



Review of Environmental Factors

Corrimal Reservoir WS0213 Roof Renewal

1 Determination

This Review of Environmental Factors (REF) assesses potential environmental impacts of the Corrimal Reservoir WS0213 Roof Renewal. The REF was prepared under Division 5.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act), with Sydney Water as both the proponent and determining authority.

The Sydney Water Project Manager is accountable for ensuring the proposal is carried out as described in this REF. Additional environmental impact assessment may be required if the scope of work or work methods described in this REF change significantly following determination.

Decision Statement

The main potential construction environmental impacts of the proposal include impacts to biodiversity and heritage. During operation, no impacts are anticipated. The proposal 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. Therefore, a Species Impact Statement (SIS) and/or Biodiversity Development Assessment Report (BDAR) is not required.

Given the nature, scale and extent of impacts and implementation of the mitigation measures outlined in this REF, the proposal is unlikely to have a significant impact on the environment. Therefore, we do not require an Environmental Impact Statement (EIS) and the proposal may proceed.

Certification

I certify that I have reviewed and endorsed this REF and, to the best of my knowledge, it is in accordance with the EP&A Act and the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation). The proposal has been considered against matters listed in section 171 (Appendix A) and the guidelines approved under section 170 of the EP&A Regulation. The REF considers how the proposal aligns with the principles of ecologically sustainable development (Appendix B). The information it contains is neither false nor misleading.

Prepared by:	Reviewed by:	Endorsed by:	Approved by:
Andrea Glass REF author Sydney Water Date: 03/06/2024	John Eames Environment Representative Sydney Water Date: 27/06/2024	Vivek Ray Choudhury Project Manager Sydney Water Date: 02/07/2024	Murray Johnson Environment & Heritage Manager Sydney Water Date: 27/08/2024

Review of Environmental Factors | Corrimal Reservoir WS0213 Roof Renewal



2 Proposal description





Aspect	Detailed description
Proposal need and objectives	This proposal is part of the reservoir renewals program. The program is required to meet Sydney Water's commitment to ensure ongoing safety and security of water supply.
	The Corrimal Reservoir (WS0213) was constructed in 1966 and has a capacity of about 14 ML. It is co-sited with a 3.1 ML reservoir (WS0033) and operates as a storage of this smaller reservoir.
	The objectives of the proposal are to:
	 Protect public health and the environment by improving reliability of the reservoir
	Improve safe access to the reservoir
	Improve chemical dosing to the reservoir.
	Reservoir capacity would not increase as a result of this proposal.
Consideration of	Two roof layout options were considered for the proposal:
alternatives/options	Option 1 – Radial arrangement
	Option 2 – Grid arrangement.
	Option 1 was identified as the preferred option as it aligned with the proposals objectives and is the most cost-effective of the options, while maintaining the asset based on its service requirement.
Proposal description and methodology	The proposal involves the roof replacement of WS0213 and installation of a Chemical Dosing Kiosk (CDK).
	The methodology of the proposal includes:
	 establishment of site including temporary site amenities, vegetation trimming and removal
	reservoir dewatering
	demolishing of existing roof infrastructure
	removal of internal bitumen coating
	installation of new roof infrastructure
	internal relining works
	 installation of a retaining wall and upgrading of the existing staircase
	 installation of a CDK and associated access tracks
	demobilisation and restoration of site.
	Indicative plant and equipment to be used for the proposal:
	air compressors



Aspect	Detailed description
	 crane generators hand tools light vehicles site facilities and amenities skip bins storage containers tip trucks waste removal.
Location and land ownership	 The street address of the site is 6 Wilford Street, Corrimal. The land is owned by Sydney Water. Relevant lot and DPs include: Lot 1 DP 532342 Lot 1 DP 1022945 Lot 2 DP 532342. The site includes two reservoirs; WS0213 and WS0033, as shown on Figure 1.
Site establishment and access tracks	The site would be accessed from Wilford Street through a secure, locked access gate. Site establishment may include tree trimming and installing temporary site amenities.
Ancillary facilities (compounds)	During the design phase, the location of compounds and access tracks could not be confirmed. The exact location of these will be chosen by the contractor and remain within the site and approved by Sydney Water's Project Manager as described in the mitigation measures in Section 6.
Work hours	 Work and deliveries will be scheduled during standard daytime hours: 7 am to 6 pm, Monday to Friday 8 am to 1 pm, Saturdays. The proposal is not expected to require work outside these hours. However, Sydney Water's Project Manager can approve work outside of standard daytime hours. The approval process is described in the mitigation measures in Section 6.
Proposal timing	Construction is expected to start mid to late 2024 and take about 4 months.



Figure 1 Location of proposal and environmental constraints

Review of Environmental Factors | Corrimal Reservoir WS0213 Roof Renewal





3 Consultation

Community and stakeholder consultation

Our approach to community and stakeholder consultation is guided by Sydney Water's community and stakeholder engagement guidelines.

