Review of Environmental Factors

Avon High Voltage Renewal

1 Determination

This Review of Environmental Factors (REF) assesses potential environmental impacts of the Avon High Voltage Renewal. 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 biodiversity and access. During operation, no additional 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:
[redacted] Andrea Glass Environmental Scientist Sydney Water Date: 25/11/2024	[redacted] John Eames Senior Environmental Scientist Sydney Water Date: 25/11/2024	[redacted] Hussain Zaidi Project Manager Sydney Water Date: 02/12/2024	[redacted] Murray Johnson Senior Manager Environment and Heritage Sydney Water Date: 17/12/2024

2 Proposal description

Table 1 Description of proposal

Aspect	Detailed description
Proposal need and objectives	In late 2021, Endeavour Energy reported a fault on the Avon High Voltage (HV) Overhead Line. The HV line has been out of service since the incident. The purpose of this proposal is to provide sufficient repairs to re-energise the HV line to water pumping station WP0097 which serves as the only contingency supply to the Illawarra Water Filtration Plant. This plant is responsible for supplying water to approximately 300,000 customers in the region.
Consideration of alternatives/options	No options assessment was performed for the proposal. Not repairing the HV line risks further asset deterioration making the HV line more difficult to repair and result in continued failure to supply power to a critical asset. This has the potential to disrupt water services to customers, as the HV line is the source of power for the Sydney Water owned water pumping station WP0097.

Proposal description and methodology	The proposal involves the maintenance and/or replacement of 36 power poles and their related infrastructure (such as conductors and insulators) as required along the HV line.
	
	The scope of the proposal would include:
	• Site establishment:
	  ○ Dilapidation survey of the access tracks, pipes, culverts and construction compounds
	  ○ Maintenance of access tracks where there are berms or a degraded section of track, works would include grading of the track and placing a crushed road base
	  ○ Temporary reinforcement of a culvert and some pipes to allow for the passage of heavy vehicles as required, works would occur on top of the road surface and would not impede water flow
	  ○ Minimal trimming of overhanging branches along the access tracks
	  ○ Temporary widening of existing gates (gates number 1, 2, 3 and 6A) to allow for heavy vehicles to access the site
	  ○ Installation of construction compound infrastructure
	• Installation of new poles along the existing alignment (as required):
	  ○ Vegetation clearing along the HV easement up to 10 metres squared around the poles
	  ○ Grading as required up to 10 metres squared around the poles
	  ○ Drilling of the hole foundation
	  ○ Installation of the new pole
	  ○ Change over of the HV line to the new pole
	  ○ The redundant pole would then be cut to ground level and left in the ground, the remaining above ground section of the redundant pole would be removed and disposed of appropriately

Aspect	Detailed description
	• Maintenance works such as replacement of conductors, insulators, cross arms and earthing lines as required • Restringing of the HV cable between pole 1 and 15. The cable would be installed using a purpose-built winch that will travel along the alignment • Removal of redundant assets as required • Testing and commissioning of new assets • Site demobilisation. During the development of the proposal's methodology, the use of a helicopter to install the new poles has been considered. Further consideration is being undertaken from a project feasibility perspective on this option. Sydney Water will consult with WaterNSW if a helicopter would be used during construction. The use of the helicopter is anticipated to minimise impacts to the access tracks and shorten the time required for construction works. This is due to the helicopter reducing the number of trips required to transport the poles to site by the 35 tonne excavator. Indicative plant and equipment to be used for the proposal: • 4WD tipper truck • Cable tensioner • Chainsaws • Compactors • Elevated Work Platform • Excavators (up to 35 tonne) • Generators to facilitate site compound (60kV) • Hand tools • Light vehicles • Positrack • Skip bins • Storage containers • Temporary office and ablution facilities • Tip trucks. All vehicles using WaterNSW access tracks must be 4WD. The proposal area includes the HV easement, access tracks and construction compounds, as shown in Figure 1 to Figure 8.
Location and land ownership	The proposed works are located across 8.5 kilometres of natural bushland between Cordeaux Dam and Avon Dam in the Wollongong Local Government Area (LGA).

Aspect	Detailed description
	The HV line is a private network owned and operated by Sydney Water as the High Voltage Customer and provides power to the existing Sydney Water Pump Station WP0097. The HV line is within a Sydney Water easement. Some of the construction compounds are located within Crown and vacant land. Consultation would occur with the landowners to gain approval to utilise the area during construction. Most of the works are located within land owned by WaterNSW.
Site establishment and access tracks	Access to the proposed works would be via Cordeaux Road (Mount Kembla Lookout) or Morans Road via Harry Graham Drive. No public access is allowed on Fire Road No.15. No new access tracks would be created, however the existing tracks may need to be maintained. The works would be required where there are berms along the access track or the track is in a poor condition. The maintenance works would include minor grading and filling as required, no material is to be pushed off the tracks. The following fire trails would be utilised during construction; 15, 15A, 6A, 6C, 6E, 6G, 6L and 6T. No maintenance works outside of the tracks would occur. Some gates will need to be temporarily widened to allow for plant to access the proposed works. Consultation with WaterNSW will occur near completion of the proposal to determine if the widened gates are beneficial to WaterNSW operations and can remain or require reinstating gates of the original size. A culvert and some pipes embedded in the ground along the access tracks may be temporarily reinforced to allow for heavy plant to access the HV line. The reinforcement would include laying down road plates, the road plates would be places on top of the track surface and would not impact watercourses. Although the easement has had regular vegetation trimming to maintain distances between the HV line and nearby vegetation per the energy regulatory standards, vegetation clearing is required on the ground level for construction access to the HV easement and around each of the structures that require works. The vegetation clearing would occur along the easement (up to 6 metres wide) and around each of the poles that requires works (up to 10 square meters around the pole). Minimal trimming would occur along the existing fire trails, being mainly associated with overhanging and protruding limbs only. Once the vegetation clearance has occurred, minor excavations or fill may occur on the access tracks to ensure adequate access for plant and equipment. Minor grading may occur at some pole locations to allow for construction works to occur on a level surface (grade 1%).
Ancillary facilities (compounds)	Construction compounds will be required to house site sheds, construction amenities and materials laydown. The proposal would have four construction compounds which are all located in cleared areas, an indicative location for the construction compounds are shown on Figure 1, Figure 2 and Figure 3. To ensure site stability at construction compound 3, hardstand may be installed, this would require the removal of topsoil up to 0.1 metres, laying of geofabric and then crushed rock (DGB 20). Construction compounds 2 and 4 would be used as laydown areas only. Construction compound 1 would be used as a helicopter

