

Review of Environmental Factors

SP0895 Mechanical and Electrical Upgrade

1 Determination

This Review of Environmental Factors (REF) assesses potential environmental impacts of SP0895 Mechanical and Electrical Upgrade (the proposal). The REF was prepared under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), with Sydney Water 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 flora, noise amenity, waste and hazardous materials and traffic. During operation, the main potential impacts are associated with visual amenity. 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) 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: 23/01/24	Grace Corrigan Environment Representative Sydney Water Date: 31/01/24	George Alam Project Manager Sydney Water Date: 31/01/2024	Murray Johnson Environment and Heritage Manager Sydney Water Date: 19/02/2024

2 Proposal description

Table 1 Description of proposal

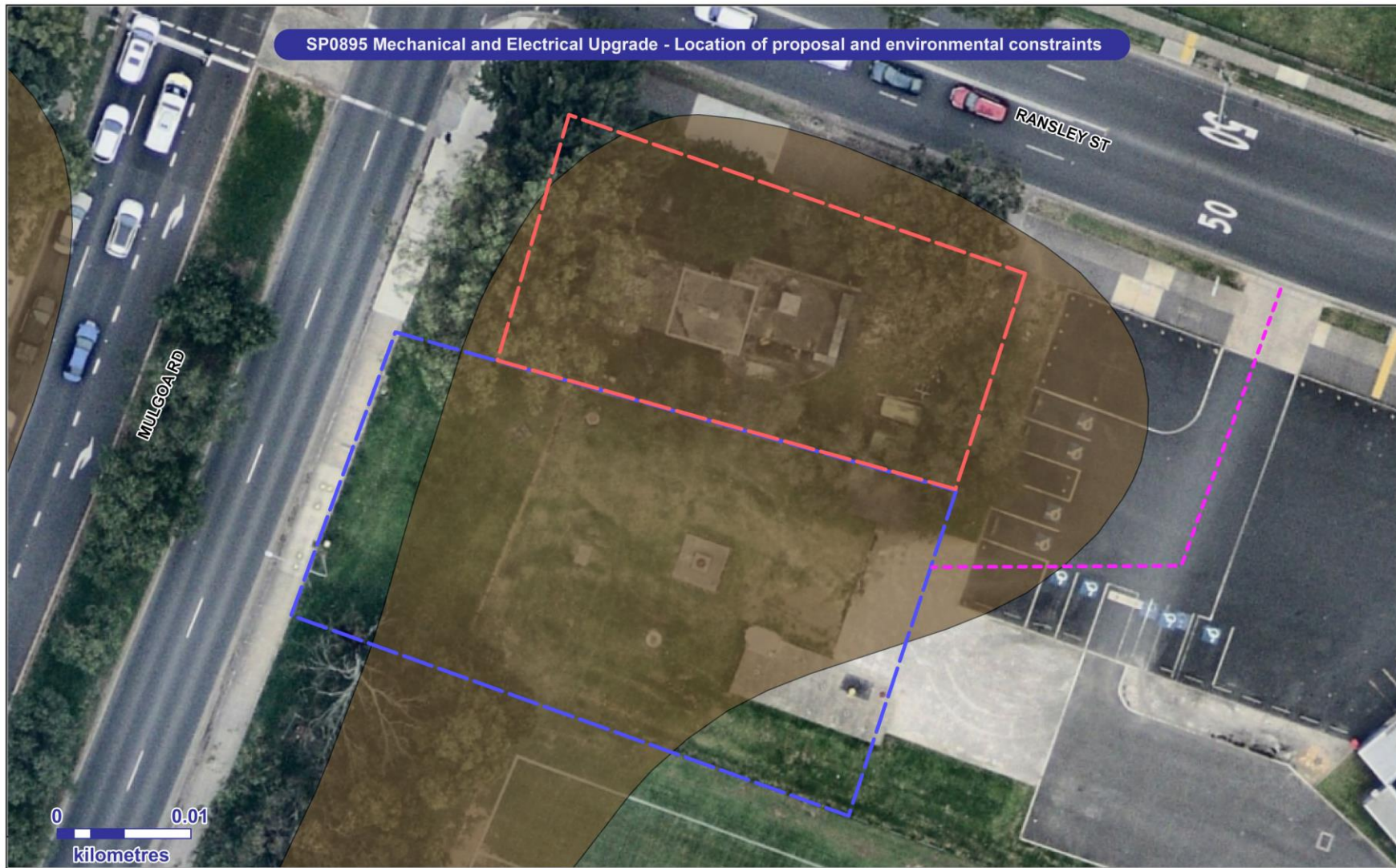
Aspect	Detailed description
Proposal need and objectives	<p>Wastewater pumping station SP0895 requires mechanical and electrical upgrades (the proposal).</p> <p>Some equipment in the pumping station has not been upgraded since the construction of SP0895 in 1965. The pumping station motors and starters are now obsolete resulting in long lead times for replacement parts. There is an increasing trend of maintenance and breakdown events.</p> <p>The main objectives of the proposal are to:</p> <ul style="list-style-type: none">• ensure reliability of SP0895• be compliant with Sydney Water standards. <p>Pumping station capacity will remain the same after the works have been completed.</p>
Consideration of alternatives/options	<p>A Do-Nothing option risks further asset deterioration and potentially leads to failures. This would disrupt wastewater services to customers, potentially cause damage to the surrounding environment and have safety implications.</p> <p>No options assessment was performed for the proposal. Locations of new equipment were identified based on proximity to existing assets and plans for future work at the site.</p>
Proposal description and methodology	<p>The proposal includes completing mechanical and electrical upgrades at SP0895 and the establishment of a temporary construction compound, as outlined in more detail below.</p> <p>The proposal scope includes the following renewal works at SP0895:</p> <ul style="list-style-type: none">• Establish site including vegetation trimming and compound setup• Provide temporary bypass as required for the construction works• Replace existing pumps with dry mounted variable speed drives submersible pumps• Access, safety and isolation improvements to meet Sydney Water standards and specifications• Undertake a condition assessment of the wet well, decommission redundant ladders and handrails in the wet well and replace existing dry well and wet well ventilation system• Replace equipment including pump suction, discharge isolation, valves and pipework, in the dry well• Replace various pumping equipment, valves and pipes in the external valve chamber• Supply and install new equipment including flowmeters, motorised and manual lifts• Supply and install new auxiliary distribution board