Stakeholder and community engagement is a planned process of initiating and maintaining relationships with external parties who have an interest in our activities. Community and stakeholder engagement:

- enables us to explain strategy, policy, proposals, proposal or programs
- gives the community and stakeholders the opportunity to share their knowledge, issues and concerns
- enables us to understand community and stakeholder views in our decision-making processes alongside safety, environment, economic, technical and operational factors.

The nature, scale and extent of the proposal's potential impact has been evaluated in this REF. If our work impacts the community in some way, we will consult with affected groups throughout the proposal. This includes engaging the broader community and stakeholders during plan or strategy development or before making key decisions.

We will also provide local council with reasonable notice when we would like to commence works. Wollongong City Council will be consulted about matters identified in environmental planning instruments. This includes public safety issues, temporary works on council land, and full or partial road closures of council managed roads.

Consultation required under State Environmental Planning Policies and other legislation

Sydney Water must consult with councils and other authorities for work in sensitive locations or where the work may impact other agencies' infrastructure or land. This is specified in the State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP).

No formal consultation was required under the TISEPP. Further detail is provided in Appendix C.

4 Legislative requirements

Table 2 Environmental planning instruments relevant to the proposal

Environmental Planning Instrument	Relevance to proposal
Wollongong Local Environmental Plan 2009 (Wollongong LEP)	The proposal is located on land zoned Infrastructure (SP2).
State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP)	Section 2.159 of the TISEPP permits development by or on behalf of a public authority for water reticulation systems without consent on any land.
	Section 2.158 of the TISEPP defines that water reticulation systems also include water supply reservoirs.

Review of Environmental Factors | Corrimal Reservoir WS0213 Roof Renewal



Environmental Planning Instrument	Relevance to proposal
	As Sydney Water is a public authority, the proposal is permissible without consent.
State Environmental Planning Policy	Vegetation in non-rural areas (Chapter 2)
(Biodiversity and Conservation) 2021 (BC SEPP)	The proposal is in an area and/or zone listed in subsection 2.3(1). However, subsection 2.4(1) states: 'This Policy does not affect the provisions of any other SEPP', and as the works are permissible under the TI SEPP, a council permit to clear vegetation under the BC SEPP is not required.
	Koala habitat protection (2020 and 2021) (Chapters 3 and 4)
	The proposal site is on land zoned Koala Habitat Protection, under section 4.4 of the BC SEPP.
	The BC SEPP outlines that development consent cannot be granted unless there is a plan of management prepared for the relevant local government area. Sydney Water is the determining authority and does not require development consent for vegetation removal in koala habitat.
	Minor vegetation disturbance required for the proposal is assessed in Section 5.

Table 3 Consideration of key environmental legislation

Legislation	Relevance to proposal	Permit or approval	Timing and responsibility
Protection of the Environment Operations Act 1997 (POEO Act)	An EPL does not apply to the proposal. Chapter 5 of the POEO Act defines different types of pollution incidents. Part 5.7 of the POEO Act specifies the duty to notify harm to the environment where there is actual or potential environmental harm. Should one of these incidents occur during construction, the response and investigation to the incident would follow SWEMS0009 - Responding to incidents with an environmental impact.	NA	NA
Heritage Act 1977	The Heritage Act provides for the conservation of environment heritage in NSW. The proposal is located within the curtilage of two heritage items; Corrimal Reservoir WS0033 (ID:4575719), listed on Sydney	Local Heritage Item Impact Approval	Pre-construction, Sydney Water



Relevance to proposal	Permit or approval	Timing and responsibility
Water Heritage and Conservation Register (Section 170) and South Bulli Colliery (ID: 5928) listed on the Wollongong LEP. Both items are of local significance.		
A Local Heritage Item Impact Approval has been prepared for the proposal, refer to Appendix C. The proposal will not have a significant impact on the heritage items. Refer to Section 5 and Appendix D for further details.		
No threatened species, ecological communities or their habitats are anticipated to be impacted by the proposal. Minor vegetation and tree removal will be required for the proposed work and would be managed in accordance with the safeguards in Section 6.	REF	Pre-construction, Sydney Water
	Relevance to proposalWater Heritage and Conservation Register (Section 170) and South Bulli Colliery (ID: 5928) listed on the Wollongong LEP. Both items are of local significance.A Local Heritage Item Impact Approval has been prepared for the proposal, refer to Appendix C. The proposal will not have a significant impact on the heritage items. Refer to Section 5 and Appendix D for further details.No threatened species, ecological communities or their habitats are anticipated to be impacted by the proposal.Minor vegetation and tree removal will be required for the proposed work and would be managed in accordance with the safeguards in Section 6.	Relevance to proposalPermit or approvalWater Heritage and Conservation Register (Section 170) and South Bulli Colliery (ID: 5928) listed on the Wollongong LEP. Both items are of local significance.Figure 1000000000000000000000000000000000000





5 Environmental assessment

The environmental impacts checklist (SWEMS0019.01) was completed for the works which considers all environmental aspects. Table 4 includes only the potentially impacted aspects.