Aspect	Detailed description
	landing area if the use of a helicopter is undertaken. No vegetation removal would occur at any of the construction compounds.
Work hours	Work and deliveries will be scheduled during the following hours: • 6 am to 6 pm, Monday to Friday • 6 am to 6 pm, Saturdays. The proposal is not expected to require work outside these hours. However, Sydney Water's Project Manager can approve work outside of these hours. The approval process is described in the mitigation measures in Section 6.
Proposal timing	Construction is expected to start early 2025 and take about up to 10 months.

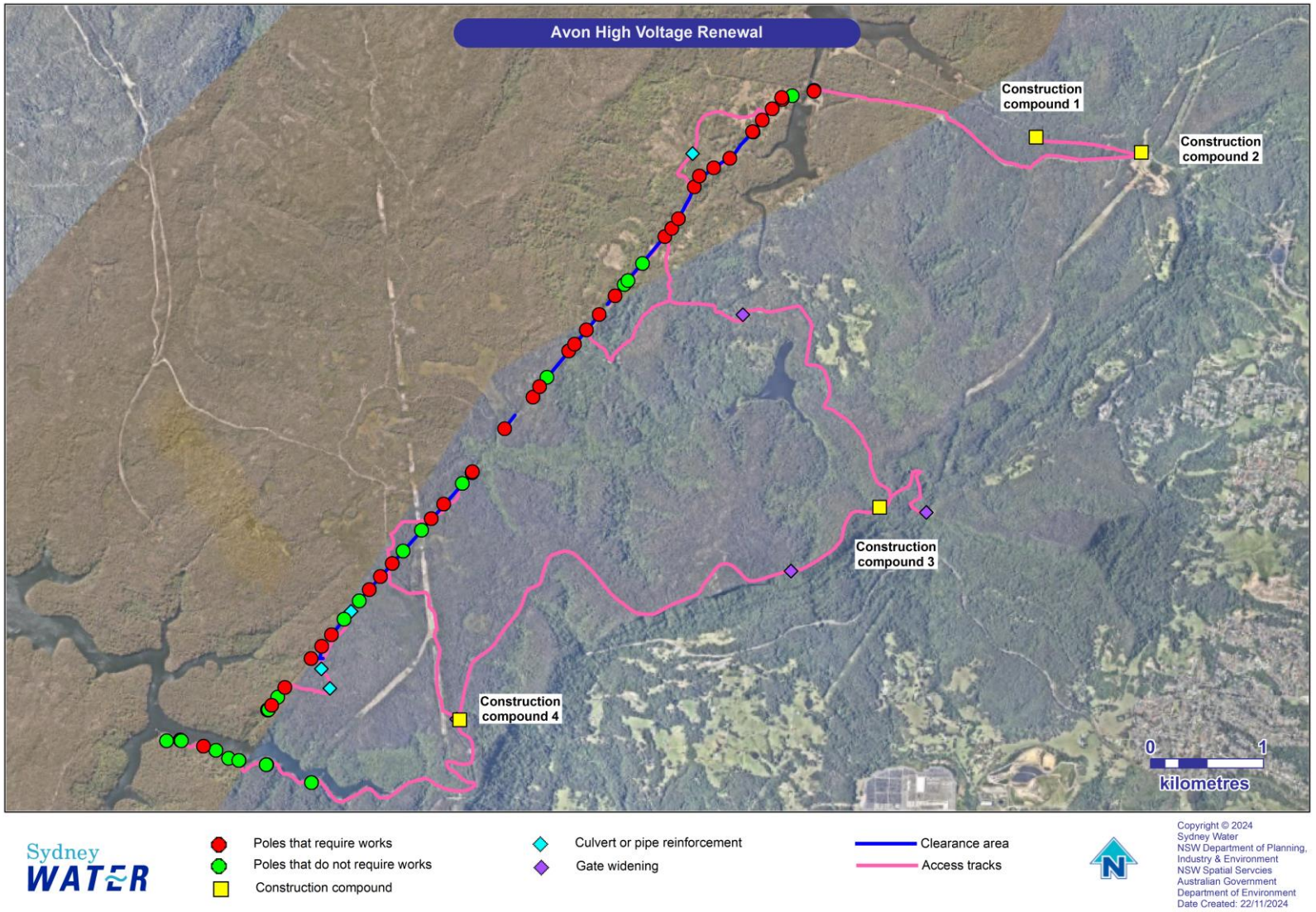

Figure 1 Proposal overview

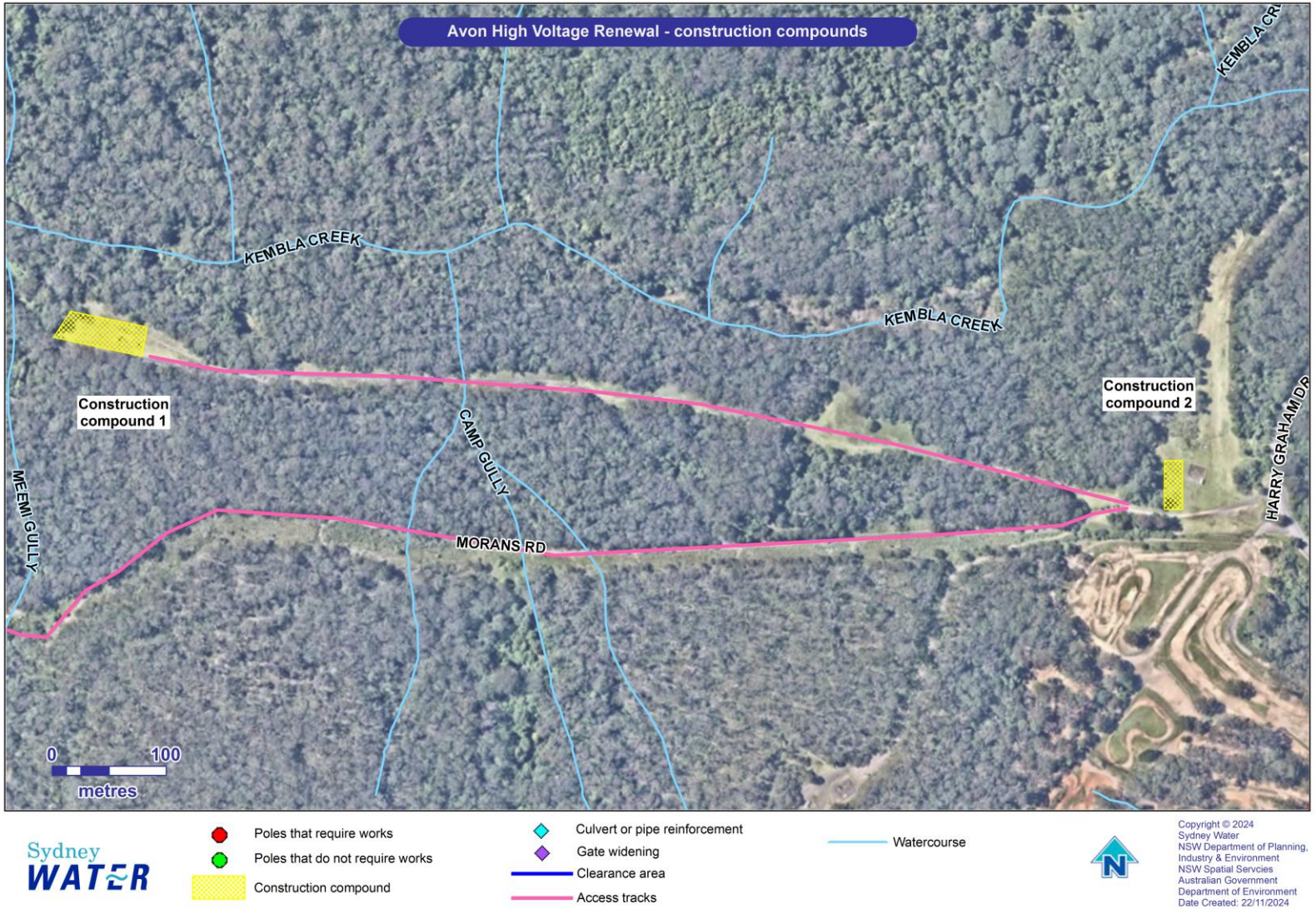

Figure 2 Construction compounds – 1 of 2

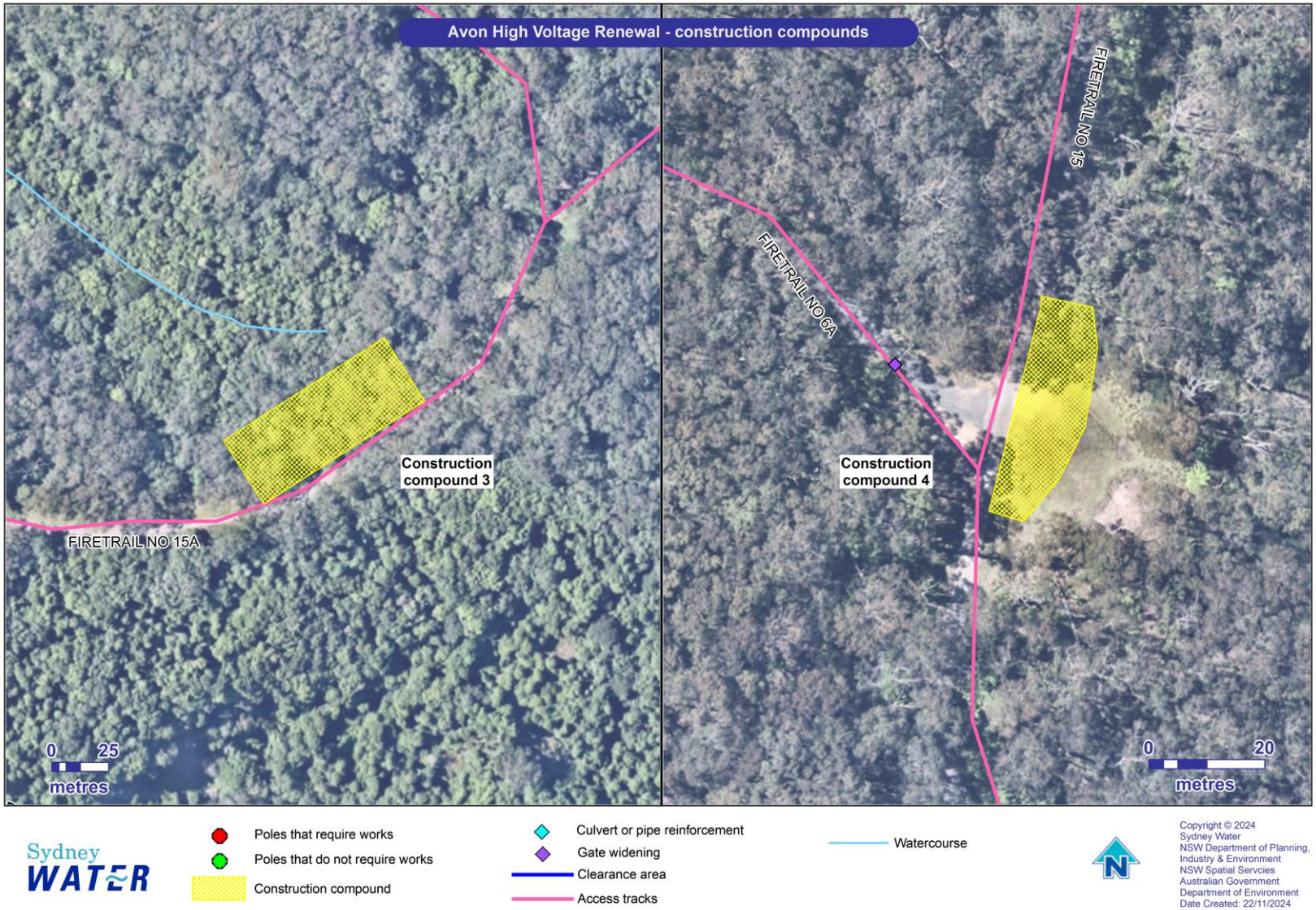

Figure 3 Construction compounds – 2 of 2

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Figure 4 Proposal area and environmental constraints – 1 of 5

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Figure 5 Proposal area and environmental constraints – 2 of 5

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Figure 6 Proposal area and environmental constraints – 3 of 5

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Figure 7 Proposal area and environmental constraints – 4 of 5

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Figure 8 Proposal area and environmental constraints – 5 of 5

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.

Stakeholders who may be impacted by the proposal include Endeavour Energy, TransGrid, Australian Rail Track Corporation (ARTC) and GM3 (formerly South32). The stakeholders have been consulted with in regard to other projects that are proposed to be undertaken by Sydney Water in a similar timeframe and area (refer to Table 4 for details on the other Sydney Water projects). The stakeholders have been supportive of the works and request to be notified when construction begins.