Aspect	Detailed description
	<ul style="list-style-type: none"> • Relocate junction boxes above the 1 in 100-year flood level and install flood gates around the superstructure as flood mitigation measures • Supply and install new bypass connection • Perform associated electrical and instrumentation and control works for the pump and electrical equipment renewals • Complete all associated civil and structural works including minor door access upgrades • Decommission, remove, and dispose material made redundant by the renewal works. <p>Proposed plant and equipment includes:</p> <ul style="list-style-type: none"> • air compressors • backhoes • compactor • concrete agitator trucks • concrete pumps • concrete saws • confined spaces safety equipment (e.g. gantry/davit) • cranes • excavators • generators • hand tools • jackhammers • light vehicles • sediment tank • site facilities and amenities • skip bins • storage containers • street sweepers • tip trucks • vacuum trucks. <p>The proposal area includes the SP0895 site and the ancillary facility (construction compound), as shown in Figure 1.</p>


Location and land ownership

The proposal is located in the suburb of Penrith, in the Penrith City Council Local Government Area, on the corner of Mulgoa Road and Ransley Street.

Aspect	Detailed description
	SP0895 is owned and operated by Sydney Water on Lot 1 DP 773983. The construction compound would occupy Lot 2 DP 1147219, which is Crown Land and managed by Penrith City Council.
Site establishment and access tracks	The proposal area would be accessed from Ransley Street through an existing car park, refer to Figure 1.
Ancillary facilities (compound)	A construction compound would be required for site sheds, construction amenities and materials laydown. An indicative location for the compound is shown on Figure 1.
Work hours	<p>Work and deliveries will be scheduled during standard daytime hours:</p> <ul style="list-style-type: none"> • 7am to 6pm, Monday to Friday • 8am to 1pm, Saturdays. <p>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.</p>
Proposal timing	Construction is expected to start early 2024 and take about 3 months.



Sydney
WATER

 SP0895
 Construction Compound

 Site Access
 Cumberland Shale Plains Woodland

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Sydney Water
NSW Department of Planning, Industry & Environment
NSW Spatial Services
Australian Government Department of Environment
Date Created: 19/02/2024



Figure 1 Location of proposal and environmental constraints
Review of Environmental Factors | SP0895 Mechanical and Electrical Upgrade

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.

The land the construction compound is on is Crown Land and managed by Penrith City Council. Consultation with Penrith City Council has been ongoing from November 2023 to lease the land for the construction compound. We will also provide Penrith City Council with reasonable notice when we would like to commence works.

Consultation required under State Environmental Planning Policies and other legislation

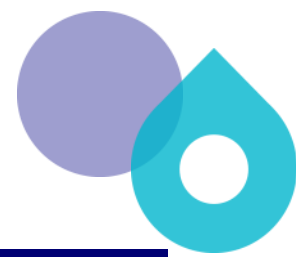
Sydney Water must consult with council and other authorities for work in sensitive locations or where the work may impact other agencies’ infrastructure or land. This is specified in the State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP).