Aspect	Potential impacts
Topography, geology and soils	The site is on land which slopes to the west, from about 75 metres to 71 metres Australian Height Datum. No areas of salinity or acid sulfate soils were identified within the site.
	Excavation would be required for the installation of the hardstand and CDK. The impact from the excavations would be minor (up to 50 centimetres deep) and localised with implementation of mitigation measures. Local topography would not be substantially altered during construction and operation.
	There is the potential for soil to become contaminated through accidental chemical or fuel spills and leaks from construction plant and equipment, and maintenance activities during operation.
	Potential topography, geology and soil impacts will be managed by implementing the safeguards listed in Section 6.
Water and drainage	The nearest waterway is Bellambi Gully, about 90 metres east of the site.
	Before replacing the reservoir roof, the water in the reservoir would be reduced to a low level through customer use of water. The remaining water would then be dewatered into the environment via a scour into Bellambi Gully. Water will be discharged in accordance with Sydney Water's discharge protocol to prevent any water quality impacts.
	Groundwater is not anticipated to found during construction works.
	The proposal will require temporary storage of fuels and/or chemicals for equipment and machinery operation during construction and operation. Potential impacts include accidental leaks, spills and seepage into the soils, groundwater, nearby waterway or local stormwater system. Any fuels and chemicals required to be stored on site will be securely bunded.
	Potential impacts to water and drainage will be managed by implementing the mitigation measures listed in Section 6.
Flora and fauna	There are no groundwater dependent ecosystems or BioNet species sighting records within 200 metres of the site.
	Plant Community Types (PCT) within the site:
	 PCT 3153 Illawarra Escarpment Bangalay x Blue Gum Wet Forest
	PCT 3155 Illawarra North-Pittwater Bangalay Moist Forest
	 PCT 3327 Illawarra Lowland Red Gum Grassy Forest. (has associated Threatened Ecological Communities).

Table 4 Key environmental aspects and potential impacts of construction and operation



Aspect	Potential impacts	
	Two trees are to be removed during construction of the proposal; Monterey Cypress (<i>Cupressus macrocarpa</i>) and Cotoneaster (<i>Cotoneaster sp.</i>). The trees are exotic and are not associated with the PTCs. The removal of the trees is required to allow for heavy vehicles to access the site and some trimming may occur within the site to allow for construction activities.	
	Impact to flora is anticipated due to the loss of vegetation and potential reduction of habitat for fauna, this is however not anticipated to have a significant impact.	
	With the implementation of mitigation measures in Section 6 and the minor nature of the proposed works, it is unlikely that the proposal would result in a significant biodiversity impact.	
Heritage	Aboriginal heritage	
	No known Aboriginal heritage items within 200 metres of the site. The likelihood of encountering previously unknown archaeological items is considered low due to previous disturbance of the site.	
	Historic heritage	
	The proposal is located within the curtilage of two heritage items; Corrimal Reservoir WS0033 (ID:4575719), listed on Sydney Water Heritage and Conservation Register (Section 170) and South Bulli Colliery (ID: 5928) listed on the Wollongong LEP. Both items are of local significance.	
	A Local Heritage Item Impact Approval has been prepared by Sydney Water's heritage advisor to assess the potential impacts of the proposal on the heritage items, refer to Appendix D.	
	The South Bulli Colliery has been previously disturbed for the construction of the reservoir in 1966. The proposal would impact less than one percent of the heritage items area. The proposal is unlikely to impact any archaeological features, heritage fabric or value of the South Bulli Colliery.	
	The proposal would not impact the heritage values of WS0033 including the rarity of the reservoir or the way it was constructed. The proposed works would ensure the continued use of all water provision assets within the heritage curtilage of the item.	
	With the implementation of mitigation measures in Section 6 and the minor nature of the proposed works, the proposal would not have a significant heritage impact.	
Noise and vibration	Noise	
	The proposal is within a semi-rural setting. The existing noise environment is influenced by infrequent road traffic. The works would generate noise during construction from the operation of machinery and equipment. Works are proposed to be carried out over 5 shifts per week	