Sydney Water and/or the construction contractor will consult with the stakeholders about this proposal when construction is anticipated to commence.

We will also provide local council with reasonable notice when we would like to commence works. Local council will be consulted about matters identified in environmental planning instruments (refer below). 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). Further detail is provided in Appendix C.

The proposal will not directly or indirectly impact on land administered under the *National Parks and Wildlife Act 1974.* However, the proposal area is '*adjacent to a national park, nature reserve or other area reserved under the National Parks and Wildlife Act 1974*'. In accordance with the TISEPP the Department of Planning and Environment (National Parks & Wildlife Service - NPWS) was notified about the proposal on 22 October 2024. No response was received.

The proposal is on WaterNSW owned land. Early consultation has been carried out with WaterNSW and will continue throughout the proposal. A copy of the draft REF was provided to WaterNSW for review. Comments were received and have been incorporated into the REF.

WaterNSW endorsement of the updated REF was received 26 November 2024 with WaterNSW site specific requirements, attached in Appendix G. During construction, consultation will continue via monthly meetings with the WaterNSW Operations Team, the purpose of consultation is to ensure proposed construction activities do not impede on operational activities undertaken by WaterNSW in the Catchment such as deer trapping.

Access for works required within WaterNSW land will be conducted in accordance with the Sydney Water and WaterNSW Access Protocol. Activities within Schedule 1 or 2 (Special and Controlled Areas) as set out in the WaterNSW Regulation 2020 require consultation with WaterNSW at least 28 days prior to the commencement of works. The proposal is located within the Metropolitan Special Area (Schedule 1 land).

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 Environmental Conservation (E2).
State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP)	Section 2.159(1) of the TISEPP permits development for the purpose of a water reticulation system by or on behalf of a public authority without consent on any land. The Standard Instrument's definition of water reticulation systems includes pumping stations. Section 2.159(6)(g) notes that development for the purpose of a water supply system of any kind includes reference to the development for power supply to the water supply system. Additionally, section 2.44(1) of the TISEPP permits development for the purpose of an electricity transmission by or on behalf of a public authority without consent on any land. As Sydney Water is a public authority, the proposal is permissible without consent.
State Environmental Planning Policy (Biodiversity and Conservation) 2021 (BCSEPP)	**Water catchments (Chapter 6)** Chapter 6 of this SEPP applies as the proposal is within the Sydney Drinking Water 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. The assessment confirmed that potential impacts are negligible and meet the requirements of part 6.2 of the SEPP. In accordance with section 171A of the EP&A Regulation Sydney Water has assessed the neutral or beneficial effect on water quality (NorBE) as the works are in the Sydney Drinking Water Catchment area (per *the Neutral or Beneficial Effect on Water Quality Assessment Guideline* (WaterNSW, 2022), refer to Appendix D. The assessment confirmed that potential impacts are neutral.