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
Penrith Local Environmental Plan 2010 (Penrith LEP)	The proposal is located on land zoned as Public Recreation (RE1).
State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP)	Section 2.126(6) of the TISEPP permits development for sewerage reticulation systems without consent on any land in the prescribed circumstance. Development carried out by or on behalf of a public authority is a prescribed circumstance (2.126(1)). As Sydney Water is a public authority and the proposal involves the upgrade and maintenance of a wastewater



Environmental Planning Instrument	Relevance to proposal
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pumping station (part of a sewerage reticulation system), the proposal is permissible without consent.

State Environmental Planning Policy (Biodiversity and Conservation) 2021 (BCSEPP)

Vegetation in non-rural areas (Chapter 2)

The proposal is in an area or zone listed in subsection 2.3(1). Although the proposal involves some vegetation removal, subsection 2.4(1) states: 'This Policy does not affect the provisions of any other SEPP....', and as the works are permissible under the TISEPP, a council permit to clear vegetation under this SEPP is not required.

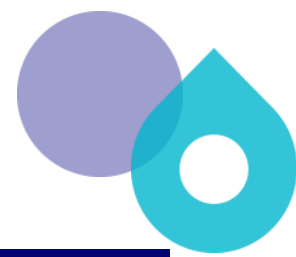
Water catchments (Chapter 6)

Chapter 6 of this SEPP applies as the proposal is within the Hawkesbury-Nepean Catchment, a regulated catchment area. Section 5 of this REF assessed potential environmental impacts on water quality and quantity, aquatic ecology, flooding, access, cultural heritage, flora and fauna, and scenic quality (social and visual). The assessment confirmed that potential impacts are negligible and meet the requirements of part 6.2 of the SEPP.

Table 3 Consideration of key environmental legislation

Legislation	Relevance to proposal	Permit or approval	Timing and responsibility
<i>Protection of the Environment Operations Act 1997</i> (POEO Act)	<p>SP0895 operates under EPL1409 for Penrith sewage treatment system. No changes are needed to the EPL as part of the proposal.</p> <p>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.</p>	N/A	N/A
<i>Biodiversity Conservation Act 2016</i> (BC Act)	A Biodiversity Assessment (Appendix D) was undertaken for the proposal, and included an Assessment of Significance as per section 7.3 of the BC Act. The assessment concluded:	N/A	N/A





Legislation	Relevance to proposal	Permit or approval	Timing and responsibility
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- Up to 0.02 hectares of the threatened ecological community (TEC) Cumberland Plain Woodland in the Sydney Basin Bioregion would be removed by the proposal. The loss of the TEC would not have a significant impact
- No impacts to threatened fauna are anticipated.

No additional approvals are required.

<i>Roads Act 1993</i>	<p>Temporary traffic control may be required during construction to allow for crane access.</p> <p>Ransley Street is a local road (managed by Penrith City Council), Mulgoa Road is a State road (managed by Transport for NSW).</p> <p>Should lane closures be required, consultation will be undertaken with Transport for NSW and/or Penrith City Council before construction starts to obtain a Road Occupancy Licence in accordance with s.138 of the Act.</p>	Road Occupancy Licence	Pre-construction, contractor
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Crown Land Management Regulation 2018	<p>The proposed construction compound is located on Crown Land managed by Penrith City Council.</p> <p>Consultation with Penrith City Council is occurring for Sydney Water to temporarily use the land for the proposal.</p> <p>Council may issue a licence for the construction compound as the works will be short-term under clause 70(2)(a) and clause 31(1) of the Crown Land Management Regulation 2018.</p>	Licence	Pre-construction, Sydney Water
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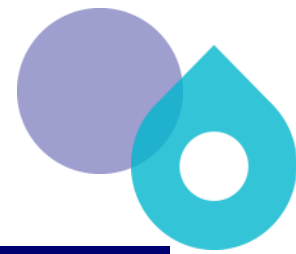


