unfeasible
5	Containment of the contamination on-site.	As per option 3.	Unfeasible
6	Removal of contaminated soil to an approved site or facility (and reinstating with clean fill)	There are currently suitably licensed waste facilities in the Sydney Metropolitan region capable of accepting the contaminated soil, although waste classification is required in accordance with NSW EPA (2014) Waste Classification Guidelines (NSW Environment Protection Authority, 2014). This option would generate the highest quantity of waste, since the materials would be disposed of in landfill rather than treated and reused or retained on site. However, this would be a straightforward and time-effective strategy that is suitable for managing the risks associated with the contaminated soil, making it a feasible option.	Feasible
7	Adoption of a less sensitive land use or controls on site activities that will reduce the need for remedial works.	This would require rezoning of the site and potentially the surrounding areas	Unfeasible

Preferred option: The proposed solution would involve option 6 – removal of contaminated soil to an approved site or facility (and reinstating with a clean fill material, topsoil and turf) together with drainage improvement works. The reinstated fill would be graded to drain water away from the base of the lighthouse to prevent flooding whilst maintaining existing flow paths offsite. Additionally, a porous Agline pipe would be installed within the reinstated fill, to promote drainage flow away from the lighthouse structure. The Agline pipe would be fully contained within the body of the reinstated fill and would not be visible. This option would reduce the impacts from option 2 – as no fixed drainage pipes would be installed into the rock – and resolve the soil contamination issue.

2.2 Site location and existing environment

Referred to as the Inner South Head Peninsula (Appendix H), the subject site is located at South Head, within the Sydney Harbour National Park, which is in the suburb of Watsons Bay, in the Woollahra Local Government Area (LGA). It comprises Lot 415, Deposited Plan (DP) 752011 (in which Hornby Lighthouse is

located) and Part Lot 1, DP 605078 (the adjoining lot). The subject site is adjacent to the South Head Lighthouse Walking Track.

Hornby Lighthouse is a red and white painted sandstone masonry structure, which was constructed in the mid-Victorian period (c. 1858). As depicted in **Figure 2-1**, **Figure 2-2** and **Figure 2-11** below, the site is located on the eastern side of South Head and faces towards the ocean.

The site is located on a plateau at the top of a north-easterly facing cliff edge. The site itself has a relatively uneven surface due to exposed sandstone bedrock, and there is a slight uphill slope from the lighthouse towards the south. According to the elevation contour map in the Lotsearch report, the surface elevation is between approximately 18m and 20m above Australian Height Datum (AHD) (Appendix A).

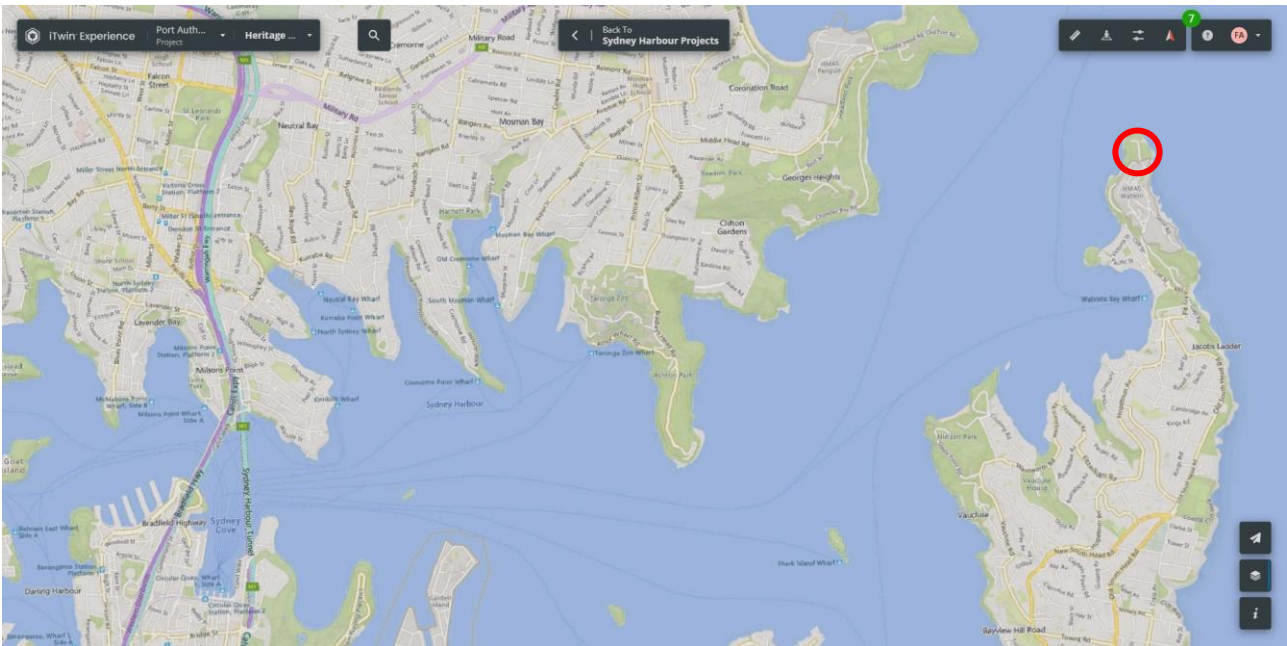


Figure 2-1 Locality map showing site context (red outline is approximate location of Hornby Lighthouse) (source: Port Authority iTwin experience mapping, accessed April 2025).



Figure 2-2 Aerial view of the site, outlined in yellow (source: NSW Spatial Services, “Six Maps”, accessed 20 March 2024 by Heritage 21, SOHI, Heritage21, 2025).

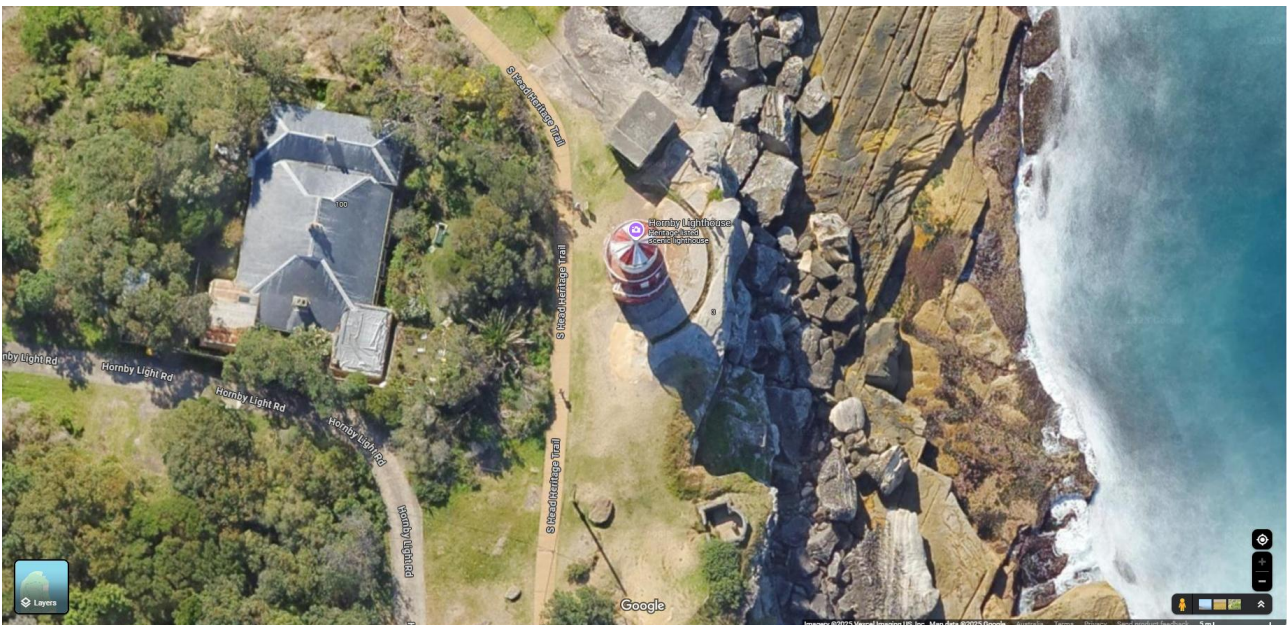


Figure 2-3 Closer aerial view of Hornby Lighthouse (source: Google maps, accessed April 2025).

The activity would be limited to the ground area around the Hornby Lighthouse, largely located to the north and south of the building (see **Figure 2-5** and **Figure 2-13** below). This area consists of a small open partly

grassed area, with a downwards slope towards the north. There is some evidence of protruding bedrock in this open grassed area, especially to the south of the lighthouse (SOHI, Heritage21, 2025).



Figure 2-4 External view to the lighthouse, at the completion of the conservation works in August 2024 (source: SOHI, Heritage21, 2025).



Figure 2-5 External view to the area of works, facing north (source: SOHI, Heritage21, 2025).

2.2.1 Contamination

A preliminary and detailed site (contamination) investigation was completed in October 2024 – see Appendix B of this MWREF – related to soil material surrounding the lighthouse and found this soil to contain concentrations of metals (lead, copper and zinc) and to a lesser extent Total Recoverable Hydrocarbons (TRH), which could pose an unacceptable risk to current and future users of the site.

The original investigation area for the preliminary and detailed site investigation covered an area of approximately 700m² and included readily accessible land around the lighthouse which is partly within Lot 415 in DP 752011 (in which the Lighthouse itself is located) and part of the adjoining Lot 1 in DP605078. This investigation area is depicted in **Figure 2-6** below, and shows the 21 test pits across the investigation area (TP1 to TP21).

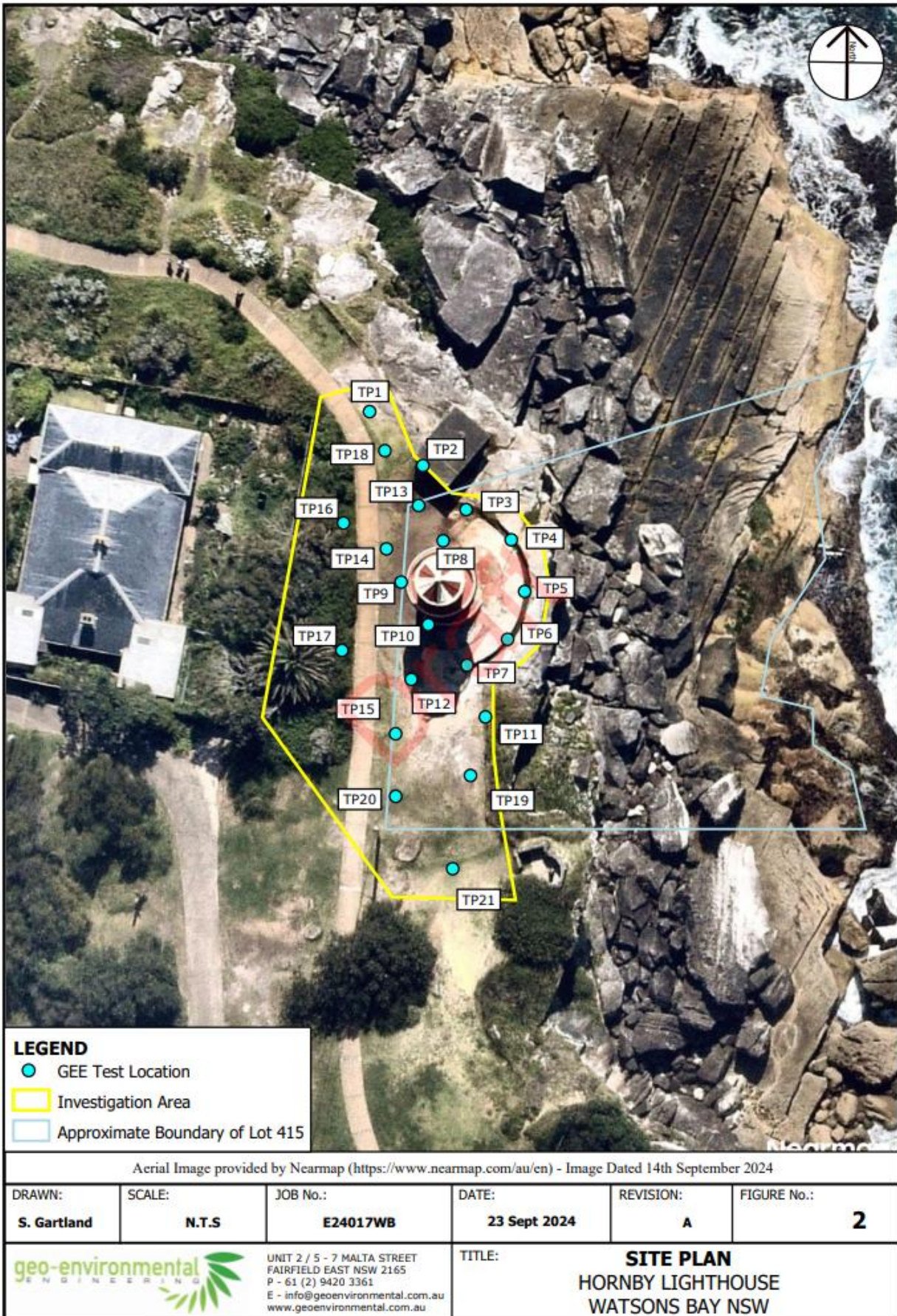


Figure 2-6 Site Plan (Figure 2 in Remedial Action Plan, Appendix A).

At the time of the preliminary and detailed site inspection, the ground surface comprised a mix of exposed sandstone bedrock, grass covered area, and exposed surface soils. In the immediate vicinity of the lighthouse, white flecks of paint (ranging from ~1 mm to ~15 mm) could be seen on the surface of exposed surface soils (Appendix A). The vertical extent of the contamination is the entire shallow soil profile over sandstone bedrock (Appendix A).

A remedial action plan (RAP) was prepared (Appendix A) in accordance with the contaminated land planning guidelines and guidelines in force under the *Contaminated Land Management Act 1997* (NSW), in accordance with clause 4.14 of the *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP).

The remediation strategy from the RAP is discussed in section 2.3 and 2.4 of this MWREF. The goal of the remediation activities is to render the site suitable for the proposed land-use scenario as defined by NEPM 2013 – Schedule B7 Section 3 (Australian Government, 2013). The appropriate land-use scenario for the site is “Public Space / Recreation” (Appendix A).

Mitigation measures from the RAP are included in section 6 of this MWREF.

2.2.2 Geology and Soils

2.2.2.1 Regional

The site is underlain by the Hawkesbury Sandstone formation, which typically consists of “...medium to coarse-grained quartz sandstone, very minor shale and laminite lenses” (Appendix A).

The site is located within the GyMEA Soil Landscape Group, which is associated with rolling to very steep hills on Hawkesbury Sandstone. Local reliefs are generally between 40-200m, slopes typically >25% in gradient, with rock outcrops (>50%). Soils of the Hawkesbury Group typically comprise erosional, loose sands and clays, have very low soil fertility and form a high soil erosion hazard (Appendix A).

2.2.2.2 Site-specific

The subsurface conditions, as observed in the test pits during the preliminary and detailed site investigation typically comprised fine to coarse SAND (sometimes with or trace fine to coarse gravel/shell fragments, and sometimes trace paint flecks), silty SAND / sandy SILT (fine to coarse grained, sometimes with or trace fine to coarse gravel, trace fine to medium shell fragments, and sometimes trace paint flecks), and silty CLAY topsoil (TP16 and TP17 within the garden bed). The shallow soil profile was underlain by sandstone bedrock and sandstone bedrock was also visible at the surface in some parts of the site (Appendix A).

A summary of the subsurface conditions across the site is provided in **Table 2-2** below.

Table 2-2 Summary of subsurface conditions across the site (Appendix A).

Description	Location
Silty SAND / Sandy SILT: brown / dark brown, fine to coarse grained, sometimes with or trace rootlets, sometimes with or trace fine to coarse sandstone gravel and cobbles and trace paint flecks.	TP1 – TP11, TP13, TP14, TP18
SAND: yellow brown / brown, fine to coarse grained, sometimes trace rootlets, sometimes with or trace fine to coarse sandstone gravel and cobbles.	TP12, TP15, TP19-21
FILL/Topsoil – Silty CLAY: Dark brown, with rootlets and fine-grained sand, trace fine unknown gravel.	TP16 and TP17

Note 1: Bedrock was also visible at the surface across the site.

The lateral extent of the contamination is the 'remediation area' shown in **Figure 2-7** below and covers an area of approximately 300m².

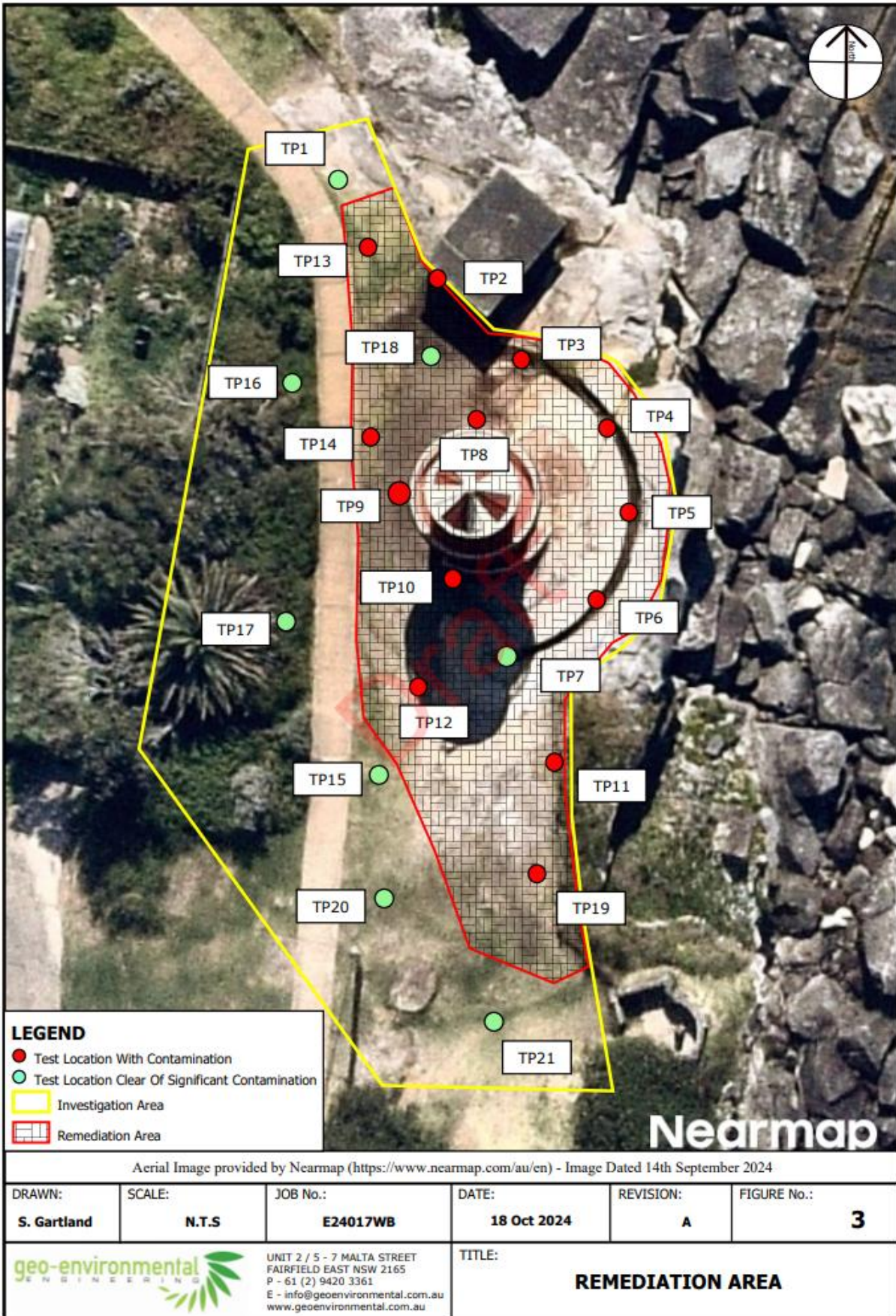


Figure 2-7 Remediation Area (Figure 3 in Remedial Action Plan, Appendix A).

