

# Appendix J

## Outline CEMP



## J-1 Outline of CEMP sub-plans

A CEMP would be developed for the project to provide a centralised mechanism through which all potential construction-related environmental impacts would be managed, as described in Chapter 23 (Environmental Management and Mitigation). The CEMP would be prepared in accordance with *Environmental Management Plan Guideline for Infrastructure Projects* (DPIE, 2020).

The CEMP would comprise a main CEMP document, issue-specific sub-plans and procedures and strategies. The issue-specific sub-plans would detail how specific environmental issues are to be managed during construction in accordance with the mitigation measures provided in the EIS and the conditions of approval

An outline of the required sub-plans, and a guide to the general construction management measures required in each, is provided in Table J.1 to Table J.9. The requirement to prepare these plans is specified by the mitigation measures in relevant EIS chapters, which have been compiled into Appendix K of the EIS. It is noted that the conditions of approval may require different and/or additional matters to be addressed in the CEMP or sub-plans and that some sub-plans may be combined where there are synergies in the impacts or requirements.

Table J.1 Transport, traffic and access

Traffic and Access Management Plan outline	
<b>Objectives</b>	<p>Ensure appropriate controls and procedures are implemented to minimise potential traffic, transport and access impacts.</p> <p>Maintain safe and efficient operation of the road network, public transport services, active transport and special events.</p> <p>Ensure access to properties are maintained.</p>
<b>Purpose and requirements</b>	<p>The plan will detail processes and responsibilities to minimise traffic and access delays and disruptions, and identify and respond to changes in road safety.</p> <p>The plan will be prepared in consultation with Transport for NSW; City of Parramatta and City of Ryde councils; Sydney Olympic Park Authority (SOPA); emergency services; the Sydney Coordination Office; and bus and ferry operators.</p> <p>The plan will include measures to:</p> <ul style="list-style-type: none"> <li>• maintain access to individual residences, services and businesses</li> <li>• communicate changes in traffic conditions and access arrangements</li> <li>• provide safe routes for pedestrians and cyclists during construction</li> <li>• minimise the number of changes to road users' travel paths</li> <li>• manage the movements of construction-related traffic to minimise traffic and access disruptions in the public road network</li> <li>• manage temporary access arrangements where required</li> <li>• provide a mechanism for the monitoring, review and amendment of the plan.</li> </ul> <p>Heavy vehicle routes will be identified to manage the movements of construction-related traffic to minimise traffic and access disruptions in the public road network.</p>

## Traffic and Access Management Plan outline

<b>Relevant guidelines and standards</b>	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> <li>• <i>Roads Act 1993</i></li> <li>• <i>Traffic Signal Design</i> (Roads and Maritime Services, 2008)</li> <li>• <i>Traffic control at work sites</i> version 6.1 (Transport for NSW, 2021b)</li> <li>• <i>Specification TS101 Traffic Signals – New installation and Reconstruction</i> (Transport for NSW, 2021c)</li> <li>• <i>AS 1742.3–2009: Manual of uniform traffic control devices</i> (Standards Australia, 2009)</li> <li>• <i>Guide to Road Safety Party 6: Road Safety Audit</i> (Austroads, 2022)</li> <li>• <i>Guide to Road Safety Audit Practices</i> (Roads and Maritime Services, 2011).</li> </ul>
<b>Example management measures</b>	<p>Management measures which could be included in the plan and implemented during construction include:</p> <ul style="list-style-type: none"> <li>• Adequate road signage would be provided to inform the public of the works, timing and alternative access arrangements.</li> <li>• Heavy vehicle movements would be minimised during peak traffic times.</li> <li>• The provision of measures to manage traffic flows in the vicinity of the area affected by construction, including required regulatory and directional signposting, line marking, variable message signs, and other traffic control devices.</li> <li>• Designated queuing and idling areas for construction heavy vehicles would be determined near work areas to minimise disruption to the local community.</li> <li>• The establishment of appropriate controls where vehicles are required to cross footpaths or cycle paths to access construction sites. This may include manual supervision, physical barriers or temporary traffic signals.</li> <li>• Construction vehicles would park within the construction compound where practicable and space permits.</li> <li>• The timing of deliveries accessing the site would be programmed to ensure there is sufficient space within the project site to accommodate deliveries.</li> </ul>
<b>Related strategies, plans or requirements</b>	<ul style="list-style-type: none"> <li>• Road Safety Audits</li> <li>• Site-specific Traffic Management Plans</li> <li>• Road Occupancy Licences</li> <li>• Speed zone change authorisations</li> <li>• Parking Management Strategy</li> <li>• Community Communications Strategy and engagement plans</li> </ul>