5 Environmental assessment

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

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

Aspect	Potential impacts
Topography, geology and soils	<p>The topography of the proposal area is relatively flat, between about 28 to 30 metres AHD. The proposal area is mapped as being within an area of localised salinity hazard. No areas of significant erosion, or acid sulfate soils (ASS) were identified within the proposal area. Groundcover within the proposal area includes grass, hardstand, and mature vegetation.</p> <p>Excavation for the extension of an existing pit (1.5 metres by 3 metres by 3 metres deep) and bypass bund (6 metres by 3 metres by 0.8 metres deep) is required. A temporary hardstand may also be installed within the proposal area along existing grassed areas for access tracks, storage areas and laydown areas.</p> <p>The areas within the construction compound will be restored to pre-existing condition once construction is complete. Soil disturbance will be minimised through implementation of appropriate mitigation measures. No operational topography, geology or soil impacts are anticipated.</p>
Water and drainage	<p>The closest watercourse to the proposal is Peach Tree Creek, located about 660 meters to the west. The site is mapped to be within the probable maximum flood extent (Penrith CBD Detailed Overland Flow Flood Study-Final Report, Cardno 2015).</p> <p>The proposed construction activities involve excavation of soils, temporary soil stockpiles, storage of fuels, chemicals, plant and materials. These proposed works have the potential to impact on water quality due to increased erosion and sedimentation from exposed soil and stockpiles. Poor site management has the potential to increase sediment runoff to stormwater and surface waters, causing turbidity and enhanced sedimentation. Additionally, fuels, chemicals or wastewater spills during construction could potentially enter waterways, particularly during high rain events.</p> <p>The proposal is not anticipated to change flood patterns or significantly impact surface quality or water flow during construction or operation. The proposal would not require groundwater dewatering.</p> <p>Potential impacts will be managed by implementing the mitigation measures listed in Section 6.</p>
Flora and fauna	<p>Vegetation within the proposal area consists of planted native vegetation, exotic species, one hollow-bearing mature Swamp Oak (<i>Casuarina glauca</i>) and 2 mature Narrow-Leaved Ironbark (<i>Eucalyptus crebra</i>). One plant community type (PCT) was identified within the proposal area, PCT 3320 – Cumberland Shale Plains Woodland, this PCT is consistent with the threatened ecological community (TEC) Cumberland Plain Woodland in the Sydney Basin Bioregion (Critically Endangered, BC Act). No threatened fauna were identified in the proposal area, however the Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>) and the Cumberland Plain Land Snail (<i>Meridolum corneovirens</i>) were considered moderately likely to use the proposal area</p>



Aspect	Potential impacts
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based on the number and proximity of species sighting records and available habitat.

The proposal would remove up to 0.02 hectares of the TEC Cumberland Plain Woodland in the Sydney Basin Bioregion and planted native species (Weeping Bottlebrush) as shown on Figure 2.

A Test of Significance (ToS) was undertaken for the loss of the TEC Cumberland Plain Woodland in the Sydney Basin Bioregion. The ToS concluded that the loss of the vegetation is unlikely to result in a significant impact to the TEC.

A ToS for the Grey-Headed Flying Fox was conducted for the removal of one potential foraging tree. The ToS concluded that the clearance was unlikely to result in a significant impact to the species.

The hollow-bearing Swamp Oak may provide habitat for threatened hollow-dependant species, such as threatened microbats or woodland birds. These were identified as moderately likely to be within the proposal area. However as this habitat would be retained, a ToS was not required for any threatened microbat species.

Records indicated occurrences of the Cumberland Plain Land Snail within 10 kilometres of the proposal area; however, none have been recorded within the proposal area. Additionally, given the history of clearance in the proposal area, the lack of large canopy trees, dense leaf litter, coarse woody debris, and organic matter for habitat, their presence is unlikely. As such, a ToS was not required for the Cumberland Plain Land Snail.

The proposal is not expected to have an impact on aquatic ecology.

With the implementation of the mitigation measures in Section 6, only minor construction and operational biodiversity impacts are anticipated.

Heritage

There are no known Aboriginal or non-Aboriginal heritage sites within 200 metres of the proposal area. The likelihood of encountering previously unknown archaeological items is low due to historic ground disturbance for installation of underground Sydney Water infrastructure and other assets. Therefore, the proposal is not anticipated to impact any heritage items.

Noise and vibration

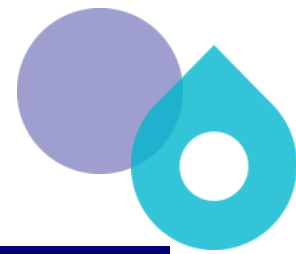
Noise

The proposal is located within a recreational and tourist setting. The existing noise environment around the proposed works is influenced by road traffic and the BlueBet Stadium located 60 metres south-west. The nearest sensitive receiver is a restaurant located 35 metres north of the proposal area and the closest residential receiver is about 180 metres north.

The works would generate noise and vibration during construction from the ground-breaking activities and the operation of machinery and equipment. Works are proposed to be carried out over 5 shifts per week (i.e. Monday through Friday 7am to 6pm). Construction would occur during standard daytime hours and is expected to take about 3 months to complete.