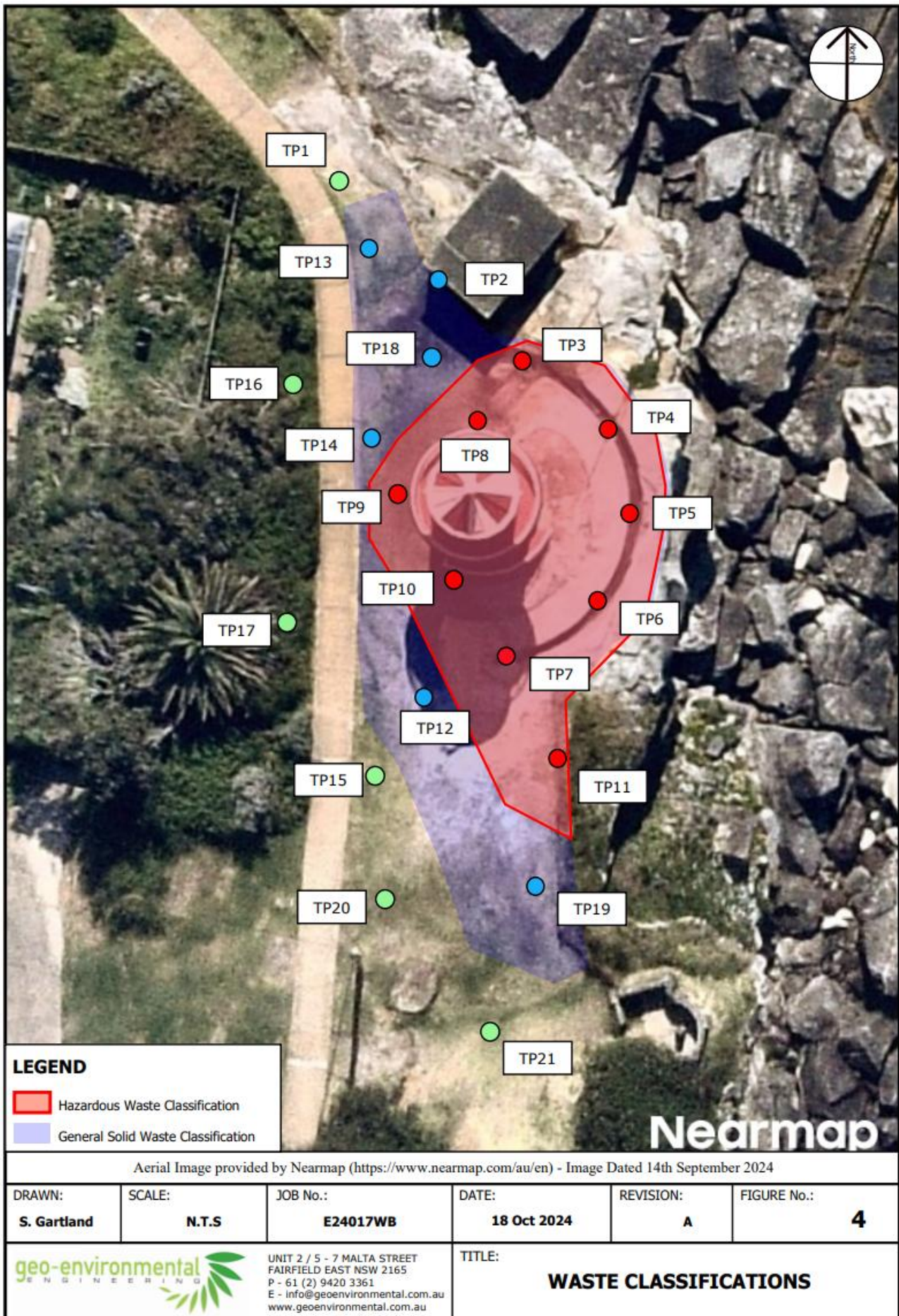


Figure 2-8 Waste classification (Figure 4 in Remedial Action Plan, Appendix A).

The RAP (Appendix A) included a waste classification of the contaminated soil material, completed in accordance with the NSW EPA waste guidelines by using the analytical results from the preliminary and detailed site investigation (Appendix B) and subsequent Toxicity Characteristic Leaching Procedure (TCLP) testing on selective samples.

The delineation of the hazardous waste stream and general solid waste stream is shown above in **Figure 2-11**.

The RAP states that, if the validation samples identify contamination, then more excavation will need to occur, and new validation samples will need to be collected until the contamination has been successfully removed.

2.2.3 Groundwater

2.2.3.1 Regional

The regional and permanent groundwater in the vicinity of the site is expected to be confined, or partly confined, within discrete water-bearing zones within the bedrock formation. However, intermittent 'perched' water seepage is likely to occur at the soil bedrock interface following heavy and prolonged rainfall events. Groundwater flow in bedrock is dominated by water movement through fractures (or joints), where stress has caused partial loss of cohesion in the rock and evidence of potential water bearing fractures is usually the presence of clay or iron-staining along the face of the joints (Appendix A).

2.2.3.2 Site-specific

Groundwater was not encountered by the preliminary and detailed site investigation testpits and is expected to be wholly present within the underlying sandstone bedrock formation (Appendix A).

2.2.4 Aboriginal heritage

Archaeological Management and Consulting Group (AMAC Group) was commissioned in August 2024 by Port Authority to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR, Appendix H, 2025) and accompanying Aboriginal Archaeological Technical Report (AATR, Appendix C) for the ground remediation and drainage improvement works. The ACHAR was completed to address and manage the potential for Aboriginal objects and/or Aboriginal features of archaeological and cultural significance to be present.

Consultation for the ACHAR was undertaken in accordance with the Part 6: *National Parks and Wildlife Act 1974*: Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010c). Per the guidelines, for the initial consultation stages of the ACHAR, a Research Design and Testing Methodology was sent to all Registered Aboriginal Parties for a mandatory 28-day review period (stage 2). The results of the initial consultation were included in the ACHAR. A final draft copy of the ACHAR was sent to all Registered Aboriginal Parties for a mandatory 28-day review period (stage 4). All feedback was incorporated into the ACHAR.

The study area is noted to lie within an area of sensitivity due to presence of an adjacent registered Aboriginal site of significance: AHIMS Site #45-6-0715, consisting of multiple engravings into the exposed sandstone on the eastern boundary of the of the lighthouse moat. This extends past the foundations of the army and the battery command structures. This registered site is only recorded on the eastern side and was noted not to extend to the lighthouse.

The results of the site survey determined three zones with archaeological potential (Figure 2-9 below). These zones have been assigned various levels of Aboriginal archaeological potential including known significance – low potential. The zones are defined as follows:

- Archaeological Sensitivity Zone 1 (ASZ1) – The sandstone platform extends to the east, encompassing the AHIMS Site 45-6-0715 engravings. This is an area of known significance. It is

bounded by the moat to the southeast and continues west past the battery command. This area has been previously recorded and has known artwork and subsequent value. The majority of this area is impacted by erosion – either weathering from natural forces, or human foot traffic.

No works are proposed in this area, and it is to remain sectioned off during the development.

- Archaeological Sensitivity Zone 2 (ASZ2) – A portion of the sandstone platform that has been levelled for Lighthouse construction. This area is bounded by the Lighthouse moat to the northeast and continues to the west point of the Lighthouse. This area has a low potential for archaeological objects due to the level of disturbance. This zone is to be impacted on; however this has a nil to low potential for archaeological material, due to the level of disturbance.
- Archaeological Sensitivity Zone 3 (ASZ3) – The western portion of the study area, with relatively higher ground cover. This area has a moderate potential for archaeological material, as engravings may be in sandstone still buried by aeolian sands. Artefacts also have a potential to be deposited from uphill areas.



Figure 2-9: Archaeological zoning plan for the study area. Study area outlined in yellow, ASZ1 which includes AHIMS Site #45-6-0715 in red, ASZ2 in purple and ASZ3 in blue. Six Maps accessed 10/12/2024 (ACHAR, Appendix H, 2025).

The AATR (Appendix C) found that a potential for engravings in buried sandstone remains, especially within Archaeological Sensitivity Zone 3 (ASZ3), on the western side of the development, where less disturbance has been recorded. The AATR predicted:

‘Moderate /high disturbance to ground surfaces from historical land use: Sub-surface Aboriginal objects with potential conservation value have a low probability of being present within the study area. Contrastingly, there is a high potential for rock engravings and art to remain.’ (AATR, Appendix C, 2025).



Figure 2-10: Disturbance map: Study area outlined in navy blue, with orange indicating moderate disturbance and red indicating high disturbance. (Figure 6-7 in AATR, 2025).

An Aboriginal Heritage Impact Permit (AHIP) is required for remedial works to occur and the proposed activity is to be monitored by an archaeologist and cultural heritage officers (AATR, Appendix C, 2025). Port Authority will obtain an AHIP prior to the works commencing, and mitigation measures outlined in the AHIP conditions will be followed and incorporated into the Construction Environmental Management Plan (CEMP) or Job Safety and Environmental Analysis (JSEA) for the works.

The following is the Statement of Impact to Aboriginal Cultural Heritage, (AATR, Appendix C, 2025):

No significant excavation or site modification is planned, with the proposed works limited to improving the ground surface surrounding the lighthouse. The impacts of works consist of replacement of soils and improvement of site drainage. Removal of contaminated soils does have potential to reveal additional engravings within ASZ3 and impacts are to be reduced through monitoring and small-scale excavation, most likely with hand tools. ASZ1 is to be sectioned off during works to avoid unnecessary inadvertent damage. Following these protocols, impacts are predicted to be nil – low for Aboriginal heritage values.

An assessment of the proposed activity was undertaken to determine whether impacts relating to the works would directly or indirectly affect the Aboriginal cultural heritage values. This assessment is presented in the ACHAR and the table below.

Table 2-3 Assessment of impact to Aboriginal Heritage values (Appendix H).

Value	Evidence (tangible and intangible)	Degree of Harm
Aesthetic	Tangible and intangible value present, no direct or indirect impacts predicted.	No harm is predicted to the existing engravings. Should further engravings be uncovered in ASZ3, little - no harm is predicted with the area to be uncovered with carefully using small machines or hand tools and under monitoring before being reburied by geotextiles and clean, introduced fill.
Historic	Intangible value present, no direct or indirect impacts.	No loss of historic value will result from soil remediation and drainage works.
Scientific	Tangible evidence present, resulting in the creation of Archaeological sensitive zones. ASZ1 has previously been investigated and will not be impacted, ASZ2 has very little potential and ASZ3 retains potential.	Little to no harm is predicted with monitoring recommended in addition to the use of hand tools. Any exposed ground will be reburied.
Social	Intangible and tangible values present with possible direct impacts.	Exposed engravings hold social value and any additional engravings uncovered may be considered in association with these. Both indirect and direct harm has been reduced, with monitoring and hand tools recommended for project works, in addition to introduction of clean soils which will reduce natural weathering.

Recommendations from the ACHAR, AATR and s60 approval (**Error! Reference source not found.**) have been incorporated into the Mitigation Measures in section 6 of this MWREF.

2.2.5 Non-aboriginal heritage

Hornby Lighthouse is listed on the following databases:

Table 2-4 Non-Aboriginal heritage listings (SOHI, Appendix I).

Statutory List – Legislative Requirements				
List	Item Name	Address	Significance	Item No.
Woollahra Local Environmental Plan 2014	Hornby Lighthouse group comprising: Hornby Lighthouse and interiors; 2 cottages and interiors; gun emplacements and fortifications	South Head (inner) (within South Sydney Harbour National Park)	Local	I462
State Heritage Register	South Head Cultural Landscape (including RMP 9-inch and 12-ton gun)	Cliff Street, Watsons Bay	State	02071
Port Authority of NSW Section 170 Heritage and Conservation Register	Hornby Lighthouse	Inner South Head	State	4560002
Non-Statutory List – Information Only				
List	Item Name/ Description			Item No.
National Trust Register - National Trust NSW	Inner South Head (Part of Hornby Light and Cottages Group)			7940/7941
Former Register of the National Estate	Hornby Lighthouse Hornby Lighthouse Group			2517 2516

The subject site is located within the boundaries of the Watsons Bay Heritage Conservation Area (HCA), listed as “C14” under Schedule 5 of the WLEP 2014 (see Figure 2-11 below). The Hornby Lighthouse is a Contributory Item within the HCA (SOHI, Appendix I). South Head Cultural Landscape (SHR 02071) is shown in **Figure 2-12** below.

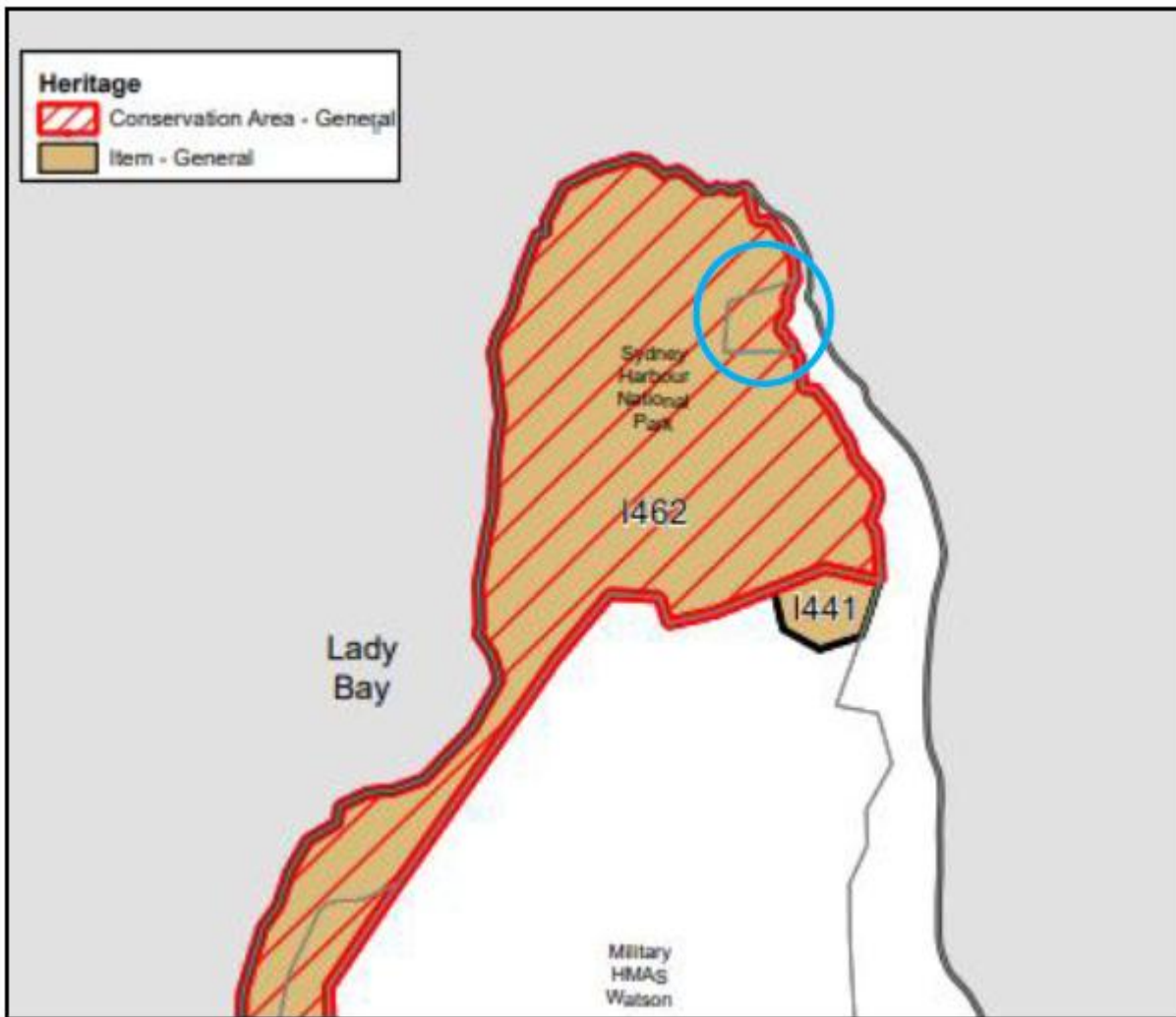


Figure 2-11 Detail from Heritage Map HER_004. The site is outlined in blue, heritage items shaded brown and heritage conservation areas are hatched red (source: NSW Legislation Online, <https://www.legislation.nsw.gov.au/maps>, annotated by Heritage 21, SOHI, Heritage21, 2025).

The subject site is situated within the general vicinity of the following heritage items listed under Schedule 5 of the WLEP 2014. The details of the listings follow:

Table 2-5 Within general vicinity of heritage items in Schedule 5 of the WLEP 2014 (source: SOHI, Appendix I).

Item Name	Address	Significance	Item Number
South Head Artillery Barracks group comprising: officers' quarters and interiors (asset 25); former officers' mess and interiors (Cliff House quarters); former sergeants' mess and interiors (officers' quarters); former stable/carriage shed and interiors (garden store) (asset 29); gun carriage coach house and annex and interiors (garage/store) (asset 37); former guard house and interiors (asset 26); former artillery barracks and interiors (officers' quarters) (asset 33); sandstone drainage moat and rifle post wall (adjoining asset 28); 80 pounder battery and five connected gun emplacements (1871/2) (north of asset 25); World War 1 and World War 2 artillery fortifications on seaward cliffs; HMAS Watson's Naval Memorial Chapel of St. George the Martyr and interiors; Aboriginal rock carving seaward side of Chapel (spotlight mounted within)	HMAS Watson	Local	I441

The *Heritage Act 1977* (NSW) contains the provisions for listing sites or places on the State Heritage Register (SHR) and the protection of relics.

See section **Error! Reference source not found.** of this MWREF for more information on the proposed works against the *Heritage Act 1977* (NSW).



Figure 2-12 State Heritage Register – SHR 02071, Plan 3306 South Head Cultural Landscape (source: NSW Government, State Heritage Inventory, SOHI, Appendix I).

2.3 Description of the Activity

The soil around the Hornby Lighthouse has been found to contain concentrations of metals (lead, copper, and zinc) and to a lesser extent Total Recoverable Hydrocarbons (TRHs), which could pose an unacceptable risk to current and future users of the site. The Hornby Lighthouse also consists of an existing drainage channel / outlet which is either blocked, or damaged, leading to water seeping in the surrounding soil, and impacting the bottom section of the sandstone masonry of the Hornby Lighthouse.

Port Authority proposes to remediate contaminated land and improve drainage around Hornby Lighthouse (the activity). The proposed work (the activity) involves:

- the removal of a shallow 150-250mm layer of contaminated soil around the base of the lighthouse down to bedrock. The lateral extent of the remediation area is depicted in Figure 2-7 above and the Remedial Action Plan (Appendix A) and covers an area of approximately 300m². Some of this has no soil present, with bedrock exposed at the surface and estimated surface area of the contaminated soil is 250m². If assuming an average depth of soil of 250mm, then this equates to a volume of 62.5m³ or approximately 100 tonnes (assuming a bulk density of 1.7t/m³).
- reinstatement with a clean fill material, topsoil and turf. A geotextile would be placed over the bedrock to protect and separate the bedrock from the placed material. The reinstated fill would be graded to drain water away from the base of the lighthouse to prevent flooding whilst maintaining existing flow paths offsite.
- drainage improvement works to the blocked / damaged drainage outlet, including clearing the existing lighthouse drainage swale and installing a new porous agline pipe within the reinstated fill (i.e. above the bedrock and geotextile) to promote drainage away from the structure.

Figure 2-13 below (and Appendix E) shows the drainage improvement works including the existing swale drain and the nominal alignment of the new porous agline pipe.

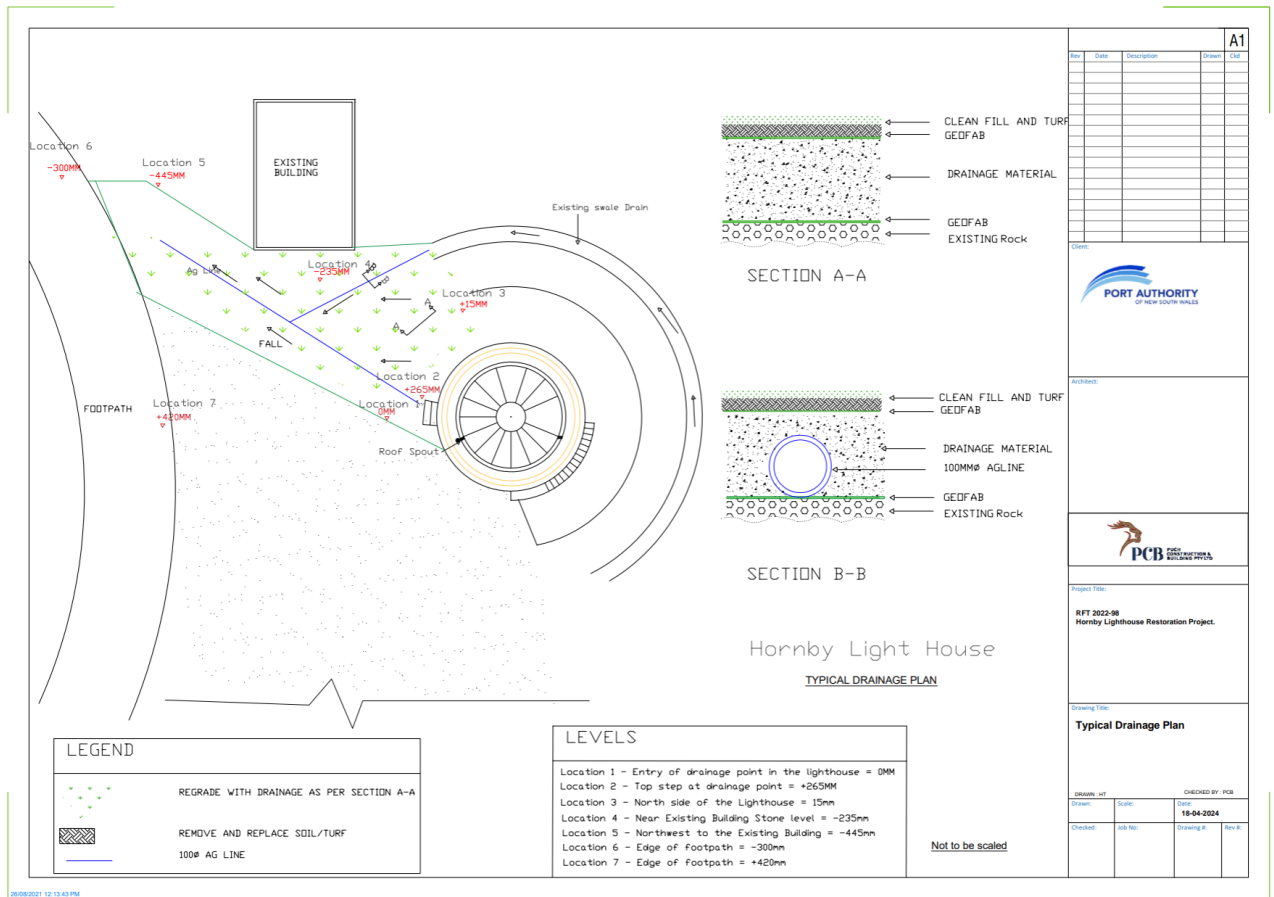


Figure 2-13 Drainage Plan (Appendix E).