Environmental Planning Instrument	Relevance to proposal
	Koala habitat protection (2020 and 2021) (Chapters 3 and 4) The proposal is on land zoned Koala Habitat Protection, under section 4.4 of the BCSEPP. The BCSEPP 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. Vegetation disturbance required for the proposal is assessed in Section 5 of this REF.

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 Environmental Protection Licence (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.	N/A	N/A
Biodiversity Conservation Act 2016 (BC Act) *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)	A Biodiversity Assessment (Appendix E) was conducted with reference to the EPBC Act's Significant Impact Guidelines and with reference to section 7.3 of the BC Act. The assessment concluded that the proposal is unlikely to have a significant impact. As such the proposal is not a controlled action requiring referral to the Federal Minister for the Environment and Water for further consideration or approval, nor would it require the preparation of a SIS/BDAR.	N/A	N/A
Fisheries Management Act 1994 (FM Act)	Works will occur within mapped Key Fish Habitat, however, the proposed works are considered terrestrial in nature and do not involve 'Dredging and reclamation' as defined	N/A	N/A

Legislation	Relevance to proposal	Permit or approval	Timing and responsibility
	by the FM Act in accordance with Part 7 Division 3. With the implementation of mitigation measures, no waterbodies would be directly or indirectly affected by the proposed works. As such, notification to the Minister in accordance with section 199 of the FM Act is not required.		
Water NSW Act 2014	The proposal is on WaterNSW land. The work will be in accordance with Joint Access Protocol (D0000755). Consultation has commenced with WaterNSW and will be ongoing throughout the proposal. A summary of the consultation done to date is provided in Section 3.	Landowner consent	During REF, Sydney Water
Water Act 1912/ Water Management Act 2000	The proposal is not anticipated to require groundwater dewatering as excavation required for the poles is anticipated to be above groundwater level.	N/A	N/A
Crown Land Management Regulation 2018	There are Crown roads and waterways which intersect with the proposal area. The proposal would not impact the use or functionality of the Crown road as the proposal would maintain the existing use of the easement. No works would occur within the Crown waterway.	N/A	N/A

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	The proposal area varies from 300 metres to 560 meters above sea level and is underlain by colluvial and residual soils. There are potentially unstable areas in the proposal area to the south of Flying Fox No. 3 Creek. No areas of salinity or acid sulfate soils were identified within the proposal area. Minor excavations would be required for the establishment of the construction compounds, access track maintenance and installation of the new poles. Hardstand for the construction compound would be installed, this would require the temporary removal of topsoil up to 0.1 metres, laying of geofabric and then crushed rock (DGB 20). Minor grading may occur on the access tracks to ensure adequate access for plant and equipment, no material would be pushed off the access tracks. Minor grading may occur at some pole locations to allow for construction works to occur on a level surface. The excavations of the poles would be up to three metres deep and limited to the width required for the pole. Existing poles would be cut at ground level with the stumps to remain in ground. Leaving the stumps in the ground would ensure soil stability and is not anticipated to materially impact the topography of the area. Some temporary stockpiling of material may occur within the proposal area during construction, resulting in a temporary change in the topography. This impact will be minor and will be re-established to pre-construction conditions on completion of the proposal. There is the potential for soil to become contaminated through accidental chemical or fuel spills and leaks from plant and equipment during construction. Potential topography, geology and soil impacts will be managed by implementing the mitigation measures listed in Section 6.
Water and drainage	The proposal is located within the Sydney Drinking Water Catchment and in the Metropolitan Special Area (Schedule 1 land) on Water NSW land. A NorBE assessment was undertaken as the works are in the Sydney Drinking Water Catchment area, refer to Appendix D. Two waterbodies occur near the northern and southern extents of the proposal area, being Lake Cordeaux and Lake Avon, respectively. The proposal area is traversed by several watercourses and drainage lines. Cordeaux River, Wattle Creek, Kembla Creek and Flying Fox No. 3 Creek are identified as Key Fish Habitat. No works would occur within the watercourses. The proposed construction activities involve excavation of soils and use of temporary soil stockpiles. These works have potential to impact nearby watercourses and Lake Avon through the transportation of sediment into these receiving waters. Sedimentation can impact the natural flow of streams, rivers and creeks and cause water quality issues such as the eutrophication. This may reduce quality of drinking water and cause additional treatment cost if not mitigated. Prior to any construction, an erosion and sediment control plan must be prepared by a suitable qualified professional to minimise and mitigate the increased potential for sedimentation to occur from exposed

Aspect	Potential impacts
	excavations and stockpiles. The development and implementation of an erosion and sediment control plan, in accordance with the mitigations presented in Section 6, is anticipated to minimise the potential of any adverse impacts occurring to watercourses in vicinity of the proposal area. The proposal will require the storage of fuels, chemicals, plant and materials. There is potential for fuels, chemicals or wastewater spills to occur during construction which could potentially enter waterways. There is increased risk of pollution incidents to occur during high rain events. To reduce the potential of spills and pollution incidents occurring the following must be undertaken: • appropriate storage of contaminants • designated refuelling locations • easily accessible and functional spill kits. The proposal is not anticipated to require groundwater dewatering as excavation required for the poles is anticipated to be above groundwater level. However, if encountered, the groundwater or if required accumulated surface water would be pumped from the pole holes and discharged through filter bags on to grassed area if the turbidity and pH of the water is within NSW environmental standards. If not, the groundwater would be appropriately disposed of offsite. The proposal is not anticipated to change flood patterns or significantly impact surface quality or water flow during construction or operation. Potential impacts to water and drainage will be managed by implementing the mitigation measures listed in Section 6.
Flora and fauna	To maintain or replace the power poles, vegetation clearing and ground disturbance is required, this includes the maintenance of existing, 6 metre wide access tracks to a number of the poles and a 10 metres squared clearing area at the base of each asset that requires works. Lesryk Environmental Pty Ltd completed a Biodiversity Assessment for the potential flora and fauna impacts of the proposal. Refer to Appendix E for the report. *Flora* Generally, the proposal area was comprised of dry sclerophyll woodland and heath, with patches of swamp vegetation and wet sclerophyll forest. Up to 5.7 hectares of vegetation would be removed for the proposal, of which only 4.4 hectares is native. Refer to Table 5 for the Plant Community Types (PCTs) identified within the proposal area and the anticipated area of impact.