Table J.2 Maritime works and navigation

## Maritime Works and Navigation Management Plan outline

<b>Objectives</b>	<p>Ensure appropriate controls and procedures are implemented to minimise potential impacts on navigation and access along the Parramatta River.</p> <p>Ensure appropriate controls are implemented to minimise potential impacts on marine recreational assets.</p> <p>Ensure safe access along the Parramatta River is maintained.</p> <p>Provide alternative transport measures, as required.</p>
<b>Purpose and requirements</b>	<p>The plan will detail processes and responsibilities to manage marine construction vessels and impacts on navigation during construction of the bridges over the Parramatta River.</p> <p>The plan will be prepared in consultation with Transport for NSW, Maritime; City of Parramatta and City of Ryde councils; ferry operators; and affected business and recreation groups.</p> <p>The plan will include:</p> <ul style="list-style-type: none"> <li>• requirements for works within and over the river</li> <li>• notification and approval processes establishment of exclusion zones (where required)</li> <li>• restrictions on speed limits or specific activities</li> </ul>

### Maritime Works and Navigation Management Plan outline

	<ul style="list-style-type: none"> <li>any changes to navigational channels or markers</li> <li>measures to manage impacts on marine recreational assets, including alternative boat ramp locations, community advertising campaigns and signage to advise of closures.</li> </ul>
<b>Relevant guidelines and standards</b>	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> <li><i>Navigation Act 2012</i></li> <li><i>Marine Safety Act 1998</i></li> <li><i>NSW Boating Handbook</i> (Transport for NSW, 2021).</li> </ul>
<b>Example management measures</b>	<p>Management measures which could be included in the plan and implemented during construction include:</p> <ul style="list-style-type: none"> <li>Construction marine traffic would be scheduled to avoid times and locations of high marine traffic where feasible and reasonable.</li> <li>Construction vessel crews would be appropriately trained.</li> <li>Indicator lines would be rigged with lights and flags to mark the area of reduced clearance for construction vessels.</li> </ul>
<b>Related strategies, plans or requirements</b>	<ul style="list-style-type: none"> <li>Traffic and Access Management Plan</li> <li>Community Communications Strategy and engagement plans</li> </ul>

Table J.3 Noise and vibration

### Noise and Vibration Management Plan outline

<b>Objectives</b>	<p>Minimise potential adverse noise and vibration impacts on the environment and community.</p> <p>Minimise unreasonable noise and vibration impacts on receivers.</p> <p>Avoid structural damage to buildings or heritage items as a result of construction vibration.</p>
<b>Purpose and requirements</b>	<p>The plan will detail processes, responsibilities and measures to manage noise and vibration and minimise the potential for impacts during construction. It will provide the framework and mechanisms for the feasible and reasonable management and mitigation of potential noise and vibration impacts.</p> <p>The plan will be prepared in consultation with the EPA, where relevant. It will:</p> <ul style="list-style-type: none"> <li>identify noise and vibration performance criteria</li> <li>confirm sensitive receivers and features in the vicinity of the project site</li> <li>include relevant standard and additional mitigation measures from the <i>Construction Noise and Vibration Strategy</i> (Transport for NSW, 2019a) <i>Interim Construction Noise Guideline</i> (DECC, 2009) and <i>Draft Construction Noise Guideline</i> (NSW EPA, 2020)</li> <li>include protocols that will be adopted to manage works required outside standard construction hours, in accordance with relevant guidelines including for management of respite periods</li> <li>include the preparation of activity-specific construction noise and vibration impact statements which would detail standard and additional mitigation measures to be implemented based on predicted noise levels</li> <li>include details for ongoing consultation with sensitive affected receivers</li> <li>include measures to manage vehicle movements outside standard construction working hours</li> <li>provide a mechanism for the monitoring, review and amendment of this plan.</li> </ul>
<b>Relevant guidelines and standards</b>	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> <li><i>Construction Noise and Vibration Strategy</i> (Transport for NSW, 2019a)</li> <li><i>Interim Construction Noise Guideline</i> (DECC, 2009)</li> <li><i>Generic Vibration Criteria for Vibration-Sensitive Equipment</i> (Gordon, 1999)</li> <li><i>AS 2436-2010 Guide to noise and vibration control on construction, demolition and maintenance sites</i> (Australian Standards, 2010).</li> </ul>