Acrest	Potontial imposto
Aspeci	
	(i.e. Monday through Friday 7am to 6pm). Construction would mostly occur during standard daytime hours and is expected to take about four months to complete.
	Based on the risk profile of the works from Table 2 of the Draft Construction Noise Guideline (EPA, 2020), a quantitative noise assessment was performed for the proposal. The purpose of the noise assessment was to assess the predicted worst-case noise impacts. This identified recommended additional mitigation measures for impacted receivers at different distances from the works, which would guide community engagement for the site. The noise assessment was performed using the Transport for NSW Construction and Maintenance Noise Estimator. The modelled scenarios comprised of the following inputs:
	Representative noise environment – R2
	Distance based noisiest plant – abrasive blasting
	 Line of sight to the receiver – Yes.
	Noise levels higher than the existing environment during the day would be heard within 110 metres of the proposed works. There are no residential receivers within 110 metres of the site, therefore noise impacts are anticipated to be minimal.
	Vibration
	It is anticipated that the works would involve minor vibratory activities such as the use of an abrasive blaster. There are no structures adjacent to the reservoir that may be impacted to the minor vibratory activities. No vibration impacts are anticipated.
Air and energy	The nearest sensitive receivers which may be impacted by changes to air quality are the residents located about 140 metres from the site.
	Dust and pollution impacts may result from:
	Dust generated during excavation
	 Dust generated by construction vehicles travelling on disturbed/ unsealed access routes or on unsealed laydown areas or road verges
	 Emissions from machinery, equipment and vehicles used during construction.
	Due to distance from sensitive receivers and minor nature of excavation works air quality impacts are considered to be negligible.
	During construction the proposal would require increased energy and this would marginally increase Sydney Water's total energy use. During

operation he proposal would be operated in accordance with energy use

procedures that apply to Sydney Water's existing network.



Aspect	Potential impacts	
	Air quality and energy use would be managed by implementing the mitigation measures listed in Section 6.	
Waste and hazardous materials	HazCentral identified asbestos and lead paint and within the site and WS0213. Before construction starts WS0213 would be inspected for these hazardous materials to confirm their location and appropriate removal of the materials.	
	Construction waste streams are anticipated to include:	
	Redundant assets	
	Domestic waste	
	Contaminated materials	
	Excavated soil	
	Green waste.	
	Waste will be stored in separate skip bins or delineated areas within the compound or taken directly off-site to a facility licenced to accept the waste. Recycling or re-use of waste streams such as green waste and concrete is encouraged where possible.	
	Waste and hazardous materials would be managed by implementing the mitigation measures listed in Section 6.	
Traffic and access	The site is accessed via a locked gate from Wilford Street, a local road managed by Wollongong City Council. The site is located at the end of the road, therefore traffic volumes along this road are anticipated to be low.	
	At peak construction, up to 15 light vehicles and up to 5 heavy vehicles would access the site per shift. Most of the vehicles would be parked within the site however, if required, parking along Wilford Street would occur. Access to nearby residential properties, and existing Sydney Water assets would be maintained. It is not expected that any traffic control would be required.	
	Traffic and access would be managed by implementing the mitigation measures listed in Section 6.	
Social and visual	The proposal has the potential to cause social impacts associated with air quality and noise, which have been assessed above. Visual impacts associated with construction activities are expected to be low, as all the works are partially screened by vegetation and is about 140 metres from the closest receiver.	
	The impacts to visual amenity during operation would be limited. The new roof would be like for like and the additional infrastructure, such as the new staircase and CDK, are consistent with the existing use of the site. Retained vegetation would screen the additional infrastructure at the site from nearby residents.	



Aspect	Potential impacts
	Social and visual impacts would be managed by implementing the mitigation measures listed in Section 6.
Cumulative and future trends	Sydney Water is not aware of any planned or future work that will overlap with these works being performed. Development applications currently (March 2024) active or determined in the last 6 months for the suburb of Corrimal relate to localised residential developments and changes to existing buildings.
	Overall, potential impacts of the proposed works are expected to be minor and localised, and unlikely to make a significant contribution to any cumulative environmental impact on a local or regional scale.



6 Environmental mitigation measures

Table 5 Mitigation measures

Mitigation measures

Sydney Water's Project Manager (after consultation with the environmental and community representatives and affected landowners) can approve temporary ancillary construction facilities (such as compounds and access tracks), without additional environmental assessment or approval if the facilities:

- limit proximity to sensitive receivers
- do not disrupt property access
- have no impact to known items of non-Aboriginal and Aboriginal heritage
- are outside high risk areas for Aboriginal heritage
- use existing cleared areas and existing access tracks
- have no impacts to remnant native vegetation or key habitat features
- have no disturbance to waterways
- do not require additional safeguards beyond those included in the EIA
- do not disturb contaminated land or acid sulfate soils
- will be rehabilitated at the end of construction.

The Delivery Contractor must demonstrate in writing how the proposed ancillary facilities meet these principles. Any facilities that do not meet these principles will require additional environmental impact assessment. The agreed location of these facilities must be shown on the Construction Environmental Management Plan (CEMP) and appropriate environmental controls installed.

Should the proposal change from the EIA, no further environmental assessment is required provided the change:

- remains within the site for the EIA and has no net additional environmental impact or
- is outside the site for the EIA but:
 - o reduces impacts to biodiversity, heritage or human amenity or
 - o avoids engineering (for example, geological, topographical) constraints and
 - o after consultation with any potentially affected landowners and relevant agencies.