Table 5 PCTs within the proposal area

PCT	Area of impact
0 – Not classified	1.3 ha
3028 – Illawarra Escarpment Warm Temperate Rainforest	0.25 ha

Aspect	Potential impacts	
	3153 – Illawarra Escarpment Bangalay x Blue Gum Wet Forest	0.004 ha
	3154 – Illawarra Blackbutt Moist Forest	0.18 ha
	3213 – Illawarra Southern Escarpment Wet Forest	0.17 ha
	3231 – Cordeaux Crinanite Moist Grassy Forest	1.38 ha
	3595 – Sydney Coastal Sandstone Gully Forest	0.51 ha
	3924 – Sydney Coastal Upland Swamp Heath Associated Threatened Ecological Communities (TECs): • Coastal Upland Swamp in the Sydney Basin Bioregion – listed as Endangered under the BC Act • Coastal Upland Swamps in the Sydney Basin Bioregion - listed as Endangered under the EPBC Act	0.02 ha
	3925 – Sydney Sandstone Button Grass Sedgeland Associated TECs: • Blue Mountains Swamps in the Sydney Basin Bioregion - listed as Vulnerable under the BC Act • Coastal Upland Swamp in the Sydney Basin Bioregion - listed as Endangered under the BC Act • Coastal Upland Swamps in the Sydney Basin Bioregion - listed as Endangered under the EPBC Act • Temperate Highland Peat Swamps on Sandstone - listed as Endangered under the EPBC Act	0.05 ha
	3598 – Woronora Plateau Scribbly Gum Woodland	1.3 ha
	3614 – Southern Highlands Sandstone Peppermint Forest	0.49 ha

No State or nationally listed threatened plants were recorded during the course of the field inspection, and none are considered to be present within the proposal area. Given the land use history of the proposal area, and the regular maintenance of the easement and fire trails, it is highly unlikely that, threatened plants previously recorded in the surrounding region are present.

The field inspection only identified one TEC associated with the PCTs to occur within the proposal area; Coastal Upland Swamps in the Sydney Basin Bioregion – listed as an Endangered under the BC and EPBC Acts. The TEC was identified in association with PCT 3924 and 3925. It is estimated that, in total, about 0.07 hectares of the TEC would be modified by trimming to near ground level as part of the proposal. This would not reduce the extent of the TEC by an appreciable amount as the areas affected are part of several patches adjacent to the proposal area. The proposal is not considered to have a significant impact on the TEC.

Works are in a remote area and within Category 1 Bushfire Prone Land. Construction activities have the potential to be an ignition source. Mitigation for bushfire risk in construction should be included in the Construction Environmental Management Plan (CEMP).

Fauna

The field investigation identified one native mammal, five native birds, and one reptile species within the proposal area. None of which are listed, or currently being considered for listing, under either the EPBC Act or BC Act.

Previous studies have identified two protected species under the BC Act and EPBC Act within proximity to the proposal area; Pilotbird (*Pycnoptilus floccosus*) and Rufous Fantail (*Rhipidura rufifrons*). Within the proposal area, no significant habitat for either of these species was observed. Although vegetation removal is required to permit the scope of works; better, more extensive habitat for threatened species is present beyond the proposal area within the surrounding bushland.

No evidence to suggest that the proposal area supports a resident Koala population was identified. Taking into account the ongoing maintenance and pole renewal works that have occurred in the past within the easement, the proposal is not anticipated to impact Core Koala Habitat.

Aquatic habitat

Several mapped waterways, and drainage lines, intersect with the proposal area. No areas of aquatic habitat are to be removed, modified, or disturbed. The works proposed within the vicinity of these waterways are not considered to result in any fish species, aquatic associated animals or their populations becoming either disturbed, harmed or extinct in the locality.

Construction compounds

All the construction compounds are located in cleared areas, some slashing of grass may occur for the establishment of the construction compounds. Construction compounds 1 and 2 were not assessed in the Biodiversity Assessment. No native vegetation is proposed to be removed at any of the construction compounds. No impacts to flora and fauna are anticipated from the utilisation of the construction compounds.

Offsetting

Offsetting will be completed in line with the Sydney Water Biodiversity Offset Guideline (2024). As the vegetation is in a previously disturbed and managed corridor offset multipliers have been reduced by a factor of one (as per the guideline). Offsets will be as follows:

- 0.07 hectares of TEC x 2
- 4.33 hectares of native vegetation x 1.

Therefore 4.47 hectares of offsets are required.

No specific tree offsets are required, as all trees being removed are part of a vegetation community, and no hollow-bearing trees will be removed for the works. The construction contractor would confirm where the offsetting would occur in the CEMP.