## Noise and Vibration Management Plan outline

<b>Example management measures</b>	<p>Management measures which could be included in the plan and implemented during construction include:</p> <ul style="list-style-type: none"> <li>• The noise levels of plant and equipment would be monitored to confirm the operating sound power or sound pressure levels comply with the required criteria.</li> <li>• All site workers would be informed of the practical and reasonable measures they are required to implement to minimise noise and vibration impacts on sensitive receivers.</li> <li>• Highly noise intensive activities and equipment would be limited to the recommended standard working hours as far as practicable.</li> <li>• Quieter and less vibration emitting construction methods would be used where reasonable and feasible.</li> <li>• Silencer attachments on rock breakers and f exhaust silencers on mobile plant would be used where possible near residences.</li> <li>• Loading and unloading of materials/deliveries would occur as far as possible from sensitive receivers, and preferably during standard construction hours.</li> <li>• Dropping of materials from heights into or out of trucks would be minimised.</li> <li>• No plant or equipment would be left idling when operating near sensitive receivers.</li> <li>• Structures and site sheds would be used as screening where reasonable and feasible.</li> <li>• Lower vibration generating items would be used for excavation plant and equipment where minimum working distances cannot be met.</li> <li>• The community would be consulted on their preference for respite from noise and vibration impacts.</li> <li>• The scheduling of construction works would consider major events at Rosehill Gardens Racecourse and at Sydney Olympic Park.</li> </ul>
<b>Related strategies, plans or requirements</b>	<ul style="list-style-type: none"> <li>• Construction Noise and Vibration Impact Statements</li> <li>• Out-of-hours Work Protocol</li> <li>• Dilapidation surveys</li> <li>• Community Communications Strategy and engagement plans.</li> </ul>

Table J.4 Aboriginal heritage

## Aboriginal Cultural Heritage Management Plan outline

<b>Objectives</b>	<p>Ensure appropriate controls and procedures are implemented during construction to avoid or minimise potential adverse impacts on items of heritage value.</p> <p>Ensure workers are aware of Aboriginal heritage.</p>
<b>Purpose and requirements</b>	<p>The plan will detail processes, responsibilities and measures to manage Aboriginal heritage and minimise the potential for impacts during construction. It will provide the framework and mechanisms for the management and feasible and reasonable mitigation of potential Aboriginal heritage impacts.</p> <p>The plan will be prepared in consultation with registered Aboriginal parties and the Department of Planning and Environment. The outcomes of detailed interviews with cultural knowledge holders and further investigations would be incorporated into the plan. It will:</p> <ul style="list-style-type: none"> <li>• identify Aboriginal heritage items in the vicinity of the project site</li> <li>• include appropriate controls and procedures to avoid or minimise potential adverse impacts to Aboriginal heritage</li> <li>• define the requirements for heritage awareness and management training for relevant personnel involved in site works (mitigation measure AH9)</li> <li>• describe the procedures to manage unexpected items of potential heritage significance or human remains (mitigation measure AH10)</li> <li>• provide a mechanism for the monitoring, review and amendment of this plan.</li> </ul>