Aspect	Potential impacts
	<p>Based on the risk profile of the works from Table 2 of the Draft Construction Noise Guideline (EPA, 2020), a quantitative noise assessment was undertaken 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 guided community engagement for the sites. The noise assessment used the Transport for NSW Construction and Maintenance Noise Estimator. The modelled scenario comprised of the following inputs:</p> <ul style="list-style-type: none"> • representative noise environment – R2 • distance based noisiest plant – concrete saw • line of sight to the receiver – yes. <p>The worst-case noise impact of the proposal would be up to 105 metres, as shown on Figure 3. The restaurant and sport facilities would be impacted by noise when operational during the day. The figures display recommended mitigation measures at different distances. These are to be considered by the community team and offered where appropriate and include:</p> <ul style="list-style-type: none"> • N: Notification (e.g. letterbox drop) • RO: Respite Offer (e.g. work blocks of 2 hours with one hour breaks in between) • PC: Phone calls. <p>No operational noise impacts are expected.</p> <p><i>Vibration</i></p> <p>Jackhammers and compactors would be used during construction. The minimum working distance is one meter. There are no sensitive receivers within one metre of the works, therefore no construction or operational vibration impacts are expected.</p>
<p>Air and energy</p>	<p>Minor and temporary air quality impacts may result from construction and compound activities due to emissions from machinery, equipment and vehicles. Air quality around the proposal area may be impacted by dust generated during excavation works. Due to the distance of sensitive receivers, no dust and emission impacts are anticipated. Potential odour issues may occur during construction, and if the setup and operation of the temporary bypass is not appropriately managed.</p> <p>Due to the small number of emission sources during construction, the proposal is unlikely to have a significant impact on air quality with implementation of the safeguards in Section 6.</p> <p>No air quality impacts are anticipated during operation.</p>
<p>Waste and hazardous materials</p>	<p>HazCentral has identified hazardous building materials (HBM) within SP0895. Lead paint has been found within the building, and there is potential for asbestos to be present.</p>



Aspect	Potential impacts
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Waste would be generated during construction, including:

- removal of redundant assets
- excavation and disturbance of soil
- green waste from vegetation removal/trimming
- general construction waste
- contaminated material, if encountered.

Where possible, it is preferred to reuse excavated materials from site as backfill instead of importing fill material. Where excavated materials cannot be reused as backfill, they would be classified and taken off-site for disposal at a licenced facility.

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.

Minor impacts from waste and hazardous materials are expected, and the safeguards in Section 6 would be implemented to further minimise these impacts.

Traffic and access

The proposal area would be accessed via Ransley Street, a local road managed by Penrith City Council. Ransley Street has a path and a bus stop within proximity to the proposal area. Access to the path and bus stop is not expected to be impacted.

The proposal has the potential to affect traffic and access from construction traffic on local roads. The anticipated traffic load would include cranes and excavators arriving at the site, workers travelling to site daily (up to 10 at peak) and material deliveries. The traffic generated for the proposal is expected to be minor and temporary. Workers and plant would park within the construction compound throughout construction.

No road closures are anticipated, however traffic control would be used for material deliveries, crane and excavators to access the proposal area. The temporary traffic controls would create minor delays and diversions in traffic, active transport and public transport services.

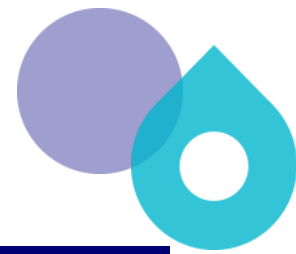
With the implementation of the mitigation measures in Section 6, minor construction traffic impacts are anticipated. No operational traffic and access impacts are expected.

Social and visual

Nearby sensitive receivers to the proposal area include Panthers Penrith Rugby League Club (about 150 metres west), a restaurant (about 35 metres north), sport facilities (60 metres south-west and 130 metres north) and the Penrith Museum of Printing (about 100 metres west).

The proposal has the potential to cause social impacts associated with air quality and noise, which have been assessed above. The proposal is within land zoned as public recreation. The construction compound would limit the