Aspect	Potential impacts
Aboriginal heritage	An Aboriginal Heritage Due Diligence was undertaken for the proposal, refer to Appendix F. A basic search of the Office of Environment and Heritage Aboriginal Heritage information Management System (AHIMS) was completed on 13 November 2024. [redacted] The proposal is within a high-risk area for encountering previously unknown archaeological heritage, as the proposal is within 200 metres of waterways, cliffs and ridgelines. However, the likelihood of encountering previously unknown archaeological items is low as the proposal area has been previously disturbed in the past for the creation of the asset and the HV corridor is presently regularly managed in order to meet energy company standards. There is a low likelihood of previously unknown in situ Aboriginal objects or sites being located within the proposed work area. The works should proceed with caution and in line with mitigation measures in Section 6, to minimise potential harm to Aboriginal heritage items.
Non-Aboriginal heritage	There are three non-Aboriginal heritage listings within 200 metres of the proposal area: • Avon Dam, listed on the State Heritage Register (ID: 01358) • Cordeaux Dam, listed on the State Heritage Register (ID:01360)

Aspect	Potential impacts
	• Upper Avon Pumping Station WP0097, listed on the Sydney Water Heritage and Conservation Register (ID: 4570811). No works would occur within the curtilages of or on the heritage items, therefore no negative impacts to non-Aboriginal heritage is anticipated. The heritage significance of Upper Avon Pumping Station WP0097 is related to the supply of water. The proposal would have a positive heritage outcome as the reenergisation of the HV line would result in the Upper Avon Pumping Station WP0097 being operational again after having no power supply since 2021. The proposal would not require a new electrical connection to the Upper Avon Pumping Station WP0097.
Noise and vibration	**Noise** The proposal is within a bush/rural setting. The existing noise environment is influenced by very infrequent road traffic. There are no sensitive receivers within 500 metres of the proposal area. The works would generate noise during construction from the operation of machinery and equipment. Works are proposed to be carried out over six shifts per week (i.e. Monday through Saturday 6 am to 6 pm). Construction is expected to take up to 10 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 and recommended additional mitigation measures for impacted receivers. 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 – R0 • Distance based noisiest plant – chainsaw • Line of sight to the receiver – no. Noise from the works would be heard from 365 metres. There are no residents located within 365 metres of the site. Therefore, construction noise impacts are not anticipated. No operational noise impacts are anticipated. **Vibration** Due to the distance of sensitive receivers, no vibration impacts are anticipated during construction and operation of the proposal.
Air and energy	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, negligible dust and emission impacts are anticipated. During construction the proposal would require increased energy and this would marginally increase Sydney Water's total energy use. During operation the proposal

Aspect	Potential impacts
	would be operated in accordance with energy use procedures that apply to Sydney Water's existing network. Air quality and energy use would be managed by implementing the mitigation measures listed in Section 6.
Waste and hazardous materials	Waste would be generated during construction, including: • excavation and disturbance of soil • green waste from vegetation removal/trimming • redundant assets • general construction waste. 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 as classified. Recycling or re-use of waste streams such as green waste is encouraged where possible. Potential waste and hazardous materials impacts will be managed by implementing the mitigation measures listed in Section 6.
Traffic and access	Access to the proposal area would be via Cordeaux Road and Morans Road. The easement would be accessed by exiting fire trails. All vehicles to enter the catchment will be 4WD. No road closures would occur on Cordeaux Road or Morans Road, however road closures may be required along the fire trails to facilitate track maintenance (if required). Access may be temporarily impacted during the temporary widening of some gates and reinforcement of culverts to allow for heavy vehicle access. Consultation with relevant stakeholders would occur to minimise potential disruptions. At peak construction, up to 30 vehicles per shift would access the proposal area. The construction vehicles would park within designated parking areas such as the construction compound. To minimise traffic impacts along the fire trails and due to the limited available paring within the proposal area, workers would access the site via a shuttle bus or car pooling. Workers would park their vehicles at a designated parking area (yet to be determined), which would not significantly disrupt parking availability within the community. 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	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 negligible, as the works are not visible to sensitive receivers.

Aspect	Potential impacts
	Potential social and visual impacts would be managed by implementing the mitigation measures listed in Section 6.
Cumulative and future trends	Sydney Water is currently proposing to undertake works at the same time near to the proposal in the suburb of Avon. The projects include upgrades to the Sydney Water owned Avon Reservoirs (WS0219 and WS0234), and repairs to Fire Road No. 15. Due to the minimal impacts anticipated from the proposal, cumulative impacts are considered to be negligible. Consultation will be ongoing with WaterNSW and other relevant stakeholders to minimise cumulative impacts from any projects they may perform nearby during construction of this proposal. 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.

6 Environmental mitigation measures

Table 6 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 CEMP site plan and appropriate environmental controls installed.

Should the proposal change from the EIA, no further environmental assessment is required provided the change:
• remains within the proposal area and has no net additional environmental impact or
• is outside the proposal area 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 (eg AHIMS sites and boundaries of the proposal area 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 • stockpile locations • traffic control and access arrangements • access and works identification arrangements at/ around the proposal area where it occurs on WaterNSW land • adequate measures to suppress any dust raised during the works

Mitigation measures
• an erosion and sediment control plan that has been prepared by appropriately qualified professional. The CEMP will identify appropriate delineation with (eg metal fencing for AHIMS, white flagging for construction corridor, red flagging for no go zones etc). Delineate approved proposal area before construction. The CEMP would be provided to WaterNSW for review.
Comply with the Sydney Water and WaterNSW Access Protocol. The contractors will need to adhere to the conditions outlined in the 'Conditions of Access into Special and Controlled Areas' contained in clause 11 of the 'Sydney Water and Water NSW Access Protocol, Version 1' and any other conditions outlined in correspondence from Water NSW. This includes any additional conditions from ongoing consultation with Water NSW.
Prepare an Incident Management Plan (IMP) outlining actions and responsibilities for: • predicted/onset of heavy rain during works • spills • unexpected finds (eg 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 (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 CEMP.
If changes to the scope or on-ground activities on WaterNSW land occurs, consultation with WaterNSW must be undertaken.
Consult with WaterNSW to schedule works in consideration of WaterNSW's deer management program.
Gates to the Special Area must be locked at all times and not left open during construction works.
All Hot Work (work that involves high temperatures or ignition sources that pose a fire or explosion risk) and work using machinery in bush and grass land environments must have adequate controls in place to prevent a fire from starting or spreading.