The Delivery Contractor must demonstrate in writing how the changes meet these requirements, for approval by Sydney Water's Project Manager in consultation with the environmental and community representatives.

Prepare a CEMP addressing the requirements of this environmental assessment. The CEMP should specify licence, approval and notification requirements. Prior to the start of work, all project staff and contractors will be inducted in the CEMP.

The CEMP must be readily available on site and include a site plan which shows:

- no go areas (e.g. PCTs and boundaries of the site including locations of lay-down and storage areas for materials and equipment
- location of environmental controls (such as erosion and sediment controls, fences or other measures to protect vegetation or fauna, spill kits)
- location and full extent of any vegetation disturbance.

Prepare an Incident Management Plan (IMP) outlining actions and responsibilities for:

- predicted/onset of heavy rain during works
- spills
- unexpected finds (e.g. heritage and contamination)
- other potential incidents relevant to the scope of works.



All site personnel must be inducted into the IMP.

To ensure compliance with legislative requirements for incident management (e.g. *Protection of the Environment Operations Act 1997*), Follow <u>SWEMS0009</u> and attach <u>SWEMS0009</u> to the CEMP.

Complaints to be managed in accordance with Sydney Water's Complaints Procedure and relevant Community Engagement Plan.

Assign single person with accountability for coordinating communication and information flow across contractors and consultants and provide the contact details of this person in the EWMS and/or CEMP.

Topography, geology and soils

Prevent sediment moving offsite in accordance with Managing Urban Stormwater, Soils and Construction, Volume 1 and 2A (Landcom 2004 and DECC 2008), including, but not limited to:

- · divert surface runoff away from disturbed soil and stockpiles
- install sediment and erosion controls before construction starts
- reuse topsoil where possible and stockpile separately
- inspect controls at least weekly and immediately after rainfall
- rectify damaged controls immediately
- remove controls once surfaces have been stabilised, including removing trapped sediment in drainage lines.

Minimise ground disturbance and stabilise disturbed areas progressively.

Delivery Contractor to ensure imported material is Virgin Excavated Natural Materials (VENM) or meets a relevant NSW EPA Resource Recovery Order and Resource Recovery Exemption, or is a commercially supplied material that is not waste.

If using materials that are subject to a NSW EPA Resource Recovery Order/Exemption the Delivery Contractor must ensure the conditions in that Order/Exemption are strictly adhered to.

Stop work in the immediate vicinity of suspected contamination. Indicators of contamination include discoloured soil, anthropogenic material within fill, asbestos, chemical or petrol odours and leachate. Contain disturbed material on an impermeable surface and cordon areas off. Notify the Sydney Water Project Manager and the Environmental Representative (who will contact Property Portfolio Environmental team) to agree on proposed management approach.

Stop work during heavy rainfall or in waterlogged conditions when there is a risk of sediment loss off site.

Sweep up any sediment/soil transferred off site at least daily, or before rainfall.

Water and drainage

Keep functioning spill kit on site for clean-up of accidental chemical/fuel spills. Keep the spill kits stocked and located for easy access.



If the potential for intercepting groundwater is identified after the REF is determined, Sydney Water will obtain a groundwater Water Supply Works Approval. Where dewatering is >3 ML per water year (from 1 July), Sydney Water will also obtain a Water Access Licence from NRAR. The Delivery Contractor is responsible for:

- · providing expert hydrogeological technical information to obtain the approvals
- preparing a Dewatering Management Plan
- complying with the conditions of the approvals (such as protecting water quality; minimising aquifer extraction volumes, monitoring extraction with flow meters and recording volumes).

Discharge all water in accordance with Sydney Water's Water Quality Management During Operational Activities Policy (D0001667) including erosion controls, discharge rate, dechlorination, monitoring. Re-use potable / groundwater water where possible.

Store all chemicals and fuels in accordance with relevant Australian Standards and Safety Data Sheets. Record stored chemicals on site register. Ensure bunded areas have 110% capacity of the largest chemical container, or an additional 25% capacity of the total volume stored within (whichever is greater). Tightly secure chemicals and fuels in vehicles. Clearly label all chemicals.

Conduct refuelling, fuel decanting and vehicle maintenance in compounds where possible. If field refuelling is necessary, designate an area away from waterways and drainage lines with functioning spill kits close by.

Ensure equipment is leak free. Repair oil/fuel leaks immediately or remove from site and replace with a leak-free item.

Flora and fauna

Provided it is essential for delivering the project, Sydney Water's Project Manager can approve the following vegetation removal and tree trimming, without additional environmental assessment (but only after consultation with the Environmental and Community Representatives and affected landowners). Sydney Water considers vegetation removal in these circumstances has minimal environmental impact.

- Any minor:
 - vegetation trimming or
 - removal of exotic vegetation or
 - o removal of planted native vegetation

where the vegetation is not a threatened species (including a characteristic species of a threatened community or population), heritage listed, in declared critical habitat or in a declared area of outstanding biodiversity value.