## Aboriginal Cultural Heritage Management Plan outline

<b>Relevant guidelines and standards</b>	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> <li>• <i>National Parks and Wildlife Act 1974</i></li> <li>• <i>Procedure for Aboriginal Cultural Heritage Consultation and Investigation</i> (Roads and Maritime Services, 2012)</li> <li>• <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i> (DECCW, 2010b)</li> <li>• <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW, 2010a)</li> <li>• <i>Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW</i> (OEH, 2011)</li> <li>• <i>Unexpected Heritage Finds Guideline</i> (Transport for NSW, 2019b)</li> <li>• <i>Manual for the identification of Aboriginal remains</i> (DEC, 2006)</li> <li>• <i>Skeletal Remains: Guidelines for Management of Human Skeletal Remains</i> (NSW Heritage Office, 1998)</li> <li>•</li> <li>• <i>Aboriginal Cultural Heritage Standards and Guidelines Kit</i> (NPWS, 1997).</li> </ul>
<b>Example management measures</b>	<p>Management measures which could be included in the plan and implemented during construction include:</p> <ul style="list-style-type: none"> <li>• All identified items within and in the immediate vicinity of the project site would be marked on the environmental control maps, , fenced off where appropriate, and avoided.</li> <li>• Works would not destroy, modify or otherwise physically affect any heritage items, including human remains, outside of the project site through demarcation, identification and training.</li> <li>• Identified Aboriginal objects would be avoided, where possible, and protective measures implemented to ensure no disturbance of such objects, including delineating and marking areas as no-go zones for earthworks, excavations and stockpile sites.</li> <li>• A safe keeping place for any artefacts recovered during construction would be identified in consultation with the RAPs.</li> <li>• Any works outside the project site would be subject to further review of Aboriginal significance.</li> </ul>
<b>Related strategies, plans or requirements</b>	<ul style="list-style-type: none"> <li>• Unexpected Finds Procedure</li> <li>• Aboriginal salvage methodology</li> <li>• Heritage interpretation strategy.</li> </ul>

Table J.5 Non-Aboriginal heritage

## Heritage Management Plan outline

<b>Objectives</b>	<p>Ensure appropriate controls and procedures are implemented during construction to avoid or minimise potential adverse impacts on items of heritage value.</p> <p>Ensure workers are aware of non-Aboriginal heritage.</p>
<b>Purpose and requirements</b>	<p>The plan will detail processes, responsibilities and measures to manage non-Aboriginal heritage and minimise the potential for impacts during construction. It will provide the framework and mechanisms for the management and feasible and reasonable mitigation of potential non-Aboriginal heritage impacts.</p> <p>The plan will be prepared in consultation with the relevant heritage agencies (such as Heritage NSW), relevant agencies (such as Sydney Olympic Park Authority), City of Parramatta Council and City of Ryde Council. It will:</p> <ul style="list-style-type: none"> <li>• identify non-Aboriginal heritage items within/in the vicinity of the project site</li> <li>• include outcomes of further surveys, including test excavations and the Research Design and Excavation Methodology</li> <li>• include appropriate controls and procedures to avoid or minimise potential adverse impacts to non-Aboriginal heritage</li> </ul>

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	<ul style="list-style-type: none"> <li>define the requirements for heritage awareness and management training for relevant personnel involved in site works</li> <li>provide details regarding the conservation and curation of any historical artefacts recovered during works</li> <li>describe the procedures for the reinstatement of areas of heritage value that would be temporarily impacted by construction</li> <li>describe the procedures to manage unexpected items of potential heritage significance, including maritime archaeological resources, or human remains (NAH9)</li> <li>provide a mechanism for the monitoring, review and amendment of this plan.</li> </ul>
<b>Relevant guidelines and standards</b>	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> <li><i>Heritage Act 1977</i></li> <li><i>Unexpected Heritage Finds Guideline</i> (Transport for NSW, 2019b)</li> <li><i>Skeletal Remains: Guidelines for Management of Human Skeletal Remains</i> (NSW Heritage Office, 1998)</li> <li><i>Construction Noise and Vibration Strategy</i> (Transport for NSW, 2019a)</li> <li><i>Interpreting Heritage Places and Items</i> (Heritage Office, 2005).</li> </ul>
<b>Example management measures</b>	<p>Management measures which could be included in the plan and implemented during construction include:</p> <ul style="list-style-type: none"> <li>All identified items within and in the immediate vicinity of the project site would be marked on the environmental control maps, fenced off where appropriate, and avoided.</li> <li>Exclusion zones would be established for maritime archaeological items, which would be marked on environmental control maps</li> <li>Works would not destroy, modify or otherwise physically affect any heritage items outside of the construction boundary through demarcation, identification and training.</li> <li>Any heritage items not impacted by the works would be retained and protected throughout construction by demarcation, identification and training.</li> <li>Construction activities would be conducted in a manner to minimise the potential for vibration impacts in accordance with mitigation measures NAH11 and NV12 to NV14.</li> </ul>
<b>Related strategies, plans or requirements</b>	<ul style="list-style-type: none"> <li>Historical Archaeological Assessment and Research Design and Excavation Methodology</li> <li>Unexpected Finds Procedure</li> <li>Heritage interpretation strategy.</li> </ul>