2.4 Construction

2.4.1 Work methodology

In summary, the land remediation works and drainage works would involve:

- Site establishment: materials, plant and equipment laydown area to be located outside of the immediate works area.
- Access and egress to the site via the Hornby Light Road.
- Remediating the contaminated soils immediately surrounding Hornby Lighthouse and drainage improvement works:
 - Removal of contaminated material surrounding the lighthouse using hand tools or small plant.
 - Controlled excavation of up to approximately 100t of contaminated soil

- Transport soil offsite (approx. 10 truck movements) via the Hornby Light Road
 - Dispose contaminated soil at the appropriate waste facility
- Validation sampling and analysis
- Place geofabric on exposed rock surfaces.
- Install a porous Agline pipe within the reinstated fill, to promote drainage flow away from the lighthouse basement. The Agline pipe will be fully contained within the body of the reinstated fill and not be visible.
- Backfill the site with clean fill (as required) and re-grade the surrounding ground level to address existing areas of ponding and ensure that the water flows to the north, away from the lighthouse, following existing flowpaths.
 - Contractor to provide imported fill certificates or similar approved validation.
- Topsoil and turf
- Clear the existing Hornby Lighthouse drainage swale of accumulated soil and vegetation.

The construction footprint is expected to be approximately 250m² fenced off area surrounding the contaminated site and contain: a demountable small site office, materials and plant laydown area.

The plant and equipment required for the activity, during construction would include:

- Shovels and hand tools
- Small excavator, if required

2.4.2 Construction duration and hours

The activity is estimated to take approximately 4 weeks and will commence within 12 months of the planning approval and granting of the AHIP.

Standard working hours are proposed for the construction phase:

- Monday to Friday: 7am – 6pm.
- Saturday: 8am – 1pm.
- Sunday and Public Holidays: No works.

Any proposed out of hours works are to be pre-approved in writing by Port Authority and the NPWS Sydney South Area Manager.

2.4.3 Ancillary facilities

Ancillary facilities required would include the following which would be located outside the immediate works area:

- Compound locations and facilities required (i.e. construction support site)
- Plant and material laydown areas
- Temporary stockpile for imported fill
- Temporary stockpile for removed fill to be bunded and separated from the existing ground using a geotextile or similar.

2.5 Operation

The ground remediation works and drainage improvement works do not have ongoing operational issues or management requirements.

2.6 Proponent, Determining Authority and Publication

Port Authority is the owner and operator of the Hornby Lighthouse and is the proponent and determining authority for the proposed activity.

The works site is located on Lot 415, DP 752011 and Part Lot 1, DP 605078.

Hornby Lighthouse and contaminated soil is directly located on Lot 415, DP 752011, which is Crown Land (Property report, e-planning viewer, Appendix F) that is managed by the National Parks and Wildlife Service (NPWS). Contaminated land is also located on Lot 1, DP 605078, in the Sydney Harbour National Park, which is land owned by NPWS. NPWS is therefore a co-determining authority as their approval as landowner is required for the activity.

The EP&A Regulation (s 171(4)) requires publication of a Review of Environmental Factors (REF) for activities with:

- An estimated development cost of more than \$5 million or,
- an approval or permit for activity that requires approval under:
 - *Fisheries Management Act 1994* (NSW) sections 144, 201, 205 or 219, or
 - *Heritage Act 1977* (NSW) section 57, or
 - *National Parks and Wildlife Act 1974* (NSW) section 90 or
 - *Protection of the Environment Operations Act 1997* (NSW) sections 47-49 or 122, or
- if the determining authority considers it to be in the public interest.

The works trigger the above requirements for publishing, as Port Authority obtained an approval of an application made under Section 60 of the *Heritage Act 1977* for the activity (30/04/2025, refer Appendix D). Additionally, an application for an Aboriginal Heritage Impact Permit (AHIP) under section 90 of the *National Parks and Wildlife Act 1974* (NSW) has been lodged. Port Authority also considers the activity to be in the public interest given its location.

As per the *Guidelines for Division 5.1 assessments* (Department of Planning and Environment, June 2022), Port Authority will publish the following documentation (redacted as needed) on our website prior to the commencement of works:

- the final MWREF document including appendices.
- the Decision Statement.
- any MWREF document addenda.

All related approvals are detailed in Section 5 of this MWREF.

3 Statutory Context

3.1 Commonwealth Legislation and Regulations

3.1.1 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places - defined in the EPBC Act as 'Matters of National Environmental Significance' (MNES). The EPBC Act requires assessment of whether a proposal is likely to significantly impact on MNES or Commonwealth land.

- A review of the Protected Matters Search Tool of Lot 415, DP 752011 was undertaken on 4 June 2025 (Appendix G). The database search was conducted to identify potential MNES that may trigger the need for referral and/or approval under the EPBC Act.

The results of the search and an assessment of significance of the works on these items and MNES is presented in the table below:

Table 3-1 Matters of National Environmental Significance (MNES)

Factor	No.	Impact	Mitigation
Migratory Species	56	<p>56 listed migratory species are identified as potentially occurring within the area, or likely to forage, feed or have related behaviour within the area.</p> <p>Of these species, 7 are shark species, and 7 are marine mammals, and so are N/A to the proposed works. The remaining migratory species are birds and reptiles (turtles).</p> <p>The site does not contain any habitat including trees, vegetation or shallow wading areas which would be disturbed as part of the proposed activity. Accordingly, migratory species are unlikely to be present or forage within the site.</p> <p>Mitigation measures are provided in section 6 of this MWREF.</p>	Section 6
Threatened Ecological Communities	5	<p>Five Threatened Ecological Communities are identified as potentially occurring within the area.</p> <ul style="list-style-type: none"> • Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community (endangered) • Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland (endangered) • Coastal Upland Swamps in the Sydney Basin Bioregion (endangered) • Eastern Suburbs Banksia Scrub of the Sydney Region (critically endangered) • River-flat eucalypt forest on coastal floodplains of Southern New South Wales and eastern Victoria (critically endangered) <p>However, the proposed works area does not contain any trees or vegetation that is identified as a Threatened Ecological Community. The proposed works will only occur in open grassed area. No vegetation, other than grass, is proposed to be removed as part of the works.</p>	None

Factor	No.	Impact	Mitigation
Threatened Species	89	<p>89 listed threatened species are identified as potentially occurring within the area, or likely to forage, feed or have related behaviour within the area.</p> <p>Of these 89 species:</p> <ul style="list-style-type: none"> - 10 are either fish or sharks, and so are N/A to the proposed works. - 12 are plant species - 5 are reptile species (turtles) - 2 are frog species (Giant Burrowing Frog and Green and Golden Bell Frog) - 11 are land mammal species. - 1 is a snail species (Maroubra Woodland Snail) - 48 are bird species. <p>It is noted that the Conservation Management Plan (National Parks and Wildlife Service, NPWS, 2008) states that the Grey-headed Flying Fox, listed as vulnerable under the <i>Biodiversity Conservation Act 2016</i> (NSW) and the EPBC Act, visits South Head National Park regularly to forage from food trees (such as Fig Trees) but utilises day roosting sites in other areas, such as the Royal Botanic Gardens.</p> <p>The proposed works area does not contain any trees or vegetation, will only occur in open grassed area and no other vegetation is proposed to be disturbed as part of the works. Therefore, plant species were not assessed. Threatened mammal, reptile, snail, frog and bird species are unlikely to be present or forage within the site as there is no suitable habitat for these species in the immediate works area.</p> <p>Mitigation measures are in section 6 of this MWREF.</p>	Section 6
Ramsar wetlands of international importance	0	The site is not close to any Ramsar wetlands of international importance.	NA
Commonwealth marine environment	0	None	NA
National heritage places	0	None	NA
The Great Barrier Reef Marine Park	0	None	NA
Nuclear actions	0	None	NA
A water resource, in relation to coal seam gas development and large coal mining development	0	None	NA

Table 3-2 Other Matters Protected by the EPBC Act

Factor	No.	Impact	Mitigation
Commonwealth Lands	1	Defence – HMAS. This is not in the vicinity of the proposed works area and will not be impacted by the proposed works.	NA
Commonwealth Heritage Places	2	<ul style="list-style-type: none"> Cliff House: This is not in the vicinity of the proposed works area and will not be impacted by the proposed works. Barracks Group HMAS: This is not in the vicinity of the proposed works area and will not be impacted by the proposed works. 	NA
Listed Marine Species	80	N/A to the proposed works	NA
Whales and Other Cetaceans	13	N/A to the proposed works	NA

As the proposal would not have a significant impact on these items or any other MNES or on Commonwealth land, a referral to the Commonwealth is not required.

3.2 NSW Legislation and Regulations

3.2.1 Environmental Planning and Assessment Act 1979 (EP&A Act)

The proposed activity is subject to assessment under Division 5.1 of the EP&A Act. The proposed activity is not declared to be State Significant Infrastructure (SSI) under Division 5.2 because:

- It is the opinion of Port Authority, as the proponent, pursuant to this MWREF, that the activity is not likely to significantly affect the environment and does not require an Environmental Impact Statement (EIS) to be obtained. Consequently clause 1 of Schedule 3 of the *State Environmental Planning Policy (Planning Systems) 2021* (the Planning Systems SEPP) does not apply.
- The proposed activity has not otherwise been specifically declared to be SSI by a SEPP nor has the Minister for Planning separately declared the activity to be SSI by way of an Order made under Section 5.12 of the EP&A Act.

Port Authority is the determining authority for the proposed activity under Division 5.1 of the EP&A Act due to the provisions of Clause 2.80(2)(a) and 2.137 of the Transport and Infrastructure SEPP (see Section 3.3.1 of this MWREF). As mentioned above, NPWS is a co-determining authority and their approval as landowner is required for the activity.

The EP&A Act outlines the matters which need to be considered when assessing an ‘activity’ under Part 5 of the Act. Section 5.5 of the EP&A Act states:

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

The environmental impact of the activity has been assessed in this MWREF, specifically in Section 6. The determining authority for a proposed activity is required to determine if an activity will have a significant effect on the environment. To determine this, Port Authority has assessed the proposal with reference to the Guidelines for Division 5.1 Assessments and against the matters for consideration under Clause 171 of the EP&A Regulations (refer to Section 3.2.2 below).

3.2.2 Environmental Planning and Assessment Regulation 2021 (EP&A Regulation)

Section 171 of the EP&A Regulation defines the factors which must be considered when determining if an activity assessed under Division 5.1 of the EP&A Act has, or is likely to have, a significant impact on the environment. Section 6 of this MWREF provides an environmental impact assessment of the proposal in accordance with Section 171, with a summary of the assessment included in **Table 3-3**.

Table 3-3 Section 171 of EP&A Regulations considerations

Factor	Impacts
(a) the environmental impact on the community,	<p>Nil.</p> <p>The proposal is not anticipated to cause any adverse environmental impact upon the community and surrounds due to the nature and small scale of the activity, during construction and operation. Any impacts during construction can be appropriately managed by adopting the mitigation measures contained herein.</p>
(b) the transformation of the locality,	<p>Minor transformation of the site.</p> <p>A minor positive transformational impact to the locality is expected. The soil remediation and drainage works will eliminate the ponding at the site and remove contaminated soil and replace with clean fill. No adverse impacts to any nearby sensitive receivers are expected.</p>
(c) the environmental impact on the ecosystems of the locality,	<p>A minor impact (improvement) on the ecosystem of the soil is expected, due to removal of contaminated soil and replacing with clean fill.</p>
(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality,	<p>A minor short-term impact to the aesthetic and recreational value of the locality is expected during construction.</p> <p>The soil remediation and drainage works is expected to improve the aesthetic, recreational and environmental quality and value of the locality in the long-term.</p>
(e) the effects on any locality, place or building that has: <ul style="list-style-type: none"> i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or ii) other special value for present or future generations, 	<p>The SOHI found that there are no aspects of the proposal which could be detrimental to the heritage significance of the subject site. An approval of an application made under Section 60 of the <i>Heritage Act 1977</i> was obtained for the activity (30/04/2025, refer Appendix D).</p> <p>The positive impacts of the proposal are outlined in section 3.2.6 of this MWREF.</p>
(f) the impact on the habitat of protected animals, within the meaning of the <i>Biodiversity Conservation Act 2016</i> ,	<p>Nil impacts.</p> <p>The proposed works are ground remediation and drainage improvement works. There is no habitat for any protected animals in the proposed works location – see section 3.2.4 of this MWREF.</p>
(g) the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air,	<p>Nil impacts.</p> <p>The proposed activity would not result in the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air. There is no habitat for any protected</p>

Factor	Impacts
	animals in the proposed works location – see section 3.2.4 of this MWREF
(h) long-term effects on the environment,	Positive impact. The proposed ground remediation and drainage improvement works would have a positive long-term effect on the quality of the soil environment. In addition, by remediating contaminated land, and improving drainage around the lighthouse, the significant heritage fabric of the lighthouse would be conserved.
(i) degradation of the quality of the environment,	Positive impact. The proposed ground remediation and drainage improvement works would have a positive effect on the quality of the environment.
(j) risk to the safety of the environment,	Positive impact. The proposed ground remediation and drainage improvement works would reduce the risk to the safety of the environment by removing risks associated with contamination.
(k) reduction in the range of beneficial uses of the environment,	Positive impact. By removing contamination, the proposed ground remediation and drainage improvement works would increase the range of beneficial uses of the environment.
(l) pollution of the environment,	Positive impact. The proposed works are to remove contamination in the soil, remediate the soil and improve drainage at the site. Any impacts during construction will be appropriately managed by adopting the mitigation measures in section 6 of this MWREF.
(m) environmental problems associated with the disposal of waste,	Nil impacts. Soil waste and construction waste will be appropriately managed as per the mitigation measures in section 6 of this MWREF.
(n) increased demands on natural or other resources that are, or are likely to become, in short supply,	Nil impacts.
(o) the cumulative environmental effect with other existing or likely future activities,	Nil impacts. No other existing or likely future activities are anticipated. When required, Port Authority will coordinate with NPWS to identify any appropriate additional controls to address cumulative impacts of any planned activities on the site. These would be incorporated in the CEMP or JSEA for the activity. Mitigation measures are detailed in section 6 of this MWREF.
(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions,	Nil impacts.

Factor	Impacts
(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1,	N/A. Nil impacts.
(r) other relevant environmental factors.	Nil impacts.

Details on whether the proposal triggers publication requirements under EP&A Regulation (s 171(4)) is provided in section 2.6 of this MWREF.

3.2.3 Protection of the Environment Operations Act 1997 (POEO Act)

3.2.3.1 Imported fill requirements

As stated in the RAP (Appendix A), under the POEO Act and the POEO (Waste) Regulation 2014 (specifically Part 9, Clauses 91, 92 and 93), only natural soil and bedrock material which has been classified as Virgin Excavated Natural Material (VENM), or material granted appropriate Resource Recovery Exemptions by the NSW EPA (e.g. Excavated Natural Material (ENM)) may be imported onto a site and used for earthworks or as engineered fill.

The POEO Act defines VENM as:

“natural material (such as clay, gravel, sand, soil or rock fines):

- a. *that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities and*
- b. *that does not contain any sulfidic ores or soils or any other waste and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved for the time being pursuant to an EPA Gazettal notice.”*

Any VENM material accepted at the site will also require a VENM certificate. This has been added as a Mitigation Measure in Section 6 of this MWREF.

ENM is defined under the POEO Act as:

“naturally occurring rock and soil (including but not limited to materials such as sandstone, shale, clay and soil) that has:

- a. *been excavated from the ground, and*
- b. *contains at least 98% (by weight) natural material, and*
- c. *does not meet the definition of Virgin Excavated Natural Material in the Act. Excavated natural material does not include material located in a hotspot; that has been processed; or that contains asbestos, Acid Sulfate Soils (ASS), Potential Acid Sulfate soils (PASS) or sulfidic ores.”*

Relevant Mitigation Measures from the Remedial Action Plan (Appendix A), including the requirement for fill to be VENM and/or ENM have been added as Mitigation Measures to Section 6 of this MWREF.

3.2.3.2 Pollution incidents causing or threatening material harm to the environment

Under Section 148 of the POEO Act, pollution incidents causing or threatening material harm to the environment must be notified to each 'relevant authority' (in this order):

- Fire and Rescue NSW – phone: **000** If the incident presents an immediate threat to human health or property, Fire and Rescue NSW, the NSW Police and the NSW Ambulance Service should be

contacted first for emergency assistance. The other response agencies must still be contacted after that to satisfy notification obligations.

- the appropriate regulatory authority (ARA) – Woollahra Municipal Council: phone: **(02) 9391 7000**
- the Environment Protection Authority (EPA) (if the EPA is not the ARA) – **131 555**
- the Ministry of Health via the Local Public Health Unit – Randwick Public Health Unit: phone: **(02) 9382 8333**; After hours phone: **(02) 9382 2222** (Prince of Wales Hospital – ask for Public Health Nurse on call)
- SafeWork NSW – phone: **13 10 50**

A 'pollution incident' means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.

'Material harm to the environment' is defined in Section 147 of the POEO Act and includes on-site harm, as well as harm to the environment beyond the premises where the pollution incident occurred.

The above notification requirements and other mitigation measures to prevent or reduce the risk of pollution incidents from occurring will be included in Section 6 of this MWREF.

3.2.4 Biodiversity Conservation Act 2016 (BC Act)

The BC Act identifies threatened species, populations, endangered ecological communities, critical habitats and key threatening processes and establishes a framework to avoid, minimise and offset the impacts of proposed development and land use change on biodiversity. Section 7.8 of the BC Act states:

“(2) For the purposes of Part 5 of the Environmental Planning and Assessment Act 1979, an activity is to be regarded as an activity likely to significantly affect the environment if it is likely to significantly affect threatened species.”

A search of the NSW Government’s BioNet Atlas, focusing on the NPWS Reserve *Sydney Harbour National Park* was carried out on 13 June 2025, and is attached in Appendix G of this MWREF. 889 species were identified, and of these 31 are threatened species, listed in the table below. It is noted that the NPWS Reserve *Sydney Harbour National Park* search area includes land outside of South Head, and some of the identified threatened species may not be present on the headland.

Table 3-4 BioNet Atlas threatened species search results

Species class	Species (common name)	Species (scientific name)	NSW (BC Act) status	Commonwealth (EPBC Act) status
Amphibia	Red-crowned Toadlet	<i>Pseudophryne australis</i>	V, P	-
Aves	Superb Fruit-Dove	<i>Ptilinopus superbus</i>	V, P	-
Aves	White-throated Needletail	<i>Hirundapus caudacutus</i>	V, P	V, C, J, K
Aves	Southern Giant Petrel	<i>Macronectes giganteus</i>	E1, P	E
Aves	Little Penguin in the Manly Point Area	<i>Eudyptula minor</i>	E2, P	-
Aves	White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	V, P	-
Aves	Little Eagle	<i>Hieraaetus morphnoides</i>	V, P	-
Aves	Beach Stone-curlew	<i>Esacus magnirostris</i>	E4A, P	
Aves	Sooty Oystercatcher	<i>Haematopus fuliginosus</i>	V, P	
Aves	Pied Oystercatcher	<i>Haematopus longirostris</i>	E1, P	
Aves	Sooty Tern	<i>Onychoprion fuscatus</i>	V, P	
Aves	Swift Parrot	<i>Lathamus discolor</i>	E1, P	CE
Aves	Powerful Owl	<i>Ninox strenua</i>	V, P, 3	
Aves	Regent Honeyeater	<i>Anthochaera phrygia</i>	E4A,P,2	CE
Mammalia	Long-nosed Bandicoot, North Head	<i>Perameles nasuta</i>	E2,P	

Species class	Species (common name)	Species (scientific name)	NSW (BC Act) status	Commonwealth (EPBC Act) status
Mammalia	Eastern Pygmy-possum	<i>Cercartetus nanus</i>	V,P	
Mammalia	Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	V,P	V
Mammalia	Yellow-bellied Sheath-tail-bat	<i>Saccolaimus flaviventris</i>	V,P	
Mammalia	Eastern Coastal Free-tailed Bat	<i>Micronomus norfolkensis</i>	V,P	
Mammalia	Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	E1,P	E
Mammalia	Southern Myotis	<i>Myotis macropus</i>	V,P	
Mammalia	Eastern Cave Bat	<i>Vespadelus troughtoni</i>	V,P	
Mammalia	Little Bent-winged Bat	<i>Miniopterus australis</i>	V,P	
Mammalia	Large Bent-winged Bat	<i>Miniopterus orianae oceanensis</i>	V,P	
Mammalia	New Zealand Fur-seal	<i>Arctocephalus forsteri</i>	V,P	
Mammalia	Southern Right Whale	<i>Eubalaena australis</i>	E1,P	E
Mammalia	Long-nosed Bandicoot, North Head	<i>Perameles nasuta</i>	E2,P	
Flora	Nielsen Park She-oak	<i>Allocasuarina portuensis</i>	E1,3	E
Flora	Sunshine wattle	<i>Acacia terminalis</i> subsp. Eastern Sydney	E1	E
Flora	-	<i>Darwinia biflora</i>	V	V
Flora	Camfield's Stringybark	<i>Eucalyptus camfieldii</i>	V	V
Flora	Magenta Lilly Pilly	<i>Syzygium paniculatum</i>	V	V

A definition of the above codes is provided in Appendix G. A description of each code is summarised in the table below.