• Any removal of remnant vegetation where there is no net change to environmental impact (e.g. a different area of vegetation is removed but the total area is the same or less than assessed in the EIA).

Written explanation of the application of this clause (including justification of the need for trimming or removal and any proposed revegetation) should be provided when seeking Project Manager approval. Any impacts to native vegetation and trees must be offset in accordance with the Biodiversity Offset Guideline (<u>SWEMS0019.13</u>).

Offset residual impacts to native vegetation and trees in accordance with the Biodiversity Offset Guideline (<u>SWEMS0019.13</u>).

Adjust methodology (e.g. avoid area, hand excavate, implement exclusion fencing) to protect sensitive areas where possible (such as mature trees, known threatened species, populations or ecological communities).

Protect trees in accordance with the requirements of Australian Standard 4970-2009 for the Protection of Trees on Development Sites. Do not damage tree roots unless absolutely necessary, and engage a qualified arborist where roots >50mm are impacted within the Tree Protection Zone.

Inspect vegetation for potential fauna prior to clearing or trimming. If fauna is present, engage WIRES or a licenced ecologist to inspect and relocate fauna before works.





If native fauna is encountered on site, stop work and allow the fauna to move away unharassed. Engage WIRES or a licenced ecologist if assistance is required to move fauna.

If any threatened species (flora or fauna) is discovered during the works, stop work immediately and notify the Sydney Water Project Manager. Work will only recommence once the impact on the species has been assessed and appropriate control measures implemented.

If any damage occurs to vegetation outside of the assessed areas for the proposal (as shown in the CEMP), notify the Sydney Water Project Manager and Environmental Representative so that appropriate remediation strategies can be developed.

Manage biosecurity in accordance with:

- Biosecurity Act 2015 (see NSW Weedwise), including reporting new weed infestations or invasive pests
- contemporary bush regeneration practices, including disposal of sealed bagged weeds to a licenced waste disposal facility.

Record Pesticides and Herbicides use in accordance with SWEMS0017.

In TOBAN, activities involving general purpose hot works (that are not essential/emergency works) require an exemption. Exemption requests are to be submitted to CDResiliencePrograms@sydneywater.com.au or CustomerHub.DutyManager@sydneywater.com.au. Staff and contractors must not contact local RFS directly to seek their own exemption.

Heritage

Repeat the basic AHIMS search if it is older than 12 months. Conduct additional assessment if new sites are registered and could be impacted by the works.

If any Aboriginal object or non-Aboriginal relic is found, cease all excavation or disturbance in the area and notify Sydney Water Project Manager in accordance with SWEMS0009.

A photographic recording is required before the works commence and after the works are completed. A copy of the photographic recording must be lodged with Sydney Water's heritage staff in Environment and Heritage, in WES, to enable the s.170 entry to be appropriately updated, as required by the *Heritage Act 1977*.

Noise and vibration

Works must comply with the Draft Construction Noise Guideline (EPA, 2020), including scheduling work and deliveries during standard daytime working hours of 7am to 6pm Monday to Friday and 8am to 1pm Saturday. No work to be scheduled on Sunday nights or public holidays. Any proposed work outside of these hours must be justified. The proposal will also be carried out in accordance with Sydney Water's Noise Management Procedure SWEMS0056 and Noise Policy for Industry (EPA, 2017).

All reasonable and feasible noise mitigation measures should be justified, documented and implemented on-site to mitigate noise impacts.

Incorporate standard daytime hours noise management safeguards into the CEMP, including but not limited to:

- Identify and consult with the potentially affected residents prior to commencement of works. This should:
 - describe the nature of works, the expected noise impacts, approved hours of work, duration, complaints handling and contact details
 - determine need for, and appropriate timing of respite periods (e.g. times identified by the community that are less sensitive to noise such as mid-morning or mid-afternoon for works near residences).
- Implement a noise complaints handling procedure.
- Do not warm-up plant or machinery near residential dwellings before the nominated working hours.
- Select appropriate plant for each task, to minimise the noise impact (e.g. all stationary and mobile plant will be fitted with residential type silencers).





- Do not use engine brakes when entering or leaving the work site(s) or within work areas.
- Regularly inspect and maintain equipment in good working order.
- Arrange work sites where possible to minimise noise (e.g. generators away from sensitive receivers, site set up to minimise use of vehicle reversing alarms, site amenities and/ or entrances away from noise sensitive receivers).
- Use natural landforms/ mounds or site sheds as noise barriers.
- Schedule noisy activities around times of surrounding high background noise (local road traffic or when other noise sources are active).

If works beyond standard daytime hours are needed, the Delivery Contractor would:

- consider potential noise impacts and implement the relevant standard daytime hours safeguards, follow Sydney Water's Noise Management Code of Behaviour (SWEMS0056.01) and document all reasonable and feasible management measures to be implemented
- identify additional community notification requirements and outcomes of targeted community consultation
- seek approval from the Sydney Water Project Manager in consultation with the environment and communications representatives.