Aspect	Potential impacts
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	<p>area available for passive recreation during construction. This would have a very low impact as there are other areas for passive and active recreation in the vicinity of the proposal.</p> <p>Visual impacts associated with construction activities are expected to be low, as all the works are partially screened from the retained vegetation, and the works are predominantly on/in existing buildings.</p> <p>The impacts to visual amenity during operation would be limited to loss of vegetation and visibility of a new concrete bund. The visual impact would be minor as some vegetation would be retained and the concrete bund would be less than a metre above the ground and is consistent with the existing pumping station. The proposal would not impact the scenic quality of the area.</p> <p>With the implementation of the mitigation measures in Section 6, only minor social and visual impacts are anticipated during construction and operation of the proposal.</p>
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Cumulative and future trends	<p>Sydney Water is not aware of any planned or future work that will occur while these works are being undertaken. Development applications currently (January 2024) active or determined in the last 6 months for the suburb of Penrith relate to localised residential developments and changes to existing buildings. Any cumulative amenity impacts (e.g. noise, dust, traffic) would be minimal.</p> <p>Future trends such as climate change were considered. Factors such as bushfires and flooding that could impact the proposal were considered. The proposal is unlikely to further exacerbate future trends, such as those associated with bushfires and flooding.</p>
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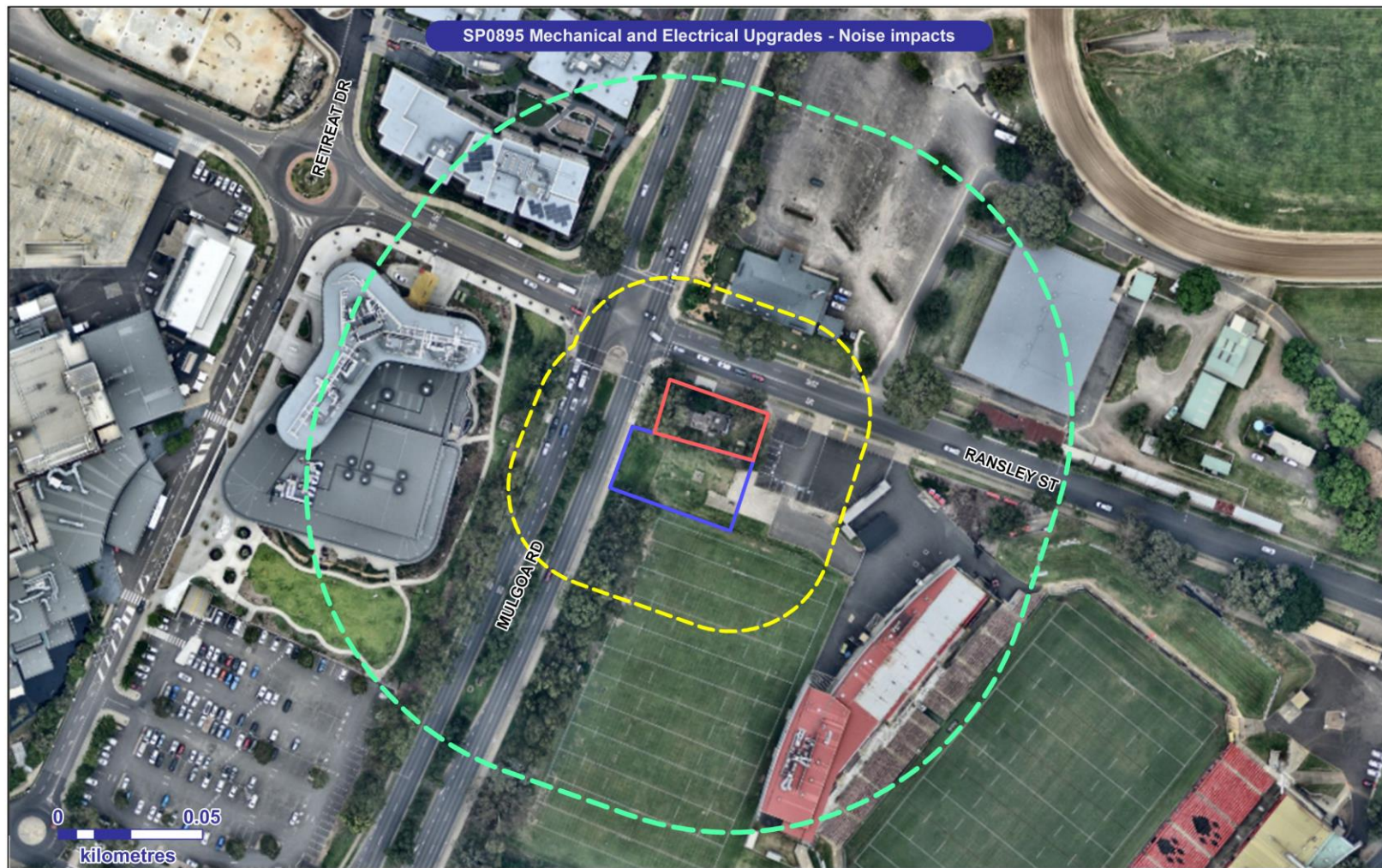
Sydney
WATER

- | | | |
|---|--|---|
|  SP0895 |  Cumberland Shale Plains Woodland |  Trim vegetation |
|  Construction Compound |  Remove vegetation |  Retain vegetation |