Table J.6 Biodiversity

## Biodiversity Management Plan outline

<b>Objectives</b>	<p>Ensure controls and procedures are implemented during construction to avoid, minimise or manage potential adverse impacts on biodiversity within and adjacent to the proposal site. Appropriately manage the spread of weeds and plant pathogens.</p>
<b>Purpose and requirements</b>	<p>The plan will detail processes, responsibilities and measures to monitor, minimise and mitigate biodiversity impacts. It will detail how construction impacts on terrestrial and aquatic and flora and fauna will be mitigated, managed and monitored.</p> <p>The plan will include:</p> <ul style="list-style-type: none"> <li>measures to manage biosecurity risks (including pathogens and weeds) in accordance with the <i>Biosecurity Act 2015</i></li> <li>induction requirements for all workers</li> <li>locations and requirements for pre-clearing surveys, including where clearing is required within Sydney Olympic Park and areas of mangrove, saltmarsh or other riparian vegetation</li> <li>stop work protocols</li> <li>an unexpected finds procedure in accordance with the <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011)</li> </ul>



## Biodiversity Management Plan outline

- hygiene controls in relation to chytrid fungus, cinnamon fungus (*Phytophthora cinnamomic*) and myrtle rust (*Pucciniales fungi*)
- locations and procedures for monitoring of flora, such as mangroves, saltmarsh, the Narrow-leaved *Wilsonia* (*Wilsonia backhousei*), and fauna populations during and following construction (see mitigation measures BD16 and BD17).

### Relevant guidelines and standards

The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:

- *Biodiversity Conservation Act 2016*
- *Biodiversity Conservation Regulation 2017*
- *Biosecurity Act 2015*
- *National Parks and Wildlife Act 1974*
- *Fisheries Management Act 1994*
- *Environmental Protection and Biodiversity Conservation Act 1999*
- *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011)
- *Biodiversity Assessment Method* (DPIE, 2020b)
- *Policy and guidelines for fish habitat conservation and management Update 2013* (DPI, 2013)
- *National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds* (Department of the Environment and Energy, 2020)
- *Hygiene guidelines* (DPIE, 2020c)
- *Management of Phytophthora cinnamomi for Biodiversity Conservation in Australia: Part 2 – National Best Practice Guidelines* (O’Gara et al., 2005)
- *Myrtle Rust factsheet* (DPI, 2015).

### Example management measures

Management measures which could be included in the plan and implemented during construction include:

- Quieter construction methods and/or the use of temporary noise barriers would be implemented close to breeding habitat at the Holkers Busway (to minimise impacts on the breeding of the Southern Myotis during October to April) and Hill Road (to minimise impacts on the breeding of the White-bellied Sea-eagle during July to January).
- Impacts on estuarine mangrove vegetation at Haslams Creek would be avoided or minimised as far as practicable.
- Works on the Holker Busway bridge would be undertaken via scaffolding attached to the bridge as far as practicable, rather than from the ground, to minimise impacts on estuarine mangrove vegetation.
- Exclusion zones would be established and maintained around native vegetation to be retained, particularly areas of biodiversity value adjoining the project site that are located in close proximity to work areas.
- Vegetation removal would be undertaken in accordance with Guide 4 (Clearing of vegetation and removal of bushrock) of the *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011).
- Habitat would be replaced or reinstated in accordance with Guide 5 (Re-use of woody debris and bushrock) and Guide 8 (Nest boxes) of the *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011).
- All plant/machinery and vehicles entering ecologically sensitive areas of the project site would be appropriately washed down and disinfected prior to working in these areas to prevent the potential spread of weeds, Cinnamon Fungus (*Phytophthora cinnamomi*) and Myrtle Rust (*Pucciniales fungi*) in accordance with the national best practice guidelines for *Phytophthora* (O’Gara et al. 2005), the *Myrtle Rust factsheet* (DPI 2015b) for hygiene control and the *NSW hygiene guidelines for wildlife* (DPIE 2020d).
- All plant/machinery and vehicles would be subject to the same controls while moving about between ecologically sensitive parts of the project site, with wash-down to occur before working in different parts of Sydney Olympic Park, as determined in consultation with Sydney Olympic Park Authority ecologists.



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- Weed species would be managed in accordance with Guide 6 (Weed management) of the *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011), the *Hygiene guidelines* (DPIE, 2020c), and in consultation with the Sydney Olympic Park Authority for works within Sydney Olympic Park and the Millennium Parklands.
- Fauna would be managed in accordance with Guide 9 (Fauna handling) of the *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011).
- Aquatic habitat would be protected in accordance with Guide 10 (Aquatic habitats and riparian zones) of the *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011) and section 3.3.2 (Standard precautions and mitigation measures) of the *Policy and guidelines for fish habitat conservation and management Update 2013* (DPI (Fisheries NSW), 2013).

### Related strategies, plans or requirements

- Tree Offset Strategy
- Rehabilitation Strategy
- Fauna Monitoring Program

Table J.7 Soil and water

### Soil and Water Management Plan outline

#### Objectives

Ensure appropriate controls and procedures are implemented during construction to avoid or minimise potential soil and water impacts.  
Minimise the potential for pollutants to enter surface water and groundwater.

#### Purpose and requirements

The plan will detail processes, responsibilities and measures to manage potential soil and water quality impacts during construction, including potential impacts associated with stockpile management, contamination, saline soils and acid sulfate soils.

The plan will include a detailed list of measures that will be implemented during construction to minimise the potential for soil and water impacts, including:

- minimising the extent and duration of exposed surfaces
- development of adequate water quality control measures prior to carrying out of significant earthwork or bridge construction activities
- implementation of erosion and sediment control measures during earthwork activities and activities adjacent to waterways
- identification of areas of potential contamination concern
- development of procedures for the assessment, handling and stockpiling of potentially contaminated materials
- spill management procedures
- management of soils excavated or exposed in potential acid sulfate soils areas.

An unexpected finds protocol will be prepared as part of the plan and outline the activities to be undertaken in the event that previously undetected contamination is identified, which will include making the site safe, carrying out an assessment of the finds, and managing the finds based on the results of the assessment.

#### Relevant guidelines and standards

The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:

- *Water Management Act 2000*
- *Water Act 1912*
- *Protection of the Environment Operations Act 1997*
- *National Environment Protection (Assessment of Site Contamination) Measure 1999*
- *Contaminated Land Management Act 1997*
- *State Environmental Planning Policy (Resilience and Hazards) 2021*
- *Managing Urban Stormwater – Soils and Construction - Volume 1* (Landcom, 2004), *Volume 2B Waste landfills* (DECC, 2008a), and *Volume 2D Main Road Construction* (DECC, 2008b) (the Blue Book)
- *Best Practice Erosion & Sediment Control* (International Erosion Control Association (Australasia), 2008) (IECA Manual)

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- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG, 2018)
- *Discharge and Reuse Guideline DMS-SD-024* (Transport for NSW, 2019c)
- *Guidelines for watercourse crossings on waterfront land* (DPI, 2012)
- *Guidelines for controlled activities on waterfront land – Riparian corridors* (NRAR, 2018)
- *Acid Sulfate Soils Assessment Guidelines* (Acid Sulfate Soils Management Advisory Committee (ASSMAC), 1998)
- *Waste Classification Guidelines - Part 4: Acid Sulfate Soils* (NSW EPA, 2014).