Table 3-5 BioNet Atlas threatened species search – key to codes

NSW status code	Description
V	Vulnerable
P	Protected
E1	Endangered
E2	Endangered Population
E4A	Critically Endangered Species
2	Category 2 sensitive species
3	Category 3 sensitive species
Commonwealth status code	Description
V	Vulnerable
C	CAMBA
J	JAMBA
K	ROKAMBA
E	Endangered
CE	Critically Endangered

The *South Head Sydney Harbour National Park Stage 1 Conservation Management Plan (CMP)* (National Parks and Wildlife Service, NPWS, 2008) states that the following threatened species have been recorded in the Sydney Harbour National Park at South Head:

- Grey-headed Flying Fox: visits the area regularly to forage from food trees (such as Fig Trees) but utilises day roosting sites in other areas, such as the Royal Botanic Gardens
- Powerful Owl and the Sooty Oystercatcher: South Head provides foraging habitat for the Powerful Owl and the Sooty Oystercatcher, but does not provide any suitable breeding habitat for either species. Both species have been previously only sighted occasionally.

The CMP (National Parks and Wildlife Service, NPWS, 2008) notes that the Common Brown Toadlet (*Crinia signifera*) is the only amphibian to have been recorded at South Head in recent times.

No threatened populations, endangered ecological communities or critical habitats were identified in the proposed works area. No habitat features were observed in the proposed soil to be removed.

Mitigation measures are included in section 6 of this MWREF.

3.2.4.1 Assessment of significance (5-part test)

Section 7.3 of the BC Act sets out the test for determining whether a proposed activity is likely to significantly affect threatened species or ecological communities, or their habitats.

An assessment of significance (5-part test) was not carried out for the proposed works, as no threatened populations, endangered ecological communities or critical habitats were identified in the proposed works area. No habitat features were observed in the proposed soil to be removed.

Mitigation measures are included in section 6 of this MWREF.

3.2.4.2 Areas of Outstanding Biodiversity Value

Areas of declared critical habitat under the previous *Threatened Species Conservation Act 1995* have become the first Areas of Outstanding Biodiversity Value (AOBV) in New South Wales with the commencement of the *Biodiversity Conservation Act 2016* (NSW).

AOBV declarations in New South Wales are:

- Gould's Petrel – critical habitat declaration
- Little penguin population in Sydney's North Harbour – critical habitat declaration
- Mitchell's Rainforest Snail in Stotts Island Nature Reserve – critical habitat declaration
- Wollemi Pine – critical habitat declaration

The proposed works are not in a declared area of outstanding biodiversity value.

3.2.4.3 Key Threatening Processes

Key threatening processes are detailed in section Schedule 4 of the BC Act.

The proposed works are not a key threatening process.

3.2.5 National Parks and Wildlife Act 1974 (NPW Act)

Aboriginal cultural heritage in NSW is afforded protection under the provisions of the NPW Act, and this part of the Act is administered by Heritage NSW, which has responsibilities under the legislation for the proper care, preservation, and protection of 'Aboriginal objects' and 'Aboriginal places'. Part 5 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to destroy, deface, damage, or move them from the land.

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (CoP) (DECCW 2010b) as adopted by the National Parks and Wildlife Regulation 2019 (NPW Regulation) made under the NPW Act, provides guidance to individuals and organisations to exercise due diligence when carrying out activities that *may* harm Aboriginal objects. This CoP also determines whether proponents should apply for consent in the form of an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the Act. The NPW Act provides that a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later unknowingly harm an object without an AHIP.

An Aboriginal Cultural Heritage Assessment Report (ACHAR, Appendix H, 2025), prepared by AMAC Archaeological, dated July 2025 was prepared due to the presence of an adjacent registered Aboriginal site, AHIMS Site #45-6-0715, on the sandstone outcrop, which includes Hornby Lighthouse.

Port Authority will obtain an AHIP prior to the works commencing, and mitigation measures outlined in the AHIP conditions will be followed and incorporated into the Construction Environmental Management Plan (CEMP) or Job Safety and Environmental Analysis (JSEA) for the works.

3.2.6 *Heritage Act 1977*

3.2.6.1 **s170 Heritage and Conservation Register & SOHI**

Section 170 of the *Heritage Act 1977* (NSW) requires State Government Agencies to establish and keep a Heritage and Conservation Register. Each Government Agency is responsible for ensuring that the items entered on its Heritage and Conservation Register are maintained with due diligence in accordance with the guidelines, "Heritage asset management guidelines, Heritage Council of NSW guidelines for state agencies" (DCCEEW, 2024). Hornby Lighthouse is listed on Port Authority's s170 Heritage and Conservation Register (SHI: **4560002**) and has been endorsed as having State significance (as part of South Head Cultural Landscape SHR 02071).

The *Heritage Act 1977* (NSW) contains the provisions for listing sites or places on the State Heritage Register (SHR). Hornby Lighthouse forms part of the South Head Cultural Landscape (including RMP 9-inch and 12-ton gun) listing, on the State Heritage Register (SHR **02071**).

Approvals for works and activities may be required by the Heritage Council under s 60 (works), or s 57 (exemptions) of the Act if the heritage asset is listed on the State Heritage Register.

Section 60 of the *Heritage Act 1977* (NSW) requires the NSW Heritage Council, as the approval body, to assess the potential impact of non-exempt works on the heritage significance of the State heritage listed Hornby Lighthouse.

A Statement of Heritage Impact (SOHI) (Appendix I) was prepared to accompany an application made under Section 60 of the *Heritage Act 1977* for the proposed works. The SOHI concluded that "there are no aspects of the proposal which could be detrimental to the significance of the subject site." The positive impacts of the proposal have been addressed in the SOHI, and are summarised here:

The following aspects of the proposal would respect the heritage significance of the subject site:

- The proposal does not involve any physical works to the significant fabric of Hornby Lighthouse;
- The proposed works are sub-ground and would have no visual impact to Hornby Lighthouse;
- The proposed works aims to improve upon the current surface and subsurface drainage at the site to avoid water accumulation on the Ground floor of the Hornby Lighthouse; and
- The archaeological assessment, prepared by AMAC Archaeological, dated March 2024, determined that there would be no negative impact to the value of the site.

Heritage NSW, as delegate of the Heritage Council of NSW, granted approval of the Section 60 application on 30/04/2025 (Appendix D). Requirements resulting from the Section 60 application approval have been incorporated into the Mitigation Measures in Section 6 of this MWREF.

3.2.6.2 **Archaeology**

The *Heritage Act 1977* (NSW) contains the provisions for the protection of relics. The *Heritage Act 1977* (NSW) defines a "relic" as follows:

"relic means 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."

Anyone excavating any land in New South Wales who knows that they are likely to discover, expose, move, damage or destroy a 'relic', or suspects that they might, must apply for an excavation permit from the Heritage Council (DCCEEW, 2024).

The following is an extract from the Hornby Lighthouse section of the Froig (National Parks and Wildlife Service, NPWS, 2008), as quoted in the SOHI (H21, March 2025):

HISTORICAL ARCHAEOLOGICAL RESOURCES

The Lighthouse precinct has the potential to yield information related to the initial construction of the complex and subsequent use and development of the area through the surviving archaeological material. It should be regarded as an area of high archaeological sensitivity.

In addition to the Lighthouse aspects, there is considerable material relating to the Military use and association with the headland which spans pre-Lighthouse to the present. Camp Cove is one of the most historic precincts of Sydney. The convict built cobblestone access road is of considerable significance and adds another dimension to the place which can contribute to the overall story of the headland (p. 21)'

A Baseline Archaeological Assessment (BAA) was prepared by AMAC Archaeological, dated March 2024 (located in Appendix J of this MWREF), and was submitted to Heritage NSW with the section 60 application. The BAA determined that there would be no negative impact to the values of the site, as no relics are known to exist within the study site boundary.

An Unexpected Finds Procedure is provided in the SOHI and has been added as a Mitigation Measure to section 6 of this MWREF.

3.2.7 Contaminated Lands Management Act 1997

Geo-Environmental Engineering Pty Ltd (GEE) prepared a Remedial Action Plan (RAP) for these ground remediation works, for Port Authority (Appendix A). The RAP is based on information contained within a preliminary and detailed site contamination investigation report that was completed by GEE in October 2024. The investigation area for the preliminary and detailed site investigation covered an area of approximately 700 m² and included readily accessible land around the lighthouse.

The RAP was prepared in accordance with the *Contaminated Land Management Act 1997* (NSW) and the associated guidelines endorsed by the NSW Environment Protection Authority (EPA), including the "Contaminated Land Planning Guidelines".

Following the execution of the remediation process, a validation report will be prepared. The objective of the validation report is to describe the completed remedial works and determine whether the site has been remediated to a standard that is suitable for the proposed land-use.

Relevant Mitigation Measures from the Remedial Action Plan (Appendix A), including the requirement for a validation report to be prepared following the execution of the remediation process, have been added to Section 6 of this MWREF.

3.3 State Environmental Planning Policies (SEPPs)

3.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP)

The works can be completed under section 2.80(2)(a) and 2.137 of the Transport and Infrastructure SEPP as development without consent.

3.3.1.1 Navigation and emergency response facilities

Section 2.80(2)(a) of Division 13 of the Transport and Infrastructure SEPP specifies that development for the purposes of navigation and emergency response facilities may be undertaken by or on behalf of a public authority without consent on any land.

“Navigation and emergency response facilities” are defined in clause 2.78 of Division 13 of the Transport & Infrastructure SEPP as:

navigation and emergency response facilities means facilities for—

- (a) water traffic control, safe navigation and other safety purposes (such as beacons, navigation towers, radar towers, communication facilities, vessel monitoring facilities, **lighthouses**, buoys, marine markers, pilot stations, jetties, breakwaters or training walls), and
- (b) emergency response, including rescue stations and emergency communication facilities and jetties.

Section 2.78(2) further clarifies that reference to development for the purpose of navigation and emergency response facilities, includes a reference to development for routine maintenance works and environmental management works in connection with the facilities.

As per clause 2.3(2) of Chapter 2 of the Transport and Infrastructure SEPP, **environmental management works** means—

- a) works for the purpose of avoiding, reducing, minimising or managing the environmental effects of development (including effects on water, soil, air, biodiversity, traffic or amenity), and
- b) environmental protection works.

Therefore, the proposed remediation work is considered “environmental management works” under Chapter 2 of the Transport and Infrastructure SEPP.

3.3.1.2 Stormwater management systems

Clause 2.137 of Division 13 of the Transport and Infrastructure SEPP specifies that ‘Development for the purposes of stormwater management systems may be carried out by or on behalf of a public authority without development consent.’

Where “Stormwater management systems” are defined in clause 2.136(1) of Division 20 of the Transport and Infrastructure SEPP as:

- a) works for the collection, detention, harvesting, distribution or discharge of stormwater (such as channels, aqueducts, pipes, **drainage works**, embankments, detention basins and pumping stations), and
- b) stormwater quality control systems (such as waste entrapment facilities, artificial wetlands, sediment ponds and riparian management), and
- c) stormwater reuse schemes.

Section 2.136(2) further clarifies that reference to development for the purpose of stormwater management systems includes a reference to development for routine maintenance works and environmental management works in connection with a stormwater management system.

3.3.2 State Environmental Planning Policy (Resilience & Hazards) 2021 (Resilience and Hazards SEPP)

3.3.2.1 Coastal Area considerations

The proposed activity is located in the Coastal Environment Area and Coastal Use Area under the Resilience and Hazards SEPP.

Clause 2.10 and 2.11 of the Resilience and Hazards SEPP provide matters for consideration by a consent authority for development within these areas. However, clause 2.10 and 2.11 of the Resilience and Hazards SEPP do not apply to the proposed activity as per section 2.7 of the Transport and Infrastructure SEPP, which states that “(1) *Except as provided by subsection (2), if there is an inconsistency between this Chapter and any other environmental planning instrument, whether made before or after the commencement of this Chapter, this Chapter prevails to the extent of the inconsistency.*”

Section 2.7(2) of the Transport and Infrastructure SEPP states that “Except as provided by subsections (2A), (3) and (4), if there is an inconsistency between a provision of this Chapter and any of the following provisions of another environmental planning instrument, the provision of the other instrument prevails to the extent of the inconsistency—

- a) [State Environmental Planning Policy \(Resilience and Hazards\) 2021](#), sections 2.7, 2.8 and 2.16

The Resilience and Hazards SEPP sections 2.7, 2.8 and 2.16 relate to activity carried out on or in proximity to coastal wetlands, littoral rainforests and coastal protection works, and do not apply to the proposed works.

The activity is development permitted without consent pursuant to Clause 2.80(2)(a) and 2.137 of the Transport and Infrastructure SEPP.

3.3.2.2 Category 2 remediation work

The following is an assessment of the soil remediation works against the Resilience & Hazards SEPP, Chapter 4 Remediation of Land, to determine whether the remedial works are:

- Category 2 remediation work: work not needing consent

Section 4.11 of the Resilience & Hazards SEPP states ‘For the purposes of this Chapter, a category 2 remediation work is	Assessment against section 4.8 of the Resilience and Hazards SEPP
a) a remediation work that is not a work of a kind described in section 4.8(a)–(f), or	The remediation works are work of a kind described in section 4.8(e).
b) a remediation work (whether or not it is a work of a kind described in section 4.8(a)–(f)) that—	The remediation works are work of a kind described in section 4.8(e).
i) by the terms of a remediation order, is required to be commenced before the expiry of the usual period under the Contaminated Land Management Act 1997 for lodgment of an appeal against the order, or Note: The usual period for lodgment of an appeal is 21 days or a period prescribed instead by regulations made under the Contaminated Land Management Act 1997 .	N/A. There is no remediation order in place.
ii) may be carried out without consent under another State environmental planning policy or a regional environmental plan (as referred to in section 4.16(4)), or	Yes. The proposed works may be carried out without consent under section 2.80(2)(a) and 2.137 of the Transport and Infrastructure SEPP. As per clause 4.16(4), ‘Clauses 4.13–4.15 apply to any remediation work according to the category of the work under this Chapter even if another State environmental planning policy or a

	<p>regional environmental plan also applies to the work.'</p> <p>The proposed works will adhere to clause 4.16(4) of the Resilience & Hazards SEPP – see section 4.2 of this MWREF.</p> <p>The proposed works are a category 2 remediation work not needing consent, as the remediation work is of a kind described in section 4.11(b)(ii).</p>
<p>iii) is carried out or to be carried out by or on behalf of the Director-General of the Department of Agriculture on land contaminated by the use of a cattle dip under a program implemented in accordance with the recommendations or advice of the Board of Tick Control under Part 2 of the Stock Diseases Act 1923, or</p>	<p>N/A. The proposed works are not related to a cattle dip.</p>
<p>iv) is carried out or to be carried out under the Public Land Remediation Program administered by the Broken Hill Environmental Lead Centre.</p>	<p>N/A. The proposed works are not related to the Public Land Remediation Program.</p>

As per the above, the proposed activity meets the criteria for Category 2 remediation work: **work not needing consent**.

The following is an assessment of the soil remediation works against the Resilience & Hazards SEPP, Chapter 4 Remediation of Land, to determine whether the remedial works are:

- Category 1 remediation work: work needing consent

<p>Section 4.8 of the Resilience & Hazards SEPP states 'For the purposes of this Chapter, a category 1 remediation work is a remediation work (not being a work to which section 4.11(b) applies) that is—</p>	<p>The remedial works are a work to which section 4.11(b)(ii) applies. See section 3.3.2.2 above.</p> <p>The works are a category 2 remediation work: work not needing consent.</p>
<p>(a) designated development, or</p>	<p>The proposed works are not designated development.</p>
<p>(b) carried out or to be carried out on land declared to be a critical habitat, or</p>	<p>The proposed works are not proposed to be carried out on land declared to be a critical habitat.</p>
<p>(c) likely to have a significant effect on a critical habitat or a threatened species, population or ecological community, or</p> <p><i>Note: See section 5A of the Environmental Planning and Assessment Act 1979 for the factors to be taken into account in assessing whether there is likely to be a significant effect as referred to in paragraph (c) above. The terms used in that paragraph are defined in that Act by reference to both the Threatened Species</i></p>	<p>The proposed works are not likely to have a significant effect on a critical habitat or a threatened species, population, or ecological community.</p> <p>See assessment in section 3.1.1 and section 3.2.4 of this MWREF.</p>

<p><i>Conservation Act 1995 and the Fisheries Management Act 1994.</i></p>	
<p>(d) development for which another State environmental planning policy or a regional environmental plan requires development consent, or</p>	<p>The proposed works do not require development consent in another SEPP (Transport and Infrastructure SEPP).</p> <p>The proposed works are permissible without development consent under section 2.80(1)(a) and 2.80(2)(a) and (b) of the Transport and Infrastructure SEPP.</p>
<p>(e) carried out or to be carried out in an area or zone to which any classifications to the following effect apply under an environmental planning instrument—</p> <ul style="list-style-type: none"> i. coastal protection, ii. conservation or heritage conservation, iii. habitat area, habitat protection area, habitat or wildlife corridor, iv. environment protection, v. escarpment, escarpment protection or escarpment preservation, vi. floodway, vii. littoral rainforest, viii. nature reserve, ix. scenic area or scenic protection, x. wetland, <p>or</p>	<p>Yes. The proposed works are in the following areas:</p> <ul style="list-style-type: none"> i) coastal protection. The subject site is located in the <i>Coastal Environment Area</i> and <i>Coastal Use Area</i> in the Resilience and Hazards SEPP. ii) conservation or heritage conservation. The subject site is located in the Watson Bay Heritage Conservation Area, the Hornby Lighthouse Group, and the South Head Cultural Landscape viii) Nature reserve. The subject site is located on Lot 415, DP 752011 and Part Lot 1, DP 605078. Lot 1, DP605078 is zoned C1: National Parks and Nature Reserves, in the Sydney Harbour National Park. <p>However, as per section 3.3.2.2 above, the proposed works are a category 2 remediation work not needing consent.</p>
<p>(f) carried out or to be carried out on any land in a manner that does not comply with a policy made under the contaminated land planning guidelines by the council for any local government area in which the land is situated (or if the land is within the unincorporated area, the Minister).’</p>	<p>The proposed works are a category 2 remediation work not needing consent and will be carried out in accordance with the contaminated land planning guidelines and guidelines in force under the <i>Contaminated Land Management Act 1997</i> (in accordance with clause 4.14 of the Resilience and Hazards SEPP), and endorsed by the NSW Environment Protection Authority (EPA), including:</p> <ul style="list-style-type: none"> • the NSW Environment Protection Authority (NSW EPA, 2020) <i>Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites</i> • and NEPM (2013) Schedule B(2) <i>Guideline on Site Characterisation</i> (Australian Government, 2013)

A Remedial Action Plan (RAP) has been prepared (see Appendix A) and addresses the requirements of the Resilience and Hazards SEPP by determining the suitability of the site for the proposed land-use and possible constraints on the proposed development.

A Validation Report will be prepared upon completion of the works. The Validation Report will be prepared in accordance with the requirements of the *EPA Contaminated Land Guidelines: Consultants Reporting on Contaminated Land* (NSW Environment Protection Authority, May 2020) and will outline the results of the

remediation works undertaken at the site and include an assessment of the suitability of the site for the proposed use.

3.3.3 State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP)

The Planning Systems SEPP specifies provisions related to state and regional development, Aboriginal land and concurrences and consents.

Chapter 2 State and Regional Development

Chapter 2 of the Planning Systems SEPP identifies development that is State Significant Development, State Significant Infrastructure or critical State Significant Infrastructure and Regionally Significant Development.

The proposed works are not State Significant Development as they do not meet the criteria of Part 2.2 and Schedules 1 and/or 2 of the Planning Systems SEPP.