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 NSW Department of Planning, Industry & Environment
 NSW Spatial Services
 Australian Government Department of Environment
 Date Created: 19/02/2024





Figure 2 Flora impacts (Biodiversity assessment, ARUP 2023)



Sydney
WATER

 SP0895
 Construction Compound

 Highly intrusive (30 to 75dB(A)) and Highly affected (>75dB(A))
 Moderately intrusive (20 to 30dB(A))

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Figure 3 Noise impacts

6 Environmental mitigation measures

Table 5 Mitigation measures

Mitigation measures

General

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

- remains within the proposal area for the EIA and has no net additional environmental impact or
- is outside the proposal area for the EIA but:
 - reduces impacts to biodiversity, heritage or human amenity or
 - avoids engineering (for example, geological, topographical) constraints and
 - 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 Construction Environmental Management Plan (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:

- go/no go areas and boundaries of the work area/disturbance corridor (or use EIA terminology) 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.

To ensure compliance with legislative requirements for incident management (eg *Protection of the Environment Operations Act 1997*), Follow [SWEMS0009](#) and attach [SWEMS0009](#) 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

Mitigation measures

- remove controls once surfaces have been stabilised, including removing trapped sediment in drainage lines.

Minimise ground disturbance and stabilise disturbed areas progressively.

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.

Adopt appropriate soil salinity mitigation measures in accordance with [Western Sydney Salinity Code of Practice](#) (Western Sydney Regional Organisation of Councils, 2003). This may include:

- stabilising existing areas of erosion
- minimising water use on site
- avoiding rotation and vertical displacement of the original soil profile
- backfilling excavations deeper than one metre in the same order, or treating or using this material as fill at depths more than one metre from the finished level.

Water and drainage

Bund potential contaminants and store on robust waterproof membrane, away from drainage lines.

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

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.

Conduct any equipment wash down within a designated washout area.

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

Mitigation measures

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
 - 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 (eg 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 ([SWEMS0019.13](#)).

Map and report native vegetation clearing greater than 0.01 hectares in extent (and any associated rehabilitation) to the Sydney Water Environmental Representative. Track vegetation clearing as per [SWEMS0015.26 Contractor Native Vegetation Clearing and Rehabilitation template](#).

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, or ecological assessment has determined high likelihood of native fauna presence (including hollow bearing trees), engage WIRES or a licenced ecologist to inspect and relocate fauna before works.

Approved clearing area to be delineated using fluorescent flagging tape/bunting or similar

If clearing of native vegetation is required outside the proposal area, these areas will require additional assessment by an ecologist for potential impacts to TECs, threatened species and their habitats.

Vegetation to be offset/rehabilitated in accordance with Section 5.1.1 (Sydney Water Biodiversity Offset Guide – [SWEMS0019.13](#))

Offsets include a 3:1 ratio for vegetation removal for TECs. This would require an offset ratio of 0.06 hectares for Cumberland Plain Woodland.

No habitat trees were identified within the impact area, therefore no hollow replacement offset would be required.

If unexpected threatened fauna species are discovered during works, stop work immediately and contact the environment/proposal manager. An ecologist should be engaged to determine management actions.

Mitigation measures

All equipment and plant machinery to be appropriately cleaned before the start of works.
Approved management plan/protocols will be established and implemented to avoid spread and establishment of weeds.

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](#).

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
- 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 (eg 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 (eg 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 (eg 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.

Mitigation measures

- Schedule noisy activities around times of surrounding high background noise (local road traffic or when other noise sources are active).

Notification - Advance warning of works and potential disruptions can assist in reducing the impact on the community. The notification may consist of using variable message sign, letterbox drop (or equivalent), web site / social media or a combination to distribute information detailing work activities, time periods over which these will occur, impacts and mitigation measures. Notification should be a minimum of 5 working days prior to the start of works. The approval conditions for projects may also specify requirements for notification to the community about works that may impact on them.

Air and energy

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

Ensure odour control measures are available and ready to use during the works.

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)
- Cover exposed areas with tarpaulins or geotextile fabric
- Modify or cease work in windy conditions
- Modify site layout (place stockpiles away from sensitive receivers)
- Vegetate exposed areas using appropriate seeding.

Waste and hazardous materials

Manage waste in accordance with relevant legislation and maintain records to show compliance e.g. waste register, transport and disposal records. Record and submit [SWEMS0015.27 Contractor Waste Report](#).

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

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.

Mitigation measures

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

Develop management measure to minimise traffic impacts near residential properties, schools and businesses by consulting with them (e.g. no major materials deliveries at school drop off or pick up times etc).

Manage sites to allow people to move safely past the works, including alternative pedestrian, bicycle, pram and wheelchair access.