### Example management measures

Management measures which could be included in the plan and implemented during construction include:

- Sediment and erosion control devices will be installed to minimise mobilisation and transport of sediment in accordance with the Blue Book and IECA Manual.
- Stockpiles of materials and fuel and chemical storage would not be located within high/medium flood risk areas or flow paths, without appropriate mitigation.
- Maintenance and checking of the erosion and sedimentation controls will be undertaken on a regular basis, to ensure controls work effectively at all times. This includes clearing sediment from behind barriers/sand bags as required.
- Work would cease where practicable during heavy rainfall events where works would contribute to sediment loss off site.
- Stockpile topsoil separately, where of suitable quality and space permits, for potential reuse in landscaping and rehabilitation works.
- Protect stockpiles to prevent erosion during rainfall.
- The storage of hazardous materials and maintenance of construction plant and equipment would be undertaken in clearly marked designated areas that are designed to contain spills and leaks.
- Vehicle washdowns and/or concrete truck washouts would be undertaken within a designated area or at a suitable location off site.
- Site facilities will be located outside flood hazard areas or be elevated above the ground, where possible.
- Awareness training would be provided for all onsite staff in the identification of potentially contaminated material.
- In the event that indicators of contamination are encountered during construction (such as odours or visually contaminated materials), work in the affected area would cease immediately, and the unexpected finds protocol will be implemented.
- The unexpected finds protocol would include the following general approach:
  - site workers will make the area safe, stop work, and notify the construction supervisor, who will quarantine/fence the area, notify staff on-site and the project manager
  - the project manager or their representative will notify an appropriately qualified environmental consultant who will carry out an assessment of the nature and extent of the unexpected contamination
  - remediation will be undertaken as required and as advised by the environmental consultant
  - works may only recommence at the fenced off area after approval has been obtained from the environmental consultant and the project manager
  - validation of the remediation will be carried out to assess the success of the remediation works.
- Spill containment kits would be present and maintained on site during all activities where potential spills could occur.
- Develop site shutdown procedures and implement them before forecast inclement weather and before planned site shutdowns of more than 48 hours. Update the procedures as the project site develops and changes.

## Soil and Water Management Plan outline

<b>Related strategies, plans or requirements</b>	<ul style="list-style-type: none"> <li>• Water Quality Monitoring Program</li> <li>• Dewatering Management Strategy</li> <li>• Existing Long Term Environmental Management Plans</li> <li>• Acid Sulfate Soils Management Plan</li> <li>• Unexpected Contaminated Finds Procedure</li> <li>• Flood and Emergency Response Plan</li> </ul>
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Table J.8 Air quality