Schedule 1 of the Planning Systems SEPP, section 24 specifies the following as State Significant Development:

- 1) Development for the purpose of remediation of land that is category 1 remediation work on significantly contaminated land if the work is required to be carried out under the [Contaminated Land Management Act 1997](#) by a management order that requires—
 - a. the taking of action of the kind referred to in section 16(d) or (g) of that Act, or
 - b. the preparation of a plan of management that provides for the taking of any such action.
- 2) In this section, **category 1 remediation work** and **remediation** have the same meanings as in [State Environmental Planning Policy No 55—Remediation of Land](#).

As assessed in section 3.3.2.2 and section **Error! Reference source not found.** of this MWREF, the remediation of land is category 2, not category 1 remediation work.

The proposed works are not State Significant Infrastructure as:

- Port Authority being the proponent and determining authority, through the environmental assessment undertaken in this REF and associated specialist assessments, has formed the opinion that the project would not require the preparation of an Environmental Impact Statement under Part 5 of the EP&A Act 1979 (Schedules 1, 2 or 3 of the Planning Systems SEPP); and
- They are not on land specified in Schedule 4 of the Planning Systems SEPP.

The proposed works are not regionally significant development as it is development for which development consent is not required as described above in Section 3.3.1.

3.4 Local Environmental Plans (LEPs)

The subject site is located at South Head, within the Sydney Harbour National Park, which falls within the boundaries of the Woollahra Local Government Area (LGA), and it comprises Lot 415, Deposited Plan (DP) 752011 and Part Lot 1, DP 605078.

- Lot 415, DP752011 is zoned: SP2 Infrastructure (Navigation & Emergency Response Facility), within the Woollahra Local Environment Plan (WLEP) 2014 and
- Lot 1, DP605078 is zoned: C1 National Parks and Nature Reserves (see **Figure 3-1** below), within the WLEP 2014.

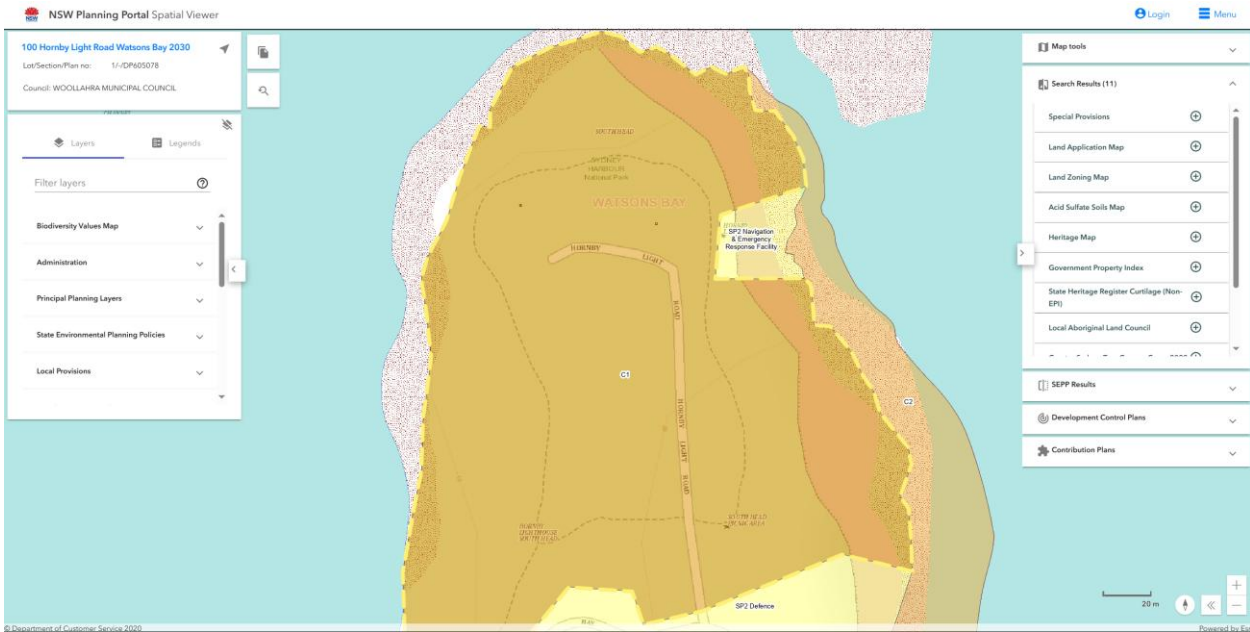


Figure 3-1 Zoning map (source: NSW e-planning viewer, accessed 28/04/2025).



Figure 3-2 Map showing Lot 415, DP 752011 highlighted in yellow (source: Six Maps, accessed 28/04/2025).

Part 2 of the LEP sets out the zoning objectives and the permitted uses. The objectives of each zone are discussed for the proposed activity below.

Zone SP2 Infrastructure

The objectives of this zone are as follows:

- To provide for infrastructure and related uses.
- To prevent development that is not compatible with or that may detract from the provision of infrastructure.
- To encourage the retention and planting of trees and other vegetation as part of development to minimise the urban heat island effect and to improve microclimates.

The proposed activity is consistent with the above objectives.

Zone C1 National Parks and Nature Reserves

The objectives of this zone are as follows:

- To enable the management and appropriate use of land that is reserved under the *National Parks and Wildlife Act 1974* or that is acquired under Part 11 of that Act.
- To enable uses authorised under the *National Parks and Wildlife Act 1974*.
- To identify land that is to be reserved under the *National Parks and Wildlife Act 1974* and to protect the environmental significance of that land.

Regarding permissibility, as described above in section 3.3.1 of this MWREF, the activity is development permitted without consent under section 2.80(2)(a) and 2.137 of the Transport and Infrastructure SEPP.

Clause 1.9 of the LEP, Clause 2.7(1) of the Transport and Infrastructure SEPP and Section 3.28 of the EP&A Act clarify that the Transport and Infrastructure SEPP prevails over the LEP to the extent of any inconsistencies.

4 Consultation

4.1 Transport and Infrastructure SEPP consultation

Part 2.2 General, Division 1, of the Transport and Infrastructure SEPP prescribes consultation to be undertaken by a public authority prior to the commencement of certain activities. A review of the Transport and Infrastructure SEPP consultation requirements for the proposal is provided in **Table 4-1** and

Table 4-2.

Table 4-1 Transport and Infrastructure SEPP consultation requirements – Council consultation

Transport and Infrastructure SEPP section	Is consultation with Council required under section 2.10-2.14 and 2.111 of the Transport and Infrastructure SEPP?	Yes/No
2.10(1)(a)	Are the works likely to have a substantial impact on the stormwater management services which are provided by council?	No
2.10(1)(b)	Are the works likely to generate traffic to an extent that will strain the capacity of the existing road system in a local government area?	No
2.10(1)(c)	Will the works involve connection to, and a substantial impact on the capacity of, any part of a sewerage system owned by a council?	No
2.10(1)(d)	Will the works involve connection to, and use of a substantial volume of water from, any part of a water supply system owned by a Council?	No
2.10(1)(e)	Will the works involve the installation of a temporary structure on, or the enclosing of, a public place that is under a council's management or control that is likely to cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential? No.	No
2.10(1)(f)	Will the works involve excavation that is not minor or inconsequential of the surface of, or a footpath adjacent to, a road for which council is the roads authority under the <i>Roads Act 1993 (NSW)</i> (if the public authority that is carrying out the development, or on whose behalf it is being carried out, is not responsible for the maintenance of the road or footpath)?	No
2.11	Is there a local heritage item (that is not also a state heritage item) or a heritage conservation area in the study area for the works? If yes, does a heritage assessment indicate that the potential impacts to the heritage significance of the item/area are more than minor or inconsequential? Yes. The Hornby Lighthouse is listed as a local heritage item on the Woollahra LEP. However, the Hornby Lighthouse is also State Heritage listed, so section 2.11 does not apply to these works. In addition, the heritage assessment undertaken (SOHI, Heritage21, 2005) indicates that the potential	No

Transport and Infrastructure SEPP section	Is consultation with Council required under section 2.10-2.14 and 2.111 of the Transport and Infrastructure SEPP?	Yes/No
	impacts to the heritage significance to Hornby Lighthouse are no more than minor.	
2.12	Are the works located on flood liable land? If so, will the works change flooding patterns to more than a minor extent?	No
2.14	Is the proposal within the coastal vulnerability area (identified under the <i>Coastal Management Act 2016 (NSW)</i>) and inconsistent with a certified coastal management program applying to that land (identified under the <i>State Environmental Planning Policy (Resilience and Hazards) 2021 - Coastal Management</i>)?	No
2.111(1)(a)	Does the proposal include a car park intended for the use by commuters using regular bus services?	No
2.111(1)(b)	Does the project propose a bus depot?	No
2.111(1)(c)	Does the project propose a permanent road maintenance depot or associated infrastructure, such as garages, sheds, tool houses, storage yards, training facilities and workers amenities?	No

Table 4-2 Transport and Infrastructure SEPP consultation requirements – consultation with other public authorities

Transport and Infrastructure SEPP section	Is consultation with public authorities other than councils required under section 2.13, 2.15 and 2.16 of the Transport and Infrastructure SEPP?	Yes/No
2.13	Are the works located on flood liable land (to any extent)? If so, do the works comprise more than minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance?	No
2.15(2)(a)	Are the works adjacent to a national park, nature reserve or other area reserved under the <i>National Parks and Wildlife Act 1974</i> , or on land acquired under Part 11 of that Act? If yes, a public authority, or a person acting on behalf of a public authority, must not carry out specified development that this Chapter provides may be carried out without consent unless the authority or person has— a) given written notice of the intention to carry out the development (together with a scope of works) to the specified authority in relation to the development, and b) taken into consideration any response to the notice that is received from that authority within 21 days after the notice is given.	Yes

Transport and Infrastructure SEPP section	Is consultation with public authorities other than councils required under section 2.13, 2.15 and 2.16 of the Transport and Infrastructure SEPP?	Yes/No
	<p>The subject site is located on Lot 415, DP 752011 in the Sydney Harbour National Park. The subject site is also on Part Lot 1, DP 605078, adjacent to the Sydney Harbour National Park.</p> <p>Port Authority provided NPWS with the MWREF and will obtain their Decision Statement, as a co-determining authority for the works. Port Authority has been liaising with NPWS about the activity for many months, including obtaining NPWS support for the application made under Section 60 of the Heritage Act 1977 and the AHIP application. Comments were incorporated into the MWREF and will be observed in the Construction Environmental Management Plan (CEMP) or JSEA for the project.</p>	
2.15(2)(b)	<p>Are the works on land in Zone C1 National Parks and Nature Reserves or in a land use zone equivalent to that zone, other than land reserved under the <i>National Parks and Wildlife Act 1974</i>?</p> <p>The subject site is located on Lot 415, DP 752011 and Part Lot 1, DP 605078. Lot 1, DP605078 is zoned C1: National Parks and Nature Reserves.</p> <p>Port Authority provided NPWS with the MWREF and will obtain their Decision Statement, as a co-determining authority for the works. Port Authority has been liaising with NPWS about the activity for many months, including obtaining NPWS support for the application made under Section 60 of the Heritage Act 1977 and the AHIP application. Comments were incorporated into the MWREF and will be observed in the Construction Environmental Management Plan (CEMP) or JSEA for the project.</p>	Yes
2.15(2)(c)	<p>Are the works involving a fixed or floating structure in or over navigable waters?</p>	No
2.15(2)(d)	<p>Would the works increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? (Note: the dark sky region is within 200 kilometres of the Siding Spring Observatory).</p>	No
2.15(2)(e)	<p>Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in clause 5.15 of Lockhart LEP 2012, Narrandera LEP 2013 and Urana LEP 2011).</p>	No
2.15(2)(f)	<p>Are the works on land in a mine subsidence district within the meaning of the <i>Coal Mine Subsidence Compensation Act 2017</i>?</p>	No
2.16(1)	<p>Are the works for the purpose of residential development, a health services facility, correctional centre or group home, in an area that is bush fire prone land?</p>	No

4.2 Agency and Statutory consultation

Other consultation to be undertaken by Port Authority is provided in **Table 4-3**.

Table 4-3 Other consultation requirements

Consultation trigger	Authority	Consultation requirement	Yes / No
<p>Clause 4.16(4) Resilience and Hazards SEPP</p>	<p>Woollahra Municipal Council</p>	<p>As per clause 4.16(4) of the Resilience and Hazards SEPP, 'Clauses 4.13–4.15 apply to any remediation work according to the category of the work under this Chapter even if another State environmental planning policy or a regional environmental plan also applies to the work.'</p> <p>The works are permissible without consent under clause 2.80(2)(a) and 2.137 of the Transport and Infrastructure SEPP – see section 3.3.1 of this MWREF.</p> <p>The works are a category 2 remediation work (work not needing consent) under the Resilience and Hazards SEPP – see section 3.3.2.2 of this MWREF.</p> <p>Clause 4.13 states:</p> <ol style="list-style-type: none"> 1) A person who proposes to carry out a category 2 remediation work on any land must give notice of the proposed work to the council for the local government area in which the land is situated (or, if the land is within the unincorporated area, to the Minister). 2) The notice must be given— <ol style="list-style-type: none"> a. at least 30 days before the commencement of the work, except in the case of a work referred to in section 4.11(b), and b. in the case of a work referred to in section 4.11(b)—no later than the day before the commencement of the work. 3) The notice must— <ol style="list-style-type: none"> a. be in writing, and b. provide the name, address and telephone number of the person who has the duty of ensuring that the notice is given, and c. briefly describe the remediation work, and d. show why the person considers that the work is category 2 remediation work by reference to sections 4.8, 4.11 and (if it applies) 4.12(1), and e. specify, by reference to its property description and street address (if any), the land on which the work is to be carried out, and f. provide a map of the location of the land, and g. provide estimates of the dates for the commencement and completion of the work. <p>Port Authority will give notice of the proposed work to Woollahra Municipal Council by providing them with a copy of the final MWREF for information prior to the works commencing and no later than the day before the commencement of the work. The notice will include the name, address and telephone number of the person who has the duty of ensuring that the notice is given.</p> <p>Clause 4.14 states</p> <ol style="list-style-type: none"> 1) All remediation work must, in addition to complying with any requirement under the Act or any other law, be carried out in accordance with— <ol style="list-style-type: none"> a. the contaminated land planning guidelines, and b. the guidelines (if any) in force under the Contaminated Land Management Act 1997, and 	<p>Yes Appendix C</p>

Consultation trigger	Authority	Consultation requirement	Yes / No
		<p>c. in the case of a category 1 remediation work—a plan of remediation, as approved by the consent authority, prepared in accordance with the contaminated land planning guidelines.</p> <p>2) A notice of completion of remediation work on any land must be given to the council for the local government area in which the land is situated (or, if the land is within the unincorporated area, to the Minister).</p> <p>3) The notice is to be given within 30 days after the completion of the work.</p> <p>4) A copy of the notice must also be given within the same period to the consent authority, if consent was required for the remediation work and the consent authority is not one of the authorities referred to in subsection (2).</p> <p>The works will be carried out in accordance with the contaminated land planning guidelines and guidelines in force under the <i>Contaminated Land Management Act 1997</i> (in accordance with clause 4.14 of the Resilience and Hazards SEPP), and endorsed by the NSW Environment Protection Authority (EPA), including:</p> <ul style="list-style-type: none"> • the NSW Environment Protection Authority (NSW EPA, 2020) <i>Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites</i>, and • NEPM (2013) Schedule B(2) <i>Guideline on Site Characterisation</i> (Australian Government, 2013). <p>Port Authority will provide Woollahra Municipal Council with a notice of completion of remediation work within 30 days after the completion of the work.</p> <p>Clause 4.15 states that ‘The notice required by section 4.14(2) must—</p> <ol style="list-style-type: none"> a) be in writing prepared and signed by the person who carried out the work, and b) provide the person’s name, address and business telephone number, and c) provide details of the person’s qualifications to carry out the work, and d) specify, by reference to its property description and street address (if any), the land on which the work was carried out, and e) provide a map of the location of the land, and f) state when the work was completed, and g) specify the uses of the land, and the substances, that contaminated it in such a way as to present a risk of harm to human health or some other aspect of the environment, and h) specify the uses of the land immediately before the work started, and i) briefly describe the method of remediation used in the work, and j) specify the guidelines that were complied with in the work, and k) specify the standard of remediation achieved (in the light of the use proposed for the land), and l) show in what manner the work (if a category 1 remediation work) complied with the conditions of the relevant development consent, and 	

Consultation trigger	Authority	Consultation requirement	Yes / No
		<p>m) state what action must be maintained in relation to the land after the completion of the remediation work if the standard of remediation achieved is to be maintained.</p> <p>Port Authority will provide Woollahra Municipal Council with a notice of completion of remediation work in the form of a Validation Report, which will address requirements of clause 4.15.</p>	

4.3 Community consultation

The closest sensitive receivers to the works are NPWS staff and offices and visitors to the national park.

Port Authority is to inform NPWS staff and visitors of the timing of the works.

5 Other Approvals

Trigger	Authority	Requirements	Yes / No
REF Division 5.1 Guidelines	NPWS	<p>Landowner's consent was obtained from NPWS.</p> <p>Port Authority provided NPWS with the MWREF and will obtain their Decision Statement, as a co-determining authority for the works.</p>	Yes – Appendix K

6 Environmental Assessment

6.1 General

Reference	Mitigation Measure	Timing	Responsibility
G-1	<p>A Construction Environmental Management Plan (CEMP) or Job Safety and Environmental Analysis (JSEA) will be prepared to describe how the activity would be managed through the construction phase in order to minimise and manage potential environmental impacts. The CEMP will include, but not be limited to the following components:</p> <ul style="list-style-type: none"> i. A description of construction works, including an indication of stages of construction, where relevant. ii. location of active work and storage areas iii. Statutory and other obligations required to be fulfilled during construction, including approvals, consultations and agreements required from regulatory authorities and other relevant stakeholders. iv. Issue specific sub-environmental management plans, where required. v. A description of the roles and responsibilities for relevant employees involved in the construction of the activity. vi. An environmental risk assessment in order to identify potentially high-risk construction works. vii. Environmental management and mitigation practices and procedures to be implemented during each stage of the activity, including: <ul style="list-style-type: none"> a. measures to protect areas of environmental sensitivity including reporting and communication pathways b. measures to protect Aboriginal Cultural Heritage including reporting and communication pathways c. environmental safeguards, including water pollution controls, waste management, and management of hazardous substances d. site rehabilitation including management of contaminated materials and soils e. vehicle and pedestrian access arrangements, including parking f. public safety, including location, design and timeframes of information signage and public relations media releases by Port Authority. 	Prior to commencement of works	Contractor

Reference	Mitigation Measure	Timing	Responsibility
	<p>viii. Details of how the environmental performance of the construction works would be monitored, and what actions would be taken to address identified adverse environmental impacts.</p> <p>ix. Environmental incident management and reporting procedures and protocols, including reporting pathways.</p> <p>x. Details of environmental training and awareness including site inductions.</p> <p>xi. Complaints handling procedures during construction of the activity.</p> <p>xii. Contact protocols outlining procedures and any notifications to be given before works commence, together with contact details for the project manager and the NPWS Sydney South Area Manager and Ranger</p> <p>The CEMP/JSEA will be a working document, subject to ongoing review and update as necessary to respond to changes to any information contained in the CEMP/JSEA or its sub-plans and to take account of events or circumstances which will or may affect the works. Where appropriate, it is essential that the CEMP/JSEA considers and incorporates all measures and requirements set out in the Remedial Action Plan (RAP), the Section 60 Approval, the AHIP, and the ACHAR (the latter only where not in conflict with the AHIP).</p>		
G-2	The CEMP / JSEA will be submitted to the NPWS Greater Sydney Branch Director or delegate for approval at least 14 days prior to the commencement of the activity. Port Authority and the Contractor will comply with all measures identified in the approved CEMP / JSEA.	Prior to commencement of works	Port Authority / Contractor
G-3	<p>Work must only be conducted between the following hours:</p> <ul style="list-style-type: none"> • Monday to Friday: 7am – 6pm. • Saturday: 8am – 1pm. • Sunday and Public Holidays: No works. <p>Any proposed out of hours works will need to be pre-approved by Port Authority and the NPWS Sydney South Area Manager, unless as otherwise stated in Section 2.4.2 of this MWREF.</p>	Prior to commencement of works/during works	Contractor
G-4	All personal working on site will receive training to ensure awareness of environment protection and impact mitigation requirements to be implemented during the activity. This will include up-front site induction and regular “toolbox” style briefings.	Prior to commencement of works	Contractor
G-5	The REF is to be published on the Port Authority website in accordance with clause 171(4) of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation).	Prior to commencement of works	Port Authority

Reference	Mitigation Measure	Timing	Responsibility
G-6 (s60 approval condition no. 7)	<p>Duration of approval</p> <p>Port Authority must have commenced the activity within 5 years from the date of determination.</p> <p>The s60 approval will lapse five years from the date of the consent unless the building works associated with the approval have physically commenced.</p> <p><i>Reason: To ensure the timely completion of works.</i></p>	Prior to commencement of works	Port Authority
G-7	<p>Notwithstanding any other conditions of this determination, in the event that emergency works are required, Port Authority must take all reasonable steps to ensure that these occur as expeditiously as possible. Emergency works are generally works of a temporary and reversible nature which are urgently required to arrest an imminent threat to life, safety, public liability, and/or threat to fabric or property.</p> <p>In the event that emergency works are undertaken Port Authority will contact the NPWS Greater Sydney Branch Director or delegate to seek direction on any further procedures to be implemented.</p>	During works	Port Authority
G-8	<p>Port Authority will provide the following to the NPWS Greater Sydney Branch Director or delegate prior to commencement of the activity:</p> <ul style="list-style-type: none"> • the contact details and qualifications of a person who will be present on site to supervise the activity • a list of contractors or subcontractors who will be involved in undertaking the activity. 	Prior to commencement of works	Port Authority
G-9	<ul style="list-style-type: none"> • Port Authority will determine whether any other approvals are required for any associated works that are to occur outside this area. • The 'activity' detailed in the MWREF will be undertaken: <ul style="list-style-type: none"> ○ at the location identified in the MWREF ○ in accordance with the description of the activity and environmental safeguards or mitigation measures listed in the MWREF <p>Port Authority will undertake the activity in accordance with the requirements of the <i>Work Health and Safety Act 2011</i>, including codes of practice adopted under the Act, and the <i>Work Health and Safety Regulation 2017</i>. Any contractors on the site are to have appropriate insurances, including public liability insurance.</p>	Prior to commencement of works	Port Authority
G-10	A copy of the MWREF, the determination and NPWS Conditions of Determination will be kept at the site to which the MWREF applies.	During works	Contractor

Reference	Mitigation Measure	Timing	Responsibility
G-11	The MWREF, the determination and Conditions of Determination must be available for inspection by any employee or agent of Port Authority working at the site, and any officer of NPWS.	During works	Contractor

6.2 Aboriginal heritage

One registered site, AHIMS Site #45-6-0715, adjoining the study area, was relocated during the archaeological survey. Previously, these were not recorded within the proposed works area, however a potential for further engravings or objects of archaeological significance is present for areas that are buried.