Air and energy

Use alternatives to fossil fuels where practical and cost-effective.

Track energy use as per SWEMS0015.28 Contractor NGER template.

Maintain equipment in good working order, comply with the clean air regulations of the *Protection of the Environment Operations Act 1997*, have appropriate exhaust pollution controls, and meet Australian Standards for exhaust emissions.

Switch off vehicles/machinery when not in use.

Implement measures to prevent offsite dust impacts, for example:

- Water exposed areas (using non-potable water source where possible such as water from excavation pits).
- Modify or cease work in windy conditions.

Cover all transported waste.

Waste generation

Manage waste in accordance with relevant legislation and maintain records to show compliance e.g. waste register, transport and disposal records. Record and submit <u>SWEMS0015.27 Contractor Waste Report.</u>

Provide adequate bins for general waste, hazardous waste and recyclable materials.

Minimise stockpile size and ensure delineation between different stockpiled materials.

Minimise the generation of waste and sort waste streams to maximise reuse/recycling in accordance with the legislative requirements.

Manage waste and excess spoil in accordance with the NSW EPA Resource Recovery Orders and Exemptions (if applicable) and / or Waste Classification Guidelines. Where materials are not suitable or cannot be reused onsite or



offsite, recycle where appropriate. Recycle soils at a licensed soil recycling facility or dispose at an appropriately licenced landfill facility.

Prevent pollutants from escaping including by covering skip bins.

Dispose excess vegetation (non-weed) that cannot be used for site stabilisation at an appropriate green waste disposal facility.

If fibro or other asbestos containing material is identified, restrict access and follow Sydney Water's Asbestos Management – Minor Works procedure, Document Number 746607 and SafeWork NSW requirements. Contact Sydney Water Project Manager (who will consult with Property Portfolio Environmental team property environmental @sydneywater.com.au).

Manage lead paint in accordance with the WHS Regulation (2017) Part 7.2 and the Australian Standard Lead Paint Management Guidelines. Consult with Property Portfolio Environmental team where works involve removal of lead-based paint. Develop a Lead Management Plan if required.

Review existing hazardous building materials (HBM) report and implement relevant safeguards. Conduct hazardous materials survey prior to commencement where works could impact hazardous materials not surveyed in previous HBM assessments.

Traffic and access

Ensure work vehicles do not obstruct vehicular or pedestrian traffic, or private driveway, public facility or business access unless necessary and only if appropriate notification has been provided.

Social and visual

Undertake works in accordance with Sydney Water Communications policies and requirements including:

- Notify impacted residents and businesses.
- Erect signs to inform the public on nature of work.
- Treat community enquiries appropriately.

Restore work sites to pre-existing condition or better.

Minimise visual impacts (e.g. retain existing vegetation where possible).

Maintain work areas in a clean and tidy condition.



Appendix A – Section 171 checklist

Section 171 checklist	REF finding
Any environmental impact on a community	There may be minor short-term impacts on the community from loss of biodiversity and heritage impacts. However, there will be environmental improvements by providing a reliable water service to the local community.
Any transformation of a locality	The proposal will not result in the transformation of a locality.
Any environmental impact on the ecosystems of the locality	The proposal would remove two exotic trees to allow access to the site. This will not result in environmental impacts to ecosystems of the locality. The proposal will lead to environmental improvements by ensuring a reliable water service.
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality	The proposal will not reduce the aesthetic, recreational, scientific or other environmental quality or value of the locality.
Any effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or any other special value for present or future generations	The proposal will not have any effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or any other special value for present or future generations.
Any impact on the habitat of any protected animals (within the meaning of the <i>Biodiversity Conservation Act 2016</i>)	The proposal would remove two and trim several trees, that are not associated with any threataaned ecological communities. The proposal is not anticipated to have a significant impact on the habitat of protected animals.
Any endangering of any species of animal or plant or other form of life, whether living on land, in water or in the air	The proposal would remove two and trim several trees, this would not be endangering any species of animal, plant or other form of life, whether living on land, in water or in the air.
Any long-term effects on the environment	The proposal will not have any long-term impacts on the environment but will have a long-term benefit by providing a reliable and modern water service for the area.
Any degradation of the quality of the environment	The proposal will not cause the degradation of the quality of the environment.
Any risk to the safety of the environment	The proposal will not increase risk to the safety of the environment.
Any reduction in the range of beneficial uses of the environment	The proposal will not reduce the range of beneficial uses of the environment.
Any pollution of the environment	Environmental mitigation measures will mitigate the potential for the proposal to pollute the environment.