Consult with the relevant traffic authority about managing impacts to pedestrian traffic, signposting, meters, parking, line-marking or if traffic control or pavement restoration is required.

Erect signs to inform road users of the proposed works and any temporary road closures.

Construction contractor to obtain Road Occupancy Licence as required.

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.

Consult with bus operator to confirm potential impacts to bus service due to traffic controls for the proposal and measures to avoid impacts if relevant.

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.

Maintain work areas in a clean and tidy condition.

Cumulative and future trends

Perform ongoing consultation with developers and council on any potential cumulative impact from nearby residential development.

Appendix A – Section 171 checklist

Section 171 checklist	REF finding
Any environmental impact on a community	There may be short-term impacts on the community from loss of flora, noise amenity, disposal of waste and hazardous materials and construction related traffic. There will be environmental improvements by providing a reliable wastewater 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 will not result in environmental impacts to ecosystems of the locality. The proposal will lead to environmental improvements by ensuring a reliable wastewater service to collect and treat wastewater, minimising any impacts on the ecosystem.
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. No known heritage will be impacted.
Any impact on the habitat of any protected animals (within the meaning of the <i>Biodiversity Conservation Act 2016</i>)	The proposal will not have any significant impact on the habitat of protected animals. No threatened species or critical habitat have been recorded within the proposal area. However, up to 0.02 hectares of the TEC Cumberland Plain Woodland in the Sydney Basin Bioregion and planted native species is to be removed. It is highly unlikely that any habitat features for any protected animals would be impacted.
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 will 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 wastewater 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.

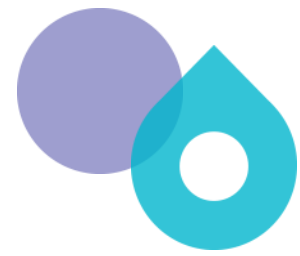
Section 171 checklist	REF finding
Any pollution of the environment	Environmental mitigation measures will mitigate the potential for the proposal to pollute the environment. No pollution of the environment is expected.
Any environmental problems associated with the disposal of waste	Waste disposal will 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
<p>Precautionary principle - <i>if there are threats 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.</i></p>	<p>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.</p>
<p>Inter-generational equity - <i>the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.</i></p>	<p>The proposal will help to meet the needs of future generations by providing a reliable wastewater service.</p>
<p>Conservation of biological diversity and ecological integrity - <i>conservation of the biological diversity and ecological integrity should be a fundamental consideration in environmental planning and decision-making processes.</i></p>	<p>The proposal will not significantly impact on biological diversity or impact ecological integrity. No threatened species or critical habitat have been recorded within the proposal area. However, up to 0.02 hectares of the TEC Cumberland Plain Woodland in the Sydney Basin Bioregion and planted native species is to be removed. It is highly unlikely that any habitat features for any protected animals would be impacted.</p>
<p>Improved valuation, pricing and incentive mechanisms - <i>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</i></p>	<p>The proposal will provide cost efficient use of resources and provide optimum outcomes for the community and environment.</p>

Appendix C – Consideration of TISEPP consultation

TISEPP section	Yes	No
Section 2.10, council related infrastructure or services – consultation with council		
Will the work:		
Potentially have a substantial impact on stormwater management services provided by council?		X
Be likely to generate traffic that will strain the capacity of the road system in the LGA?		X
Connect to, and have a substantial impact on, the capacity of a council owned sewerage system?		X
Connect to, and use a substantial volume of water from a council owned water supply system?		X
Require temporary structures on, or enclose, a public space under council's control that will disrupt pedestrian or vehicular traffic that is not minor or inconsequential?		X
Excavate a road, or a footpath adjacent to a road, for which the council is the roads authority, that is not minor or inconsequential?		X
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?		X
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?		X
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 consultation		
Is 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		
Will the proposal be on land adjacent to land reserved under the <i>National Parks and Wildlife Act 1974</i> or land acquired under Part 11 of that Act? <i>If so, consult with DPE (NPWS).</i>		X
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>		X
Will the proposal include a fixed or floating structure in or over navigable waters? <i>If so, consult TfNSW.</i>		X
Will the proposal be on land in a mine subsidence district within the meaning of the <i>Coal Mine Subsidence Compensation Act 2017</i> ? <i>If so, consult with Subsidence Advisory NSW.</i>		X
Will the proposal be on land in a Western City operational area specified in the <i>Western Parkland City Authority Act 2018</i> , Schedule 2 and have a capital investment value of \$30 million or more? <i>If so, consult the Western Parkland City Authority.</i>		X
Will the proposal clear native vegetation on land that is not subject land (ie non-certified land)? <i>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).</i>		X



Appendix D – Biodiversity Assessment

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