Construction impacts: The statement of impact to aboriginal cultural heritage included in the ACHAR provided the following assessment: “No significant excavation or site modification is planned, with the proposed works limited to improving the ground surface surrounding the lighthouse. The impacts of works consist of replacement of soils and improvement of site drainage. Removal of contaminated soils does have potential to reveal additional engravings within ASZ3 and impacts are to be reduced through monitoring and small-scale excavation with hand tools. ASZ1 is to be sectioned off during works to avoid unnecessary inadvertent damage. Following these protocols, impacts are predicted to be nil - low for Aboriginal heritage values.”

The proposed activity must comply with the conditions to be established by the Aboriginal Heritage Impact Permit (AHIP) and the recommendations of the ACHAR (included as mitigation measures below), unless these are inconsistent with the AHIP conditions, in which case the AHIP conditions will prevail.

Operational impacts: none

Reference	Mitigation Measure	Timing	Responsibility
AH-1	An AHIP is to be applied for, for the full extent of remediation and drainage improvement works. No works are to commence before the AHIP is obtained.	Prior to commencement of works	Port Authority
AH-2	All conditions and mitigation measures established by the AHIP must be complied with and included in the CEMP/JSEA. If there is any inconsistency between the Aboriginal heritage-related mitigation measures described below and the AHIP, the provisions of the AHIP shall prevail.	Prior to commencement of works/during works	Port Authority, Contractor, Archaeologist, Aboriginal Stakeholders
AH-3 (ACHAR policy no. 2)	Before any ground disturbance takes place, all development staff, contractors and workers should complete a Cultural Awareness Induction (can be in the form of a toolbox talk) and be briefed as to the site zoning.	Prior to commencement of works	Contractor
AH-4	In accordance with the <i>Code of Practice</i> (DECCW, 2010b) remedial soil and drainage works shall be monitored under an AHIP. <ul style="list-style-type: none"> An archaeologist must be present to monitor key stages of the works when Aboriginal objects and/or features of Aboriginal and cultural significance might be discovered. Aboriginal stakeholders (one of whom must be a land council member) must also be notified and given the opportunity to be present as cultural heritage officers to monitor the works during these key stages. 	Prior to commencement of works/during works	Port Authority, Archaeologist, Aboriginal stakeholders

Reference	Mitigation Measure	Timing	Responsibility
	<ul style="list-style-type: none"> If no engravings or artefacts are identified through the physical examination of bedrock and contaminated soils, then a supervising archaeologist can then confirm that works may continue without further archaeological monitoring. 		
AH-5	Fencing will be erected around any accessible areas of ASZ3 which contains Registered AHIMS Site 45-6-0715. This is to ensure the already weathered engravings are not unnecessarily eroded or damaged further by foot traffic or movement of tools.	Prior to commencement of works	Contractor
AH-6	A further zone for laying down of tools should be created, outside of the immediate works area.	Prior to commencement of works	Contractor
AH-7	All manual excavation work will use tools that will minimise the likelihood for chipping bedrock. If possible, a 'tools protection area' or 'safe landing area' for tools to be stored when not in use should be made. This is to avoid inadvertent damage to sandstone when moving tools.	During works	Contractor
AH-8	As part of the proposed works, contaminated soils are to be replaced with clean, introduced soil, with a protective geofabric barrier overlying the sandstone. It is recommended that the introduced material consist of non-acidic aggregate and soils. This will ensure the runoff that passes through this material will not erode the sandstone more rapidly.	Prior to commencement of works/during works	Contractor
AH-9	Any engravings or artefacts identified will be recorded in accordance with the <i>Code of Practice</i> , (DECCW, 2010b) and the Site Card for AHIMS #45-6-0715 will be amended.	During works	Contractor / Archaeologist
AH-10	<p>Unexpected Finds</p> <p>Any cultural material and/or objects that are identified on site shall be subject to an Unexpected Finds Protocol.</p> <p>Should a suspected Aboriginal archaeological site or object be identified at any point during the construction of the proposal, the following Unexpected Finds Procedure is to be implemented:</p> <ol style="list-style-type: none"> All works in the area must cease immediately to prevent any further impacts to the site: Port Authority's Project Manager must be notified immediately by the Contractor. A suitably qualified archaeologist is to be engaged by the Contractor immediately to determine the nature, extent and significance of the find and provide the appropriate management advice to Port Authority for review and approval prior to implementation by the Contractor. Archaeologist is to record any engravings or artefacts identified in accordance with the <i>Code of Practice</i>, (DECCW, 2010b) and amend the Site Card for AHIMS #45-6-0715. 	During works	Contractor / Archaeologist

Reference	Mitigation Measure	Timing	Responsibility
	5. Work must not recommence until written advice to do so has been provided by NPWS.		
AH-11	<p>If, during the course of the activity, any human skeletal remains are located, Port Authority will:</p> <ul style="list-style-type: none"> immediately cease the activity and not further harm these remains secure the area so as to avoid further harm to the remains notify the Port Authority Project Manager notify the local police as soon as practicable and at that time provide any available details about the nature and location of the remains notify the NPWS Great Sydney Branch Director or delegate, and recommence the activity only after receiving confirmation in writing from the local police or Heritage NSW that it is appropriate to do so. 	During works	Contractor / Archaeologist
AH-12	The results of monitoring works are to be built into a final report. Any newly identified sites are to be recorded, with this built into the final report and site card.	During works	Port Authority
AH-13	All cultural material and/or objects collected from the site may be subject to a Care and Control Agreement in consultation with the Aboriginal stakeholders.	During works	Port Authority

6.3 Non-Aboriginal heritage

Construction impacts: The SOHI concluded that there are no aspects of the proposal which could be detrimental to the significance of the subject site. The positive impacts of the proposal are outlined in section 3.2.6 of this MWREF. The following condition of the s60 approval (**Error! Reference source not found.**) are to be followed.

Operational impacts: none

Reference	Mitigation Measure	Timing	Responsibility												
Her-1 (s60 approval, condition no. 1)	<p>All work shall comply with the information contained within:</p> <p>a) Drawings, prepared by PUCH Construction and Building as listed below:</p> <table border="1"> <thead> <tr> <th>Dwg No</th> <th>Dwg Title</th> <th>Date</th> <th>Rev</th> </tr> </thead> <tbody> <tr> <td colspan="4">Project Name: Hornby Lighthouse Restoration Project</td> </tr> <tr> <td>--</td> <td>Typical Drainage Plan</td> <td>18-04-2025</td> <td>-</td> </tr> </tbody> </table>	Dwg No	Dwg Title	Date	Rev	Project Name: Hornby Lighthouse Restoration Project				--	Typical Drainage Plan	18-04-2025	-	Prior to commencement of works	Contractor
Dwg No	Dwg Title	Date	Rev												
Project Name: Hornby Lighthouse Restoration Project															
--	Typical Drainage Plan	18-04-2025	-												

Reference	Mitigation Measure	Timing	Responsibility
	<p>b) Report: Statement of Heritage Impact – Proposed Drainage Works at Hornby Lighthouse (including Appendices), prepared by Heritage 21, dated March 2024.</p> <p>c) Report: Baseline Archaeological Assessment – Hornby Lighthouse, Watsons Bay, prepared by AMAC Archaeological, March 2024.</p>		
Her-2 (s60 approval, condition no. 2)	<p>Heritage consultant</p> <p>A suitably qualified and experienced heritage consultant must be nominated for this project. The nominated heritage consultant must provide input into the detailed design, provide heritage information to be imparted to all tradespeople during site inductions, and oversee the works to minimise impacts to heritage values. The nominated heritage consultant must be involved in the selection of appropriate tradespersons and must be satisfied that all work has been carried out in accordance with the conditions of this consent.</p> <p><i>Reason: So that appropriate heritage advice is provided to support best practice conservation and ensure works are undertaken in accordance with this approval.</i></p>	Prior to commencement of works	Port Authority
Her-3 (s60 approval, condition no. 3)	<p>Specialised tradespersons</p> <p>All work to, or affecting, significant fabric shall be carried out by suitably qualified tradespersons with practical experience in conservation and restoration of similar heritage structures, materials and construction methods.</p> <p><i>Reason: So that the construction, conservation and repair of significant fabric follows best heritage practice.</i></p>	Prior to commencement of works/during works	Contractor
Her-4 (s60 approval, condition no. 4)	<p>Site protection</p> <p>Significant built and landscape elements are to be protected during site preparation and the works from potential damage. Protection systems must ensure significant fabric, including landscape elements, is not damaged or removed.</p> <p><i>Reason: To ensure significant fabric including vegetation is protected during construction.</i></p>	Prior to commencement of works	Contractor
Her-5 (s60 approval, condition no. 5)	<p>Unexpected Finds</p> <p>The Applicant must ensure that if substantial intact archaeological deposits and/or State significant relics or any other buried fabric such as works not identified in Baseline Archaeological Assessment – Hornby Lighthouse, Watsons Bay, prepared by AMAC Archaeological, March 2024, are discovered, work must cease in the affected areas(s) and the Heritage Council of NSW must be</p>	During works	Contractor

Reference	Mitigation Measure	Timing	Responsibility
(NPWS condition no. 19)	<p>notified. Additional assessment and approval may be required prior to works continuing in the affected areas(s) based on the nature of the discovery.</p> <p>Work must not recommence until written advice to do so has been provided by NPWS.</p> <p><i>Reason: All significant fabric within a State Heritage Register curtilage should be managed according to its significance. This is a standard condition to identify to the applicant how to proceed if historical archaeological relics, or other unexpected buried discoveries such as works are identified during the approved project.</i></p>		
Her-6 (s60 approval, condition no. 6)	<p>Compliance</p> <p>If requested, the applicant and any nominated heritage consultant may be required to participate in audits of Heritage Council of NSW approvals to confirm compliance with conditions of consent.</p> <p><i>Reason: To ensure that the proposed works are completed as approved.</i></p>	Prior to commencement of works/during works	Port Authority / Contractor

6.4 Waste management / contamination

Construction impacts: The proposed ground remediation and drainage improvement works would result in soil waste (general waste and hazardous waste), as shown in **Figure 2-8** in section 2.2.2.2 of this MWREF.

Operational impacts: none.

Reference	Mitigation Measure	Timing	Responsibility
W-1	<p>The management of the contamination remediation and associated waste must be carried out in strict accordance with the recommendations outlined in the Remedial Action Plan (RAP).</p> <p>Wastes will be managed using the waste hierarchy principles of:</p> <ul style="list-style-type: none"> ○ Avoidance of unnecessary resource consumption to reduce the quantity of waste being generated ○ Recovery of resources for reuse on-site or off-site for the same or similar use, without reprocessing ○ Recovery of resources through recycling and reprocessing so that waste can be processed into a similar non-waste product and reused ○ Disposal of residual waste. 	During works	Contractor

Reference	Mitigation Measure	Timing	Responsibility
W-2	<p>Waste generated at the site from works undertaken as part of the activity must be managed in accordance with the <i>Protection of the Environment (Waste) Regulation 2014</i>.</p> <p>All waste will be assessed, classified, managed, transported and disposed of in accordance with the NSW EPA Waste Classification Guidelines (NSW Environment Protection Authority, 2014), with appropriate records and disposal docketts retained for audit purposes. Any waste to be disposed of off-site will be disposed at a facility approved to receive that type of waste.</p> <p>Removal of any asbestos-containing material must be undertaken in accordance with <i>Working with Asbestos: Guide 2008</i> published by the WorkCover Authority and relevant codes of practice released by SafeWork NSW.</p>	During works	Contractor
W-3	Waste streams would be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.	During works	Contractor
W-4	<p>Controlled Excavation and Disposal of Contaminated Material</p> <p>The soil within the remediation area should be excavated under the direction of an experienced environmental scientist or engineer with expertise in remediation or relevant environmental management experience. Full-time supervision is not expected to be warranted, although as a minimum an inspection should occur at the commencement of the excavation work to confirm with the contractor the remediation goals, extent and to reiterate the need to avoid any cross contamination through the cleaning of equipment, segregating waste materials and/or clearly marking out the clean zones.</p>	During works	Contractor
W-5	Following removal of the contaminated soil, a programme of soil validation is to be implemented as described in Section 10 of the RAP. The soil validation program will be focused on surrounding soil beyond the remediation area. Within the remediation area an inspection will be required to ensure all the soil has been removed.	During works	Contractor
W-6	<p>Backfilling of the remediation area is to be completed using validated imported fill comprising Virgin Excavated Natural Material (VENM). Excavations may also be reinstated using Excavated Natural Material (ENM), provided the material meets the requirements of the order and exemption issued by NSW EPA for the material.</p> <p>Details of any ENM used on the site, including to the requirements of the exemption and compliance with the exemption, are required to be contained in the Validation Report.</p>	During works	Contractor
W-7	Validation of Imported Clean Fill	During works	Contractor

Reference	Mitigation Measure	Timing	Responsibility
	<p>Imported fill will be validated as suitable for use on the site by application of the following methods</p> <ul style="list-style-type: none"> Imported fill material must be accompanied by documentation, which certifies that it is VENM or ENM. Unless the material is certified quarry material from a recognised provider, the documentation must include laboratory analysis. Additionally, appropriate Quality Assurance/Quality Control samples must be collected as part of the analysis program. VENM supplied material should include analytical results and a copy of the VENM certificate. If not, then the material is to be sampled at the source site prior to delivery by GEE at a rate of one sample per 50m³ provided the material is homogenous. Concentrations of contaminants must reflect background levels and be indicative of VENM. For ENM, sampling and analysis must be carried out in accordance with the ENM order 2014. Documentation is required to demonstrate each truck load of fill is consistent with the source site and does not exhibit signs of potential contamination or anthropogenic materials. This will involve inspections and documentation of the material within each truck load by the remediation contractor and/or GEE (including the truck registration number; a description of the soil, including odour; time; date; who inspected the material; and whether the material is acceptable), and The material used to backfill the excavation should be compacted to a standard required for the proposed site development. 		
W-8	<p>An experienced environmental scientist or engineer with expertise in remediation or relevant environmental management experience is to inspect the site near completion of the work to confirm that the remediation has been successful.</p>	Prior to commencement of use	Contractor
W-9	<p>Preparation of a validation report</p> <p>At the completion of the remediation works, a validation report will need to be prepared in accordance with NSW EPA which outlines the results of the remediation works undertaken at the site (and off-site) and an assessment of the suitability of the site for the proposed use. All waste disposal receipts (or dockets) are to be included in the validation report.</p>	Prior to commencement of use	Contractor

6.5 Soils, sediment and water quality

Construction impacts: As the works involve soil excavation and the movement of soil, and due to the works being located close to water, there is a small possibility of impacts to surrounding waterways from loose sediments.

Operational impacts: none.

Reference	Mitigation Measure	Timing	Responsibility
WQ-1	Erosion and sediment measures would be implemented at all construction sites in accordance with the Remedial Action Plan (RAP) and the principles and requirements in (Landcom, 2004), commonly referred to as the 'Blue Book'. Additionally, where applicable, any water collected from the construction site would be appropriately discharged to avoid any potential contamination or local stormwater impacts.	During works	Contractor
WQ-2	Screening material (e.g., hessian) is to be placed on perimeter fences adjacent to excavations.	During works	Contractor
WQ-3	Water is to be sprayed across dusty areas of the site, to suppress dust. Excavations are to be kept moist (where practical).	During works	Contractor
WQ-4	Tarpaulins or similar are to be used to cover loads (incoming and outgoing).	During works	Contractor
WQ-5	Stockpiles (if any) are to be restricted to heights to less than 2m and securely placed in the vicinity of the excavation areas, separated from stormwater drains, waterways and vehicle access areas.	During works	Contractor
WQ-6	Appropriate spill kits will be kept onsite and all site personnel appropriately trained in the use of available spill response equipment.	During works	Contractor
WQ-7	In the event of a pollution incident causing or threatening material harm to the environment, this must be notified to each of the following 'relevant authorities' as per Section 3.2.3 of this MWREF. <ul style="list-style-type: none"> - Fire and Rescue NSW – phone: 000 - the appropriate regulatory authority (ARA) – Woollahra Municipal Council: phone: (02) 9391 7000 - the Environment Protection Authority (EPA) (if the EPA is not the ARA) – 131 555 - the Ministry of Health via the Local Public Health Unit – Randwick Public Health Unit: phone: (02) 9382 8333; After hours phone: (02) 9382 2222 (Prince of Wales Hospital – ask for Public Health Nurse on call) - SafeWork NSW – phone: 13 10 50 	During works	Contractor

Reference	Mitigation Measure	Timing	Responsibility
	<ul style="list-style-type: none"> - NPWS Greater Sydney Branch Director or delegate: to seek direction on any further procedures to be implemented. Port Authority will provide written details of the notification to NPWS within 7 days of the date on which the incident occurred. 		
WQ-8	Except as may be expressly provided in any other condition of this determination, Port Authority and the Contractor will comply with s120 of the <i>Protection of the Environment Operations Act 1997</i> (Prohibition of pollution of waters)	During works	Contractor

6.6 Noise and vibration

Construction impacts: Noise impacts related to excavation, equipment and machinery and noise from vehicles moving to and from site and at the site.

Operational impacts: None.

Reference	Mitigation Measure	Timing	Responsibility
NV-1	<p>The contractor will, where reasonable and feasible, implement noise mitigation measures including:</p> <ul style="list-style-type: none"> i. Turn off plant and equipment that is not being used. ii. Ensure plant is regularly maintained in accordance with manufacturers specifications, and repair or replacement equipment that becomes noisy. iii. Schedule more noisy works during less noise intensive periods. iv. Use non-tonal reversing alarms (or an equivalent) on all mobile site-based vehicles, plant and equipment. v. Driver training and site induction sessions will occur on the potential adverse impact of reversing alarms and the need to minimise their use. 	During works	Contractor
NV-2	<p>Where feasible and reasonable, to minimise the impact of heavy vehicles on local roads, and residential receiver locations, the following will occur during construction:</p> <ul style="list-style-type: none"> i. All heavy vehicles should be fitted with original equipment manufacturer equivalent or quieter mufflers, and other noise controlling equipment. ii. Pick-ups and deliveries would be conducted during standard construction hours. iii. Heavy vehicle drivers are to avoid: <ul style="list-style-type: none"> a. Heavy acceleration and braking. b. Compression braking. c. Reversing. d. High speeds. e. Idling outside sensitive receivers. 	During works	Contractor

Reference	Mitigation Measure	Timing	Responsibility
	iv. Heavy vehicle routes to and from the works location would be via major roads where possible.		
NV-3	Works are to be carried out in accordance with the NSW EPA Interim Construction Noise Guidelines.	During works	Contractor

6.7 Air quality

Construction impacts: Air impacts related to excavation, equipment and machinery and transport to and from site.

Operational impacts: None.

Reference	Mitigation Measure	Timing	Responsibility
AQ-1	All plant, equipment, vehicles and vessels used during construction works will be regularly maintained to minimise emissions into the air and switched off when not in use to minimise idling. <ul style="list-style-type: none"> i. Any visible and persistent dark emissions from any plant, equipment, vehicles and vessels will be reported or replaced as soon as practicable. ii. The use of diesel or petrol powered generators will be avoided where possible. 	During works	Contractor
AQ-2	The following best-practice dust management measures would be implemented during all construction works: <ul style="list-style-type: none"> i. Regularly wet-down exposed and disturbed areas including stockpiles, especially during dry weather. ii. Adjust the intensity of activities based on measured and observed dust levels and weather forecasts. iii. Minimise the amount of materials stockpiled and position stockpiles away from surrounding receivers. iv. Regularly inspect dust emissions and apply additional controls as required. v. Burning of any garbage, vegetation or other combustible material is not permitted. vi. Site or specific construction activities will be enclosed where there is a high potential for dust generation of long periods. 	During works	Contractor
AQ-3	Induction processes are to cover correct storage and handling of materials.	During works	Contractor

6.8 Traffic and transport

Construction impacts: Construction impacts relate to transporting plant and equipment related to excavation works to and from the site. The following mitigation measures ensure minimal impacts to traffic and transport from the construction works.