Section 171 checklist	REF finding
Any environmental problems associated with the disposal of waste	Waste disposal will be in accordance with the environmental mitigation measures, and no environmental problems associated with the disposal of waste are expected.
Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply	The proposal will not increase demand on resources, that are, or are likely to become, in short supply.
Any cumulative environmental effect with other existing or likely future activities	The proposal will not have any cumulative environmental effect with other existing or likely future activities.
Any impact on coastal processes and coastal hazards, including those under projected climate change conditions	The proposal will not have any impact on coastal processes or hazards, and coastal processes and coastal hazards will not have any impact on the proposal.
Any applicable local strategic planning statements, regional strategic plans or district strategic plans made under the EP&A Act, Division 3.1	There are no applicable strategic planning statements or plans, as the proposal forms part of a renewals program.
Any other relevant environmental factors.	The proposal has been assessed against the factors listed above, and there are no other relevant environmental factors to consider.

Appendix B – Consideration of principles of ecologically sustainable development (ESD)

Principle	Proposal alignment
Precautionary principle - <i>if there are threats</i> of serious or irreversible environmental damage, lack of scientific uncertainty should not be a reason for postponing measures to prevent environmental degradation. Public and private decisions should be guided by careful evaluation to avoid serious or irreversible damage to the environment where practicable, and an assessment of the risk-weighted consequences of various options.	The proposal will not result in serious or irreversible environmental damage and mitigation measures have been designed to reduce scientific uncertainty relating to the proposal.
Inter-generational equity - the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.	The proposal will help to meet the needs of future generations by providing a reliable water service.
Conservation of biological diversity and ecological integrity - conservation of the biological diversity and ecological integrity should be a fundamental consideration in environmental planning and decision-making processes.	The proposal would remove and trim some trees, this will not significantly impact on biological diversity or impact ecological integrity.
Improved valuation, pricing and incentive mechanisms - environmental factors should be included in the valuation of assets and services, such as 'polluter pays', the users of goods and services should pay prices based on the full life cycle costs (including use of natural resources and ultimate disposal of waste) and environmental goals	The proposal will provide cost efficient use of resources and provide optimum outcomes for the community and environment.



Appendix C – Consideration of TISEPP consultation

Appendix C – Consideration of TISEPP consultation		
TISEPP section	Yes	No
Section 2.10, council related infrastructure or services – consultation with council		
Vill the work:		-
Potentially have a substantial impact on stormwater management services provided by council?		Х
Be likely to generate traffic that will strain the capacity of the road system in the LGA?		Х
Connect to, and have a substantial impact on, the capacity of a council owned sewerage system?		Х
Connect to, and use a substantial volume of water from a council owned water supply system?		Х
Require temporary structures on, or enclose, a public space under council's control that will disrupt bedestrian or vehicular traffic that is not minor or inconsequential?		Х
Excavate a road, or a footpath adjacent to a road, for which the council is the roads authority, that is not minor or inconsequential?		Х
Section 2.11, local heritage – consultation with council		-
Is the work likely to affect the heritage significance of a local heritage item, or of a heritage conservation area (not also a State heritage item) more than a minor or inconsequential amount?		Х
Section 2.12, flood liable land – consultation with council		
Will the work be on flood liable land (land that is susceptible to flooding by the probable maximum flood event) and will works alter flood patterns other than to a minor extent?		Х
Section 2.13, flood liable land – consultation with State Emergency Services		
Will the work be on flood liable land (land that is susceptible to flooding by the probable maximum flood event) and undertaken under a relevant provision*, but not the carrying out of minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance? (e) Div.14 (Public admin buildings), (g) Div.16 (Research/ monitoring stations), (i) Div.20 (Stormwater systems)?		x
Section 2.14, development with impacts on certain land within the coastal zone– council consu	ultation	1
s the work on land mapped as coastal vulnerability area and inconsistent with a certified coastal management program?		x
Section 2.15, consultation with public authorities other than councils		
Nill the proposal be on land adjacent to land reserved under the National Parks and Wildlife Act 1974 or land acquired under Part 11 of that Act? If so, consult with DPE (NPWS).		х
Will the proposal be on land in Zone C1 National Parks and Nature Reserves or on a land use zone that is equivalent to that zone? <i>If so, consult with DPE (NPWS).</i>		х
Will the proposal include a fixed or floating structure in or over navigable waters? If so, consult <i>TfNSW.</i>		х
Will the proposal be on land in a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017? If so, consult with Subsidence Advisory NSW.		x
Will the proposal be on land in a Western City operational area specified in <i>the Western Parkland</i> City Authority Act 2018, Schedule 2 and have a capital investment value of \$30 million or more? If so, consult the Western Parkland City Authority.		x
Will the proposal clear native vegetation on land that is not subject land (ie non-certified land)? If so, notify DPE at least 21 days prior to work commencing. (Requirement under s3.24 Chapter 3 Sydney Region Growth Centres - of the SEPP (Precincts – Central River City) 2021).		Х





Appendix D – Local Heritage Item, Impact Approval





SW 100 09/24 © Sydney Water. All rights reserved.

SWEMS0025.03v1