## Air Quality Management Plan outline

<b>Objectives</b>	<p>Ensure appropriate controls and processes are implemented to manage air quality, odour and landfill gas and minimise the potential for impacts during construction.</p> <p>Identify and control potential dust and air pollutant sources.</p>
<b>Purpose and requirements</b>	<p>The plan will detail processes, responsibilities and measures to manage air quality and minimise the potential for impacts during construction.</p> <p>The plan will be prepared in consultation with relevant government agencies (as appropriate) and will include management and mitigation related to:</p> <ul style="list-style-type: none"> <li>• spoil handling</li> <li>• stockpile management</li> <li>• dust suppression</li> <li>• monitoring.</li> </ul>
<b>Relevant guidelines and standards</b>	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> <li>• <i>Protection of the Environment Operations Act 1997</i></li> <li>• Protection of the Environment Operations (Clean Air) Regulation 2010</li> <li>• <i>Air Quality Management Guideline</i> (Transport for NSW, 2015)</li> <li>• <i>NSW Government Resource Efficiency Policy</i> (OEH, 2014)</li> <li>• <i>Guidance on the assessment of dust from demolition and construction</i> (Institute of Air Quality Management (IAQM), 2014)</li> <li>• <i>Determination of odorants in ambient air by field inspection</i> (VDI 3940, 1993).</li> </ul>
<b>Example management measures</b>	<p>Management measures which could be included in the plan and implemented during construction include:</p> <ul style="list-style-type: none"> <li>• Materials transported to and from the site would be covered to reduce dust generation in transit.</li> <li>• Vehicles, plant or equipment would comply with appropriate standards. Where vehicles, plant or equipment produce excessive (visual assessment) emissions they would be disused until service/maintenance can be undertaken to return them to normal working order.</li> <li>• Where visible dust is generated from excavation or stockpiling activities or vehicle movements on site, watering and/or other stabilising approaches would be implemented.</li> <li>• Any manufacturer specified exhausts and/or baffles would be installed and operated as per specifications.</li> <li>• Machinery would be turned off when not in use and not left to idle for prolonged periods.</li> <li>• Low sulfur content diesel fuel/oil would be utilised where available.</li> <li>• Odour eliminating sprays or foams would be used in the short term where potential odours are identified.</li> </ul>
<b>Related strategies, plans or requirements</b>	<ul style="list-style-type: none"> <li>• Odour management strategy</li> <li>• Energy and greenhouse gas strategy</li> </ul>

<b>Waste and Resource Management Plan outline</b>	
<b>Objectives</b>	<p>Implement the waste management hierarchy of avoidance, minimisation, reuse, recycling and disposal.</p> <p>Minimise waste generation and maximise reuse as far as practicable.</p> <p>Maximise awareness of waste and resource use management issues.</p>
<b>Purpose and requirements</b>	<p>The plan will detail processes, responsibilities and measures to minimise waste generation and conserve energy during construction.</p> <p>The plan will include:</p> <ul style="list-style-type: none"> <li>• measures to minimise resource and material, water and energy use</li> <li>• classification of waste generated by the project in accordance with the <i>Waste Classification Guidelines</i> (NSW EPA, 2014b) and appropriate management options in accordance with the waste hierarchy principles and resource recovery orders and exemptions</li> <li>• strategies to manage spoil, including reuse options</li> <li>• procedure for waste storage, transport (including tracking where relevant), reuse and disposal</li> <li>• identification of any approvals required for managing on and off-site waste, including application of any relevant resource recovery exemptions</li> <li>• monitoring, record keeping and reporting, including any documentation management obligations arising from resource recovery exemptions.</li> </ul>
<b>Relevant guidelines and standards</b>	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> <li>• <i>Protection of the Environment Operations Act 1997</i></li> <li>• Protection of the Environment Operations (Waste) Regulation 2005</li> <li>• <i>Waste Avoidance and Resource Recovery Act 2001</i></li> <li>• Work Health and Safety Regulation 2011</li> <li>• <i>Waste Classification Guidelines</i> (NSW EPA, 2014b)</li> <li>• <i>NSW Waste and Sustainable Materials Strategy</i> (DPIE, 2021h).</li> </ul>
<b>Example management measures</b>	<p>Management measures which could be included in the plan and implemented during construction include:</p> <ul style="list-style-type: none"> <li>• Waste management strategies would be implemented in accordance with the <i>Waste Avoidance and Resource Recovery Act 2001</i> management hierarchy.</li> <li>• Waste segregation bins with signage would be located at key construction compounds to facilitate segregation and prevent cross contamination.</li> <li>• Resource management hierarchy principles will be followed: <ul style="list-style-type: none"> <li>– avoid unnecessary resource consumption as a priority</li> <li>– avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery)</li> <li>– disposal is undertaken as a last resort.</li> </ul> </li> <li>• Trees and weed free plant material would be mulched or chipped on site and used in landscaping where practicable to stabilise disturbed soils.</li> <li>• Identify recycled materials (such as recycled aggregates in road pavement and surfacing; steel with recycled content) for use in construction or operation of the project where they are cost, quality and performance competitive.</li> </ul>
<b>Related strategies, plans or requirements</b>	Not applicable