Operational impacts: None.

Reference	Mitigation Measure	Timing	Responsibility
T-1	Vehicle access to, from and within the site will be managed by a Traffic Management Plan (TMP) and/or measures defined in the CEMP/JSEA to maintain pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals.	Prior to commencement of works/during works	Contractor
T-2	All trucks would enter and exit construction sites in a forward direction, where feasible and reasonable.	During works	Contractor
T-3	At least 7 days before the activity commences, Port Authority will erect signs at the park entrance or in the immediate vicinity of the activity site, the size, location and content of which must be to the satisfaction of the NPWS Sydney South Area Manager. Signs must be visible and clearly identify Port Authority as the proponent and list: <ul style="list-style-type: none"> • a description of the activity, reasons for undertaking the activity and duration of the activity • changes to pedestrian access arrangements • the hours of operation • a contact telephone number for public inquiries. 	Prior to commencement of works	Port Authority
T-4	The Contractor must take reasonable steps to limit restrictions on public access during the activity. Where access restrictions are required, such as in areas where works are under way, temporary barriers (e.g. brightly coloured tape and/or moveable barriers) and appropriate signage must be erected by the proponent around the work area prior to commencement.	During works	Contractor
T-5	The Contractor is to encourage staff and contractors involved in the activity to carpool to the site in light vehicles during the proposed activity.	During works	Contractor
T-6	Within 7 days of any area being damaged by vehicular or other access to the site, the Contractor must repair and rehabilitate such land to the satisfaction of the NPWS Greater Sydney Branch Director or delegate.	During works	Contractor

6.9 Biodiversity

Construction impacts: No threatened populations, endangered ecological communities or critical habitats were identified in the proposed works area. No habitat features were observed in the proposed soil to be removed. The proposed works area does not contain any trees or vegetation, will only occur in open grassed area and no vegetation is proposed to be disturbed as part of the works. Threatened fauna species are unlikely to be present or forage within the site as there is no suitable habitat for these species in the immediate works area.

However, threatened fauna species have been sighted in South Head National Park (see section 3.1.1 and 3.2.4 of this MWREF) and could be present in nearby tree/vegetation areas. The following mitigation measures ensure any present threatened species are not impacted by the construction works.

Operational impacts: none.

Reference	Mitigation Measure	Timing	Responsibility
BV-1	During construction, site inductions will include awareness about avoiding all contact with fauna species encountered. All workers are to avoid harming any fauna species encountered, and to contact the NSW Wildlife Information, Rescue and Education Service Inc. (WIRES) if assistance is required to relocate an animal species.	Prior to commencement of works/during works	Contractor
BV-2	Mark out exclusion zones and project boundaries prior to construction.	Prior to commencement of works	Contractor
BV-3	Machinery, vehicles and other construction equipment will be cleaned (e.g. washed down) prior to entry into Sydney Harbour National Park to remove any soil or plant matter and ensure that weed seeds and propagules are not imported to the site.	Prior to commencement of works	Contractor
BV-4	If, during the course of undertaking the activity, the Contractor becomes aware of the presence of threatened species or endangered ecological communities, or their habitats, that were not identified and assessed in the REF and which are likely to be affected by the activity, the Contractor must: <ul style="list-style-type: none"> immediately cease all work likely to affect the threatened species or endangered ecological communities, or their habitats inform the NPWS Greater Sydney Branch Director or delegate. Notification must be made as soon as practicable by phone, electronically or in writing, and not recommence work likely to affect the threatened species or endangered ecological communities, or their habitats until receiving written advice from NPWS to do so. 	During works	Contractor
BV-5	The Contractor must store any machinery, equipment or materials required for the activity in existing cleared areas in accordance with the MWREF.	During works	Contractor

Reference	Mitigation Measure	Timing	Responsibility
	At all times that the activity is not being undertaken, machinery, vehicles and equipment must be stored in a secure location with authorised access only.		

6.10 Visual impacts

Construction impacts: Amenity impacts during the works from equipment, ancillary facilities, and temporary laydown area on South Head will be negligible to minor. The proposed activity is not expected to lead to any significant impacts on visual amenity with the implementation of the mitigation measures below.

Operational impacts: None

Reference	Mitigation Measure	Timing	Responsibility
VA-1	Where feasible and reasonable, the elements within construction sites will be located to minimise visual impacts (for example storing materials and machinery behind fencing).	During works	Contractor

6.11 Cumulative impacts

There is a requirement under section 171(2) of the Environmental Planning and Assessment Regulation 2021 to take into account any cumulative environmental impacts with other existing or likely future activities. Cumulative impacts relate to the combined potential effects of different impact areas of the proposed works as well as the potential interaction with other proposals in the local area.

Construction impacts: There are no other known projects that have approval in South Head. However, the proposed works duration is expected to be 4 weeks and has the possibility of temporarily impacting South Head visitor activities or NPWS operations, however as this would be a short duration and is small in scale, it is unlikely to result in cumulative impacts.

Operational impacts: None.

Reference	Mitigation Measure	Timing	Responsibility
CI-1	When required, Port Authority will coordinate with NPWS to define appropriate additional mitigation measures for the cumulative impacts of any planned activities on the site.	During works	Port Authority

6.12 Approvals & notifications

Construction and operational impacts: Potential negative impacts if adequate and/or required notifications of the proposed works are not provided to relevant parties prior to the works commencing and upon completion of the works. The following mitigation measures outline these notifications.

Reference	Mitigation Measure	Timing	Responsibility
A-1	<p>Prior to the commencement of the activity, Port Authority must obtain:</p> <ul style="list-style-type: none"> a consent under the National Parks and Wildlife Regulation 2019 (NPW Regulation) which must incorporate the conditions of this determination 	Prior to commencement of works	Port Authority
A-2	<p>Port Authority will give notice of the proposed work to Woollahra Municipal Council by providing them with a copy of the final MWREF for information prior to the works commencing and <u>no later than the day before the commencement of the work</u>. The notice will include the name, address and telephone number of the person who has the duty of ensuring that the notice is given.</p>	Prior to commencement of works	Port Authority
A-3	<p>Port Authority will provide Woollahra Municipal Council with a notice of completion of remediation work within <u>30 days after the completion of the work</u>. Port Authority will provide Woollahra Municipal Council with a notice of completion of remediation work in the form of a Validation Report, which will address requirements of clause 4.15 of the Resilience and Hazards SEPP. I.e.</p> <p>The notice must—</p> <ol style="list-style-type: none"> be in writing prepared and signed by the person who carried out the work, and provide the person's name, address and business telephone number, and provide details of the person's qualifications to carry out the work, and specify, by reference to its property description and street address (if any), the land on which the work was carried out, and provide a map of the location of the land, and state when the work was completed, and specify the uses of the land, and the substances, that contaminated it in such a way as to present a risk of harm to human health or some other aspect of the environment, and specify the uses of the land immediately before the work started, and briefly describe the method of remediation used in the work, and specify the guidelines that were complied with in the work, and specify the standard of remediation achieved (in the light of the use proposed for the land), and show in what manner the work (if a category 1 remediation work) complied with the conditions of the relevant development consent, and state what action must be maintained in relation to the land after the completion of the remediation work if the standard of remediation achieved is to be maintained. 	Prior to commencement of works	Port Authority

Reference	Mitigation Measure	Timing	Responsibility
A-4	Except for sensitive information (e.g., cultural information requested to be redacted by Aboriginal parties), the final MWREF document (including appendices), the Decision Statements and any MWREF document addenda must be published on the Port Authority website prior to the commencement of works in accordance with Section 171(4) of the <i>Environmental Planning and Assessment Regulation 2021</i> (NSW).	Prior to commencement of works	Port Authority
A-5	Prior to the commencement of the activity, Port Authority (including any employees, contractors, subcontractors and agents involved in undertaking the activity) must hold an on-site meeting with the NPWS Sydney South Area Manager (or their delegate).	Prior to commencement of works	Port Authority / Contractor
A-6	At least 21 days prior to the activity commencing Port Authority must invite representatives from the La Perouse Local Aboriginal Land Council to monitor works associated with the undertaking of the activity, for the duration of the activity or as specified in any Aboriginal Heritage Impact Permit. Consultation with the registered Aboriginal stakeholders will continue as needed as part of the planning and execution of the works.	Prior to commencement of works/during works	Port Authority
A-7	Port Authority must notify the NPWS Sydney South Area Manager by email at least 7 days prior to commencing the activity.	Prior to commencement of works	Port Authority

7 Principles of ecologically sustainable development

7.1.1 The precautionary principle

According to the precautionary principle, 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.

This MWREF has been prepared utilising the precautionary principle. That is, if threats are perceived as possibly leading to serious or irreversible environmental damage, then either the proposed works would not go-ahead, or the development would be modified to ensure that such serious threats do not exist. The assessment of potential risks associated with the proposed works assessed in this MWREF are considered to be adequately manageable.

7.1.2 Inter-generational equity

Intergenerational and intra-generational equity requires that the present generation will ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of the present and future generations. The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

The proposed works would not impact on natural features to a level that would impact on the health, diversity or productivity of the environment to a level that would impact on future generations.

7.1.3 Conservation of biological diversity and ecological integrity

Conservation of biological diversity and ecological integrity are fundamental consideration of ESD.

The proposed activity is unlikely to have any impact on biological diversity and ecological integrity. Sensitive ecological values have not been identified within the development footprint nor broader site.

7.1.4 Appropriate valuation of environmental factors

This principle requires that “costs to the environment should be factored into the economic costs of a proposal”.

This MWREF has examined the environmental consequences of the proposal and identified mitigation measures for factors which have the potential to experience adverse impacts. The implementation of these mitigation measures may increase the capital costs of the proposal and these costs were not a consideration in the determination of appropriate and/or necessary mitigation measures. This signifies that environmental resources have been given appropriate valuation.

8 Summary of mitigation measures & commitments

Impact	Reference	Mitigation Measure	Timing	Responsibility
General	G-1	<p>A Construction Environmental Management Plan (CEMP) or Job Safety and Environmental Analysis (JSEA) will be prepared to describe how the activity would be managed through the construction phase in order to minimise and manage potential environmental impacts. The CEMP will include, but not be limited to the following components:</p> <ul style="list-style-type: none"> i. A description of construction works, including an indication of stages of construction, where relevant. ii. location of active work and storage areas iii. Statutory and other obligations required to be fulfilled during construction, including approvals, consultations and agreements required from regulatory authorities and other relevant stakeholders. iv. Issue specific sub-environmental management plans, where required. v. A description of the roles and responsibilities for relevant employees involved in the construction of the activity. vi. An environmental risk assessment in order to identify potentially high-risk construction works. vii. Environmental management and mitigation practices and procedures to be implemented during each stage of the activity, including: <ul style="list-style-type: none"> a. measures to protect areas of environmental sensitivity including reporting and communication pathways b. measures to protect Aboriginal Cultural Heritage including reporting and communication pathways c. environmental safeguards, including water pollution controls, waste management, and management of hazardous substances d. site rehabilitation including management of contaminated materials and soils e. vehicle and pedestrian access arrangements, including parking 	Prior to commencement of works	Contractor

Impact	Reference	Mitigation Measure	Timing	Responsibility
		<p>f. public safety, including location, design and timeframes of information signage and public relations media releases by Port Authority.</p> <p>viii. Details of how the environmental performance of the construction works would be monitored, and what actions would be taken to address identified adverse environmental impacts.</p> <p>ix. Environmental incident management and reporting procedures and protocols, including reporting pathways.</p> <p>x. Details of environmental training and awareness including site inductions.</p> <p>xi. Complaints handling procedures during construction of the activity.</p> <p>xii. Contact protocols outlining procedures and any notifications to be given before works commence, together with contact details for the project manager and the NPWS Sydney South Area Manager and Ranger</p> <p>The CEMP/JSEA will be a working document, subject to ongoing review and update as necessary to respond to changes to any information contained in the CEMP/JSEA or its sub-plans and to take account of events or circumstances which will or may affect the works. Where appropriate, it is essential that the CEMP/JSEA considers and incorporates all measures and requirements set out in the Remedial Action Plan (RAP), the Section 60 Approval, the AHIP, and the ACHAR (the latter only where not in conflict with the AHIP).</p>		
	G-2	<p>The CEMP / JSEA will be submitted to the NPWS Greater Sydney Branch Director or delegate for approval at least 14 days prior to the commencement of the activity. Port Authority and the Contractor will comply with all measures identified in the approved CEMP / JSEA.</p>	Prior to commencement of works	Port Authority / Contractor
	G-3	<p>Work must only be conducted between the following hours:</p> <ul style="list-style-type: none"> • Monday to Friday: 7am – 6pm. • Saturday: 8am – 1pm. • Sunday and Public Holidays: No works. <p>Any proposed out of hours works will need to be pre-approved by Port Authority and the NPWS Sydney South Area Manager, unless as otherwise stated in Section 2.4.2 of this MWREF.</p>	Prior to commencement of works/during works	Contractor

Impact	Reference	Mitigation Measure	Timing	Responsibility
	G-4	All personal working on site will receive training to ensure awareness of environment protection and impact mitigation requirements to be implemented during the activity. This will include up-front site induction and regular “toolbox” style briefings.	Prior to commencement of works	Contractor
	G-5	The REF is to be published on the Port Authority website in accordance with clause 171(4) of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation).	Prior to commencement of works	Port Authority
	G-6 (s60 approval condition no. 7)	<p>Duration of approval</p> <p>Port Authority must have commenced the activity within 5 years from the date of determination.</p> <p>The s60 approval will lapse five years from the date of the consent unless the building works associated with the approval have physically commenced.</p> <p><i>Reason: To ensure the timely completion of works.</i></p>	Prior to commencement of works	Port Authority
	G-7	<p>Notwithstanding any other conditions of this determination, in the event that emergency works are required, Port Authority must take all reasonable steps to ensure that these occur as expeditiously as possible. Emergency works are generally works of a temporary and reversible nature which are urgently required to arrest an imminent threat to life, safety, public liability, and/or threat to fabric or property.</p> <p>In the event that emergency works are undertaken Port Authority will contact the NPWS Greater Sydney Branch Director or delegate to seek direction on any further procedures to be implemented.</p>	During works	Port Authority
	G-8	<p>Port Authority will provide the following to the NPWS Greater Sydney Branch Director or delegate prior to commencement of the activity:</p> <ul style="list-style-type: none"> the contact details and qualifications of a person who will be present on site to supervise the activity a list of contractors or subcontractors who will be involved in undertaking the activity. 	Prior to commencement of works	Port Authority

Impact	Reference	Mitigation Measure	Timing	Responsibility
	G-9	<ul style="list-style-type: none"> Port Authority will determine whether any other approvals are required for any associated works that are to occur outside this area. The 'activity' detailed in the MWREF will be undertaken: <ul style="list-style-type: none"> at the location identified in the MWREF in accordance with the description of the activity and environmental safeguards or mitigation measures listed in the MWREF <p>Port Authority will undertake the activity in accordance with the requirements of the <i>Work Health and Safety Act 2011</i>, including codes of practice adopted under the Act, and the <i>Work Health and Safety Regulation 2017</i>. Any contractors on the site are to have appropriate insurances, including public liability insurance.</p>	Prior to commencement of works	Port Authority
	G-10	A copy of the MWREF, the determination and NPWS Conditions of Determination will be kept at the site to which the MWREF applies.	During works	Contractor
	G-11	The MWREF, the determination and Conditions of Determination must be available for inspection by any employee or agent of Port Authority working at the site, and any officer of NPWS.	During works	Contractor
Aboriginal Heritage	AH-1	An AHIP is to be applied for, for the full extent of remediation and drainage improvement works. No works are to commence before the AHIP is obtained.	Prior to commencement of works	Port Authority
	AH-2	All conditions and mitigation measures established by the AHIP must be complied with and included in the CEMP/JSEA. If there is any inconsistency between the Aboriginal heritage-related mitigation measures described below and the AHIP, the provisions of the AHIP shall prevail.	Prior to commencement of works/during works	Port Authority, Contractor, Archaeologist, Aboriginal Stakeholders
	AH-3 (ACHAR policy no. 2)	Before any ground disturbance takes place, all development staff, contractors and workers should complete a Cultural Awareness Induction (can be in the form of a toolbox talk) and be briefed as to the site zoning.	Prior to commencement of works	Contractor
	AH-4	In accordance with the <i>Code of Practice</i> (DECCW, 2010b) remedial soil and drainage works shall be monitored under an AHIP.	Prior to commencement of works/during works	Port Authority, Archaeologist, Aboriginal stakeholders

Impact	Reference	Mitigation Measure	Timing	Responsibility
		<ul style="list-style-type: none"> An archaeologist must be present to monitor key stages of the works when Aboriginal objects and/or features of Aboriginal and cultural significance might be discovered. Aboriginal stakeholders (one of whom must be a land council member) must also be notified and given the opportunity to be present as cultural heritage officers to monitor the works during these key stages. If no engravings or artefacts are identified through the physical examination of bedrock and contaminated soils, then a supervising archaeologist can then confirm that works may continue without further archaeological monitoring. 		
	AH-5	Fencing will be erected around any accessible areas of ASZ3 which contains Registered AHIMS Site 45-6-0715. This is to ensure the already weathered engravings are not unnecessarily eroded or damaged further by foot traffic or movement of tools.	Prior to commencement of works	Contractor
	AH-6	A further zone for laying down of tools should be created, outside of the immediate works area.	Prior to commencement of works	Contractor
	AH-7	All manual excavation work will use tools that will minimise the likelihood for chipping bedrock. If possible, a 'tools protection area' or 'safe landing area' for tools to be stored when not in use should be made. This is to avoid inadvertent damage to sandstone when moving tools.	During works	Contractor
	AH-8	As part of the proposed works, contaminated soils are to be replaced with clean, introduced soil, with a protective geofabric barrier overlying the sandstone. It is recommended that the introduced material consist of non-acidic aggregate and soils. This will ensure the runoff that passes through this material will not erode the sandstone more rapidly.	Prior to commencement of works/during works	Contractor
	AH-9	Any engravings or artefacts identified will be recorded in accordance with the <i>Code of Practice</i> , (DECCW, 2010b) and the Site Card for AHIMS #45-6-0715 will be amended.	During works	Contractor / Archaeologist
	AH-10	<p>Unexpected Finds</p> <p>Any cultural material and/or objects that are identified on site shall be subject to an Unexpected Finds Protocol.</p>	During works	Contractor / Archaeologist

Impact	Reference	Mitigation Measure	Timing	Responsibility
		<p>Should a suspected Aboriginal archaeological site or object be identified at any point during the construction of the proposal, the following Unexpected Finds Procedure is to be implemented:</p> <ol style="list-style-type: none"> 1. All works in the area must cease immediately to prevent any further impacts to the site: 2. Port Authority’s Project Manager must be notified immediately by the Contractor. 3. A suitably qualified archaeologist is to be engaged by the Contractor immediately to determine the nature, extent and significance of the find and provide the appropriate management advice to Port Authority for review and approval prior to implementation by the Contractor. 4. Archaeologist is to record any engravings or artefacts identified in accordance with the <i>Code of Practice</i>, (DECCW, 2010b) and amend the Site Card for AHIMS #45-6-0715. 5. Work must not recommence until written advice to do so has been provided by NPWS. 		
	AH-11	<p>If, during the course of the activity, any human skeletal remains are located, Port Authority will:</p> <ul style="list-style-type: none"> • immediately cease the activity and not further harm these remains • secure the area so as to avoid further harm to the remains • notify the Port Authority Project Manager • notify the local police as soon as practicable and at that time provide any available details about the nature and location of the remains • notify the NPWS Great Sydney Branch Director or delegate, and • recommence the activity only after receiving confirmation in writing from the local police or Heritage NSW that it is appropriate to do so. 	During works	Contractor / Archaeologist
	AH-12	The results of monitoring works are to be built into a final report. Any newly identified sites are to be recorded, with this built into the final report and site card.	During works	Port Authority
	AH-13	All cultural material and/or objects collected from the site may be subject to a Care and Control Agreement in consultation with the Aboriginal stakeholders.	During works	Port Authority

Impact	Reference	Mitigation Measure	Timing	Responsibility												
Non-Aboriginal Heritage	Her-1 (s60 approval, condition no. 1)	<p>All work shall comply with the information contained within:</p> <p>a) Drawings, prepared by PUCH Construction and Building as listed below:</p> <table border="1" data-bbox="678 312 1637 469"> <thead> <tr> <th data-bbox="678 312 819 360">Dwg No</th> <th data-bbox="819 312 1453 360">Dwg Title</th> <th data-bbox="1453 312 1594 360">Date</th> <th data-bbox="1594 312 1637 360">Re</th> </tr> </thead> <tbody> <tr> <td colspan="4" data-bbox="678 376 1637 416">Project Name: Hornby Lighthouse Restoration Project</td> </tr> <tr> <td data-bbox="678 416 819 469">--</td> <td data-bbox="819 416 1453 469">Typical Drainage Plan</td> <td data-bbox="1453 416 1594 469">18-04-2025</td> <td data-bbox="1594 416 1637 469">-</td> </tr> </tbody> </table> <p>b) Report: Statement of Heritage Impact – Proposed Drainage Works at Hornby Lighthouse (including Appendices), prepared by Heritage 21, dated March 2024.</p> <p>c) Report: Baseline Archaeological Assessment – Hornby Lighthouse, Watsons Bay, prepared by AMAC Archaeological, March 2024.</p>	Dwg No	Dwg Title	Date	Re	Project Name: Hornby Lighthouse Restoration Project				--	Typical Drainage Plan	18-04-2025	-	Prior to commencement of works	Contractor
Dwg No	Dwg Title	Date	Re													
Project Name: Hornby Lighthouse Restoration Project																
--	Typical Drainage Plan	18-04-2025	-													
	Her-2 (s60 approval, condition no. 2)	<p>Heritage consultant</p> <p>A suitably qualified and experienced heritage consultant must be nominated for this project. The nominated heritage consultant must provide input into the detailed design, provide heritage information to be imparted to all tradespeople during site inductions, and oversee the works to minimise impacts to heritage values. The nominated heritage consultant must be involved in the selection of appropriate tradespersons and must be satisfied that all work has been carried out in accordance with the conditions of this consent.</p> <p><i>Reason: So that appropriate heritage advice is provided to support best practice conservation and ensure works are undertaken in accordance with this approval.</i></p>	Prior to commencement of works	Port Authority												
	Her-3 (s60 approval, condition no. 3)	<p>Specialised tradespersons</p> <p>All work to, or affecting, significant fabric shall be carried out by suitably qualified tradespersons with practical experience in conservation and restoration of similar heritage structures, materials and construction methods.</p> <p><i>Reason: So that the construction, conservation and repair of significant fabric follows best heritage practice.</i></p>	Prior to commencement of works/during works	Contractor												
	Her-4 (s60 approval,	<p>Site protection</p>	Prior to commencement of works	Contractor												

Impact	Reference	Mitigation Measure	Timing	Responsibility
	condition no. 4)	Significant built and landscape elements are to be protected during site preparation and the works from potential damage. Protection systems must ensure significant fabric, including landscape elements, is not damaged or removed. <i>Reason: To ensure significant fabric including vegetation is protected during construction.</i>		
	Her-5 (s60 approval, condition no. 5)	Unexpected Finds The Applicant must ensure that if substantial intact archaeological deposits and/or State significant relics or any other buried fabric such as works not identified in Baseline Archaeological Assessment – Hornby Lighthouse, Watsons Bay, prepared by AMAC Archaeological, March 2024, are discovered, work must cease in the affected areas(s) and the Heritage Council of NSW must be notified. Additional assessment and approval may be required prior to works continuing in the affected areas(s) based on the nature of the discovery. Work must not recommence until written advice to do so has been provided by NPWS. <i>Reason: All significant fabric within a State Heritage Register curtilage should be managed according to its significance. This is a standard condition to identify to the applicant how to proceed if historical archaeological relics, or other unexpected buried discoveries such as works are identified during the approved project.</i>	During works	Contractor
	Her-6 (s60 approval, condition no. 6)	Compliance If requested, the applicant and any nominated heritage consultant may be required to participate in audits of Heritage Council of NSW approvals to confirm compliance with conditions of consent. <i>Reason: To ensure that the proposed works are completed as approved.</i>	Prior to commencement of works/during works	Port Authority / Contractor
Waste management / contamination	W-1	The management of the contamination remediation and associated waste must be carried out in strict accordance with the recommendations outlined in the Remedial Action Plan (RAP). Wastes will be managed using the waste hierarchy principles of: <ul style="list-style-type: none"> ○ Avoidance of unnecessary resource consumption to reduce the quantity of waste being generated 	During works	Contractor

Impact	Reference	Mitigation Measure	Timing	Responsibility
		<ul style="list-style-type: none"> ○ Recovery of resources for reuse on-site or off-site for the same or similar use, without reprocessing ○ Recovery of resources through recycling and reprocessing so that waste can be processed into a similar non-waste product and reused ○ Disposal of residual waste. 		
	W-2	<p>Waste generated at the site from works undertaken as part of the activity must be managed in accordance with the <i>Protection of the Environment (Waste) Regulation 2014</i>.</p> <p>All waste will be assessed, classified, managed, transported and disposed of in accordance with the NSW EPA Waste Classification Guidelines (NSW Environment Protection Authority, 2014), with appropriate records and disposal docketts retained for audit purposes. Any waste to be disposed of off-site will be disposed at a facility approved to receive that type of waste.</p> <p>Removal of any asbestos-containing material must be undertaken in accordance with <i>Working with Asbestos: Guide 2008</i> published by the WorkCover Authority and relevant codes of practice released by SafeWork NSW.</p>	During works	Contractor
	W-3	Waste streams would be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.	During works	Contractor
	W-4	<p>Controlled Excavation and Disposal of Contaminated Material</p> <p>The soil within the remediation area should be excavated under the direction of an experienced environmental scientist or engineer with expertise in remediation or relevant environmental management experience. Full-time supervision is not expected to be warranted, although as a minimum an inspection should occur at the commencement of the excavation work to confirm with the contractor the remediation goals, extent and to reiterate the need to avoid any cross contamination through the cleaning of equipment, segregating waste materials and/or clearly marking out the clean zones.</p>	During works	Contractor
	W-5	Following removal of the contaminated soil, a programme of soil validation is to be implemented as described in Section 10 of the RAP. The soil validation program will be focused on surrounding soil beyond the remediation area. Within the remediation area an inspection will be required to ensure all the soil has been removed.	During works	Contractor

Impact	Reference	Mitigation Measure	Timing	Responsibility
	W-6	<p>Backfilling of the remediation area is to be completed using validated imported fill comprising Virgin Excavated Natural Material (VENM). Excavations may also be reinstated using Excavated Natural Material (ENM), provided the material meets the requirements of the order and exemption issued by NSW EPA for the material.</p> <p>Details of any ENM used on the site, including to the requirements of the exemption and compliance with the exemption, are required to be contained in the Validation Report.</p>	During works	Contractor
	W-7	<p>Validation of Imported Clean Fill</p> <p>Imported fill will be validated as suitable for use on the site by application of the following methods</p> <ul style="list-style-type: none"> • Imported fill material must be accompanied by documentation, which certifies that it is VENM or ENM. Unless the material is certified quarry material from a recognised provider, the documentation must include laboratory analysis. Additionally, appropriate Quality Assurance/Quality Control samples must be collected as part of the analysis program. VENM supplied material should include analytical results and a copy of the VENM certificate. If not, then the material is to be sampled at the source site prior to delivery by GEE at a rate of one sample per 50m³ provided the material is homogenous. Concentrations of contaminants must reflect background levels and be indicative of VENM. For ENM, sampling and analysis must be carried out in accordance with the ENM order 2014. • Documentation is required to demonstrate each truck load of fill is consistent with the source site and does not exhibit signs of potential contamination or anthropogenic materials. This will involve inspections and documentation of the material within each truck load by the remediation contractor and/or GEE (including the truck registration number; a description of the soil, including odour; time; date; who inspected the material; and whether the material is acceptable), and • The material used to backfill the excavation should be compacted to a standard required for the proposed site development. 	During works	Contractor

Impact	Reference	Mitigation Measure	Timing	Responsibility
	W-8	An experienced environmental scientist or engineer with expertise in remediation or relevant environmental management experience is to inspect the site near completion of the work to confirm that the remediation has been successful.	Prior to commencement of use	Contractor
	W-9	<p>Preparation of a validation report</p> <p>At the completion of the remediation works, a validation report will need to be prepared in accordance with NSW EPA which outlines the results of the remediation works undertaken at the site (and off-site) and an assessment of the suitability of the site for the proposed use. All waste disposal receipts (or dockets) are to be included in the validation report.</p>	Prior to commencement of use	Contractor
Soils, sediment and water quality	WQ-1	Erosion and sediment measures would be implemented at all construction sites in accordance with the Remedial Action Plan (RAP) and the principles and requirements in (Landcom, 2004), commonly referred to as the 'Blue Book'. Additionally, where applicable, any water collected from the construction site would be appropriately discharged to avoid any potential contamination or local stormwater impacts.	During works	Contractor
	WQ-2	Screening material (e.g., hessian) is to be placed on perimeter fences adjacent to excavations.	During works	Contractor
	WQ-3	Water is to be sprayed across dusty areas of the site, to suppress dust. Excavations are to be kept moist (where practical).	During works	Contractor
	WQ-4	Tarpaulins or similar are to be used to cover loads (incoming and outgoing).	During works	Contractor
	WQ-5	Stockpiles (if any) are to be restricted to heights to less than 2m and securely placed in the vicinity of the excavation areas, separated from stormwater drains, waterways and vehicle access areas.	During works	Contractor
	WQ-6	Appropriate spill kits will be kept onsite and all site personnel appropriately trained in the use of available spill response equipment.	During works	Contractor
	WQ-7	<p>In the event of a pollution incident causing or threatening material harm to the environment, this must be notified to each of the following 'relevant authorities' as per Section 3.2.3 of this MWREF.</p> <ul style="list-style-type: none"> - Fire and Rescue NSW – phone: 000 - the appropriate regulatory authority (ARA) – Woollahra Municipal Council: phone: (02) 9391 7000 	During works	Contractor

Impact	Reference	Mitigation Measure	Timing	Responsibility
		<ul style="list-style-type: none"> - the Environment Protection Authority (EPA) (if the EPA is not the ARA) – 131 555 - the Ministry of Health via the Local Public Health Unit – Randwick Public Health Unit: phone: (02) 9382 8333; After hours phone: (02) 9382 2222 (Prince of Wales Hospital – ask for Public Health Nurse on call) - SafeWork NSW – phone: 13 10 50 - NPWS Greater Sydney Branch Director or delegate: to seek direction on any further procedures to be implemented. Port Authority will provide written details of the notification to NPWS within 7 days of the date on which the incident occurred. 		
	WQ-8	Except as may be expressly provided in any other condition of this determination, Port Authority and the Contractor will comply with s120 of the <i>Protection of the Environment Operations Act 1997</i> (Prohibition of pollution of waters)	During works	Contractor
Noise & vibration	NV-1	<p>The contractor will, where reasonable and feasible, implement noise mitigation measures including:</p> <ul style="list-style-type: none"> i. Turn off plant and equipment that is not being used. ii. Ensure plant is regularly maintained in accordance with manufacturers specifications, and repair or replacement equipment that becomes noisy. iii. Schedule more noisy works during less noise intensive periods. iv. Use non-tonal reversing alarms (or an equivalent) on all mobile site-based vehicles, plant and equipment. v. Driver training and site induction sessions will occur on the potential adverse impact of reversing alarms and the need to minimise their use. 	During works	Contractor
	NV-2	<p>Where feasible and reasonable, to minimise the impact of heavy vehicles on local roads, and residential receiver locations, the following will occur during construction:</p> <ul style="list-style-type: none"> i. All heavy vehicles should be fitted with original equipment manufacturer equivalent or quieter mufflers, and other noise controlling equipment. ii. Pick-ups and deliveries would be conducted during standard construction hours. iii. Heavy vehicle drivers are to avoid: <ul style="list-style-type: none"> a. Heavy acceleration and braking. b. Compression braking. c. Reversing. d. High speeds. 	During works	Contractor

Impact	Reference	Mitigation Measure	Timing	Responsibility
		<ul style="list-style-type: none"> e. Idling outside sensitive receivers. iv. Heavy vehicle routes to and from the works location would be via major roads where possible. 		
	NV-3	Works are to be carried out in accordance with the NSW EPA Interim Construction Noise Guidelines.	During works	Contractor
Air quality	AQ-1	<p>All plant, equipment, vehicles and vessels used during construction works will be regularly maintained to minimise emissions into the air and switched off when not in use to minimise idling.</p> <ul style="list-style-type: none"> i. Any visible and persistent dark emissions from any plant, equipment, vehicles and vessels will be reported or replaced as soon as practicable. ii. The use of diesel or petrol powered generators will be avoided where possible. 	During works	Contractor
	AQ-2	<p>The following best-practice dust management measures would be implemented during all construction works:</p> <ul style="list-style-type: none"> i. Regularly wet-down exposed and disturbed areas including stockpiles, especially during dry weather. ii. Adjust the intensity of activities based on measured and observed dust levels and weather forecasts. iii. Minimise the amount of materials stockpiled and position stockpiles away from surrounding receivers. iv. Regularly inspect dust emissions and apply additional controls as required. v. Burning of any garbage, vegetation or other combustible material is not permitted. vi. Site or specific construction activities will be enclosed where there is a high potential for dust generation of long periods. 	During works	Contractor
	AQ-3	Induction processes are to cover correct storage and handling of materials.	During works	Contractor
Traffic & transport	T-1	Vehicle access to, from and within the site will be managed by a Traffic Management Plan (TMP) and/or measures defined in the CEMP/JSEA to maintain pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals.	Prior to commencement of works/during works	Contractor

Impact	Reference	Mitigation Measure	Timing	Responsibility
	T-2	All trucks would enter and exit construction sites in a forward direction, where feasible and reasonable.	During works	Contractor
	T-3	At least 7 days before the activity commences, Port Authority will erect signs at the park entrance or in the immediate vicinity of the activity site, the size, location and content of which must be to the satisfaction of the NPWS Sydney South Area Manager. Signs must be visible and clearly identify Port Authority as the proponent and list: <ul style="list-style-type: none"> • a description of the activity, reasons for undertaking the activity and duration of the activity • changes to pedestrian access arrangements • the hours of operation • a contact telephone number for public inquiries. 	Prior to commencement of works	Port Authority
	T-4	The Contractor must take reasonable steps to limit restrictions on public access during the activity. Where access restrictions are required, such as in areas where works are under way, temporary barriers (e.g. brightly coloured tape and/or moveable barriers) and appropriate signage must be erected by the proponent around the work area prior to commencement.	During works	Contractor
	T-5	The Contractor is to encourage staff and contractors involved in the activity to carpool to the site in light vehicles during the proposed activity.	During works	Contractor
	T-6	Within 7 days of any area being damaged by vehicular or other access to the site, the Contractor must repair and rehabilitate such land to the satisfaction of the NPWS Greater Sydney Branch Director or delegate.	During works	Contractor
Biodiversity	BV-1	During construction, site inductions will include awareness about avoiding all contact with fauna species encountered. All workers are to avoid harming any fauna species encountered, and to contact the NSW Wildlife Information, Rescue and Education Service Inc. (WIRES) if assistance is required to relocate an animal species.	Prior to commencement of works/during works	Contractor
	BV-2	Mark out exclusion zones and project boundaries prior to construction.	Prior to commencement of works	Contractor

Impact	Reference	Mitigation Measure	Timing	Responsibility
	BV-3	Machinery, vehicles and other construction equipment will be cleaned (e.g. washed down) prior to entry into Sydney Harbour National Park to remove any soil or plant matter and ensure that weed seeds and propagules are not imported to the site.	Prior to commencement of works	Contractor
	BV-4	If, during the course of undertaking the activity, the Contractor becomes aware of the presence of threatened species or endangered ecological communities, or their habitats, that were not identified and assessed in the REF and which are likely to be affected by the activity, the Contractor must: <ul style="list-style-type: none"> immediately cease all work likely to affect the threatened species or endangered ecological communities, or their habitats inform the NPWS Greater Sydney Branch Director or delegate. Notification must be made as soon as practicable by phone, electronically or in writing, and not recommence work likely to affect the threatened species or endangered ecological communities, or their habitats until receiving written advice from NPWS to do so. 	During works	Contractor
	BV-5	The Contractor must store any machinery, equipment or materials required for the activity in existing cleared areas in accordance with the MWREF. At all times that the activity is not being undertaken, machinery, vehicles and equipment must be stored in a secure location with authorised access only.	During works	Contractor
Visual impacts	VA-1	Where feasible and reasonable, the elements within construction sites will be located to minimise visual impacts (for example storing materials and machinery behind fencing).	During works	Contractor
Cumulative impacts	CI-1	When required, Port Authority will coordinate with NPWS to define appropriate additional mitigation measures for the cumulative impacts of any planned activities on the site	During works	Port Authority
Approvals & notifications	A-1	Prior to the commencement of the activity, Port Authority must obtain: <ul style="list-style-type: none"> a consent under the National Parks and Wildlife Regulation 2019 (NPW Regulation) which must incorporate the conditions of this determination 	Prior to commencement of works	Port Authority
	A-2	Port Authority will give notice of the proposed work to Woollahra Municipal Council by providing them with a copy of the final MWREF for information prior to the works commencing and <u>no later than the day before the commencement of the work</u> . The	Prior to commencement of works	Port Authority

Impact	Reference	Mitigation Measure	Timing	Responsibility
		notice will include the name, address and telephone number of the person who has the duty of ensuring that the notice is given.		
	A-3	<p>Port Authority will provide Woollahra Municipal Council with a notice of completion of remediation work within <u>30 days after the completion of the work</u>. Port Authority will provide Woollahra Municipal Council with a notice of completion of remediation work in the form of a Validation Report, which will address requirements of clause 4.15 of the Resilience and Hazards SEPP. I.e.</p> <p>The notice must—</p> <ul style="list-style-type: none"> a) be in writing prepared and signed by the person who carried out the work, and b) provide the person's name, address and business telephone number, and c) provide details of the person's qualifications to carry out the work, and d) specify, by reference to its property description and street address (if any), the land on which the work was carried out, and e) provide a map of the location of the land, and f) state when the work was completed, and g) specify the uses of the land, and the substances, that contaminated it in such a way as to present a risk of harm to human health or some other aspect of the environment, and h) specify the uses of the land immediately before the work started, and i) briefly describe the method of remediation used in the work, and j) specify the guidelines that were complied with in the work, and k) specify the standard of remediation achieved (in the light of the use proposed for the land), and l) show in what manner the work (if a category 1 remediation work) complied with the conditions of the relevant development consent, and m) state what action must be maintained in relation to the land after the completion of the remediation work if the standard of remediation achieved is to be maintained. 	Prior to commencement of works	Port Authority
	A-4	Except for sensitive information (e.g., cultural information requested to be redacted by Aboriginal parties), the final MWREF document (including appendices), the Decision Statements and any MWREF document addenda must be published on the Port Authority website prior to the commencement of works in accordance with Section 171(4) of the <i>Environmental Planning and Assessment Regulation 2021</i> (NSW).	Prior to commencement of works	Port Authority

Impact	Reference	Mitigation Measure	Timing	Responsibility
	A-5	Prior to the commencement of the activity, Port Authority (including any employees, contractors, subcontractors and agents involved in undertaking the activity) must hold an on-site meeting with the NPWS Sydney South Area Manager (or their delegate).	Prior to commencement of works	Port Authority / Contractor
	A-6	At least 21 days prior to the activity commencing Port Authority must invite representatives from the La Perouse Local Aboriginal Land Council to monitor works associated with the undertaking of the activity, for the duration of the activity or as specified in any Aboriginal Heritage Impact Permit. Consultation with the registered Aboriginal stakeholders will continue as needed as part of the planning and execution of the works.	Prior to commencement of works/during works	Port Authority
	A-7	Port Authority must notify the NPWS Sydney South Area Manager by email at least 7 days prior to commencing the activity.	Prior to commencement of works	Port Authority

9 References

- Australian Government. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 - Schedule B(2) Guideline of Site Characterisation*.
- Department of Planning and Environment. (2022, June). *Guidelines for Division 5.1 assessments*. Retrieved from <https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/Policy-and-legislation/SSI-Guidelines/Guidelines-for-Division-51-assessments.pdf?la=en>
- Landcom. (2004). *Managing Urban Stormwater – Soils and Construction, 4th edition, Volume 1*. Sydney: NSW Government.
- National Parks and Wildlife Service, NPWS. (2008). *South Head Stage 1 Conservation Management Plan (CMP)*. National Parks and Wildlife Service, NPWS.
- NSW Department of Environment and Climate Change, DECC. (2009). *Interim Construction Noise Guideline*. Sydney: NSW Government.
- NSW Environment Protection Authority. (2014). *Waste Classification Guidelines*.
- NSW Environment Protection Authority. (May 2020). *Contaminated Land Guidelines: Consultants Reporting on Contaminated Land*.

Appendix A Remedial Action Plan (RAP)

Appendix B Preliminary & Detailed Site Contamination Investigation Report

Appendix C Aboriginal Archaeological Technical Report (AATR)

Appendix D Section 60 approval – Heritage Act 1977

Appendix E Drainage Plan

Appendix F Property Reports

Appendix G Species searches (MNES Protected Matters search tool & BioNet Atlas)

Appendix H Aboriginal Cultural Heritage Assessment Report (ACHAR)

Appendix I Statement of Heritage Impact (SOHI)

Appendix J Baseline Archaeological Assessment (BAA)

Appendix K Correspondence

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