Topography, geology and soils

An erosion and sediment control plan shall be prepared by an appropriately qualified professional to 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.

Mitigation measures
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 Contamination and Hazardous Materials 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
Where creek crossings are required, consider options and alternatives to minimise disturbance and impacts to the creek.
Keep functioning spill kit on site for clean-up of accidental chemical/fuel spills and aquatic spill kit on site for clean-up of accidental chemical/fuel spills in mapped key fish habitat. Keep the spill kits stocked and located for easy access.
Locate portable site amenities, chemical storage and stockpiles of erodible materials away from watercourses, drainage lines and flood prone areas.
Keep stockpiles to a minimum and ensure adequate contingency measures are in place to prevent sedimentation of waterways in the event of a large flood event.
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

Mitigation measures

  - 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).

Offset residual impacts to native vegetation and trees in accordance with the Biodiversity Offset Guideline (SWEMS0019.13). Offsets will be as follows:

- 0.07 hectares of TEC x 2
- 4.33 hectares of native vegetation x 1.

Therefore 4.47 hectares of offsets are required.

The location of the offsetting to be undertaken for the proposal would be documented in the CEMP.

Map and report native vegetation clearing greater than 0.01 ha 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.

Minimise vegetation clearance and disturbance, including impacts to standing dead trees and riparian zones. Where possible, limit clearing to trimming rather than the removal of whole plants.

Physically delineate vegetation to be cleared and/or protected on site and install appropriate signage prior to works commencing.

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

Retain dead tree trunks, bush rock or logs in-situ unless they are in the proposal area and moving is unavoidable. Reposition material elsewhere on the site or approved adjacent sites.

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 damage occurs to vegetation outside of the proposal area (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.

To avoid the spread of weeds and pathogens, plant and machinery proposed to be used on site must be washed down prior to being brought on site.

To prevent spread of weeds, wrap straw bales in geofabric to prevent seed spread.

Bag all plant parts and excavated topsoil that may be infested with weed propagules and dispose at a licensed waste disposal facility.

Mitigation measures

Entry into the Catchment is not permitted during a Total Fire Ban.

Clearing of native vegetation should be limited to the minimum required to successfully complete the proposal.

Where possible, any felled trees or existing woody debris should be relocated locally (and evenly) within proximity to the proposal area to provide habitat for native ground-dwelling species and their prey.

Sedimentation fencing/structures (e.g., coir logs, sandbags, filter fencing) should be erected/installed prior to the commencement, and kept in place for the duration, of the proposed work to prevent off-site migration of sediment laden run-off into watercourses.
Sedimentation fencing/structures should be regularly checked and maintained, particularly after heavy rainfall periods.

No wash down of equipment permitted onsite.
The cleaning protocol must be in accordance with the Department of Planning, Industry and Environment 2020 Document Hygiene guidelines for wildlife - Protocols to protect priority biodiversity areas in NSW from Phytophthora cinnamomi, myrtle rust, amphibian chytrid fungus and invasive plants.

Aboriginal heritage

All site personnel will be inducted by a heritage specialist (or delegate) before starting work on site. The induction should include clear explanation of heritage constraints, go and no-go areas, measures to avoid impacts, stop work procedures, and contact details to obtain further heritage guidance if needed.

Do not make publicly available or publish, in any form, Aboriginal heritage information on sites / potential archaeological deposits, particularly regarding location.

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.

Stop work if access requires vegetation impacts in unassessed areas, traversing rock outcrops, under or working in rock shelter/cave and/or walking over ground containing old shells is required.

Flagging and signage will be erected at heritage items that have the potential to be accidently impacted before construction:

[redacted]

No works are to occur on within the curtilage of AHIMS site [redacted]. Contact an Aboriginal heritage specialist if works are required.

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) and WaterNSW.

Noise and vibration

The Proposal will also be carried out in accordance with:

- EPA Construction Noise Guideline (Draft, 2021)
- Sydney Water's Noise Management Procedure SWEMS0056.

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

Mitigation measures

Incorporate 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 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.

Air and energy

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

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.

Cover all transported waste.

Waste and hazardous materials

Manage waste in accordance with relevant legislation and maintain records to show compliance eg 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 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.

Mitigation measures
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.
Traffic and access
Notify relevant stakeholders of fire trail closures for access maintenance works.
Where parking within the construction compounds would be exceeded, additional measures to reduce parking demand (e.g. shuttle buses or car pooling) would be implemented. Overflow parking for workers would be provided at a location that would seek to minimise local parking impacts to the community.
All vehicles to access the catchment must be 4WD.
Conduct a dilapidation survey of the access tracks prior to works. Rehabilitate access track to a similar or better condition once construction is complete.
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.
No smoking within National Parks or Special Areas.

Appendix A – Section 171 checklist

Section 171 checklist	REF finding
Any environmental impact on a community	No impacts to the community from the construction or operation of the proposal are anticipated due to the distance of the works from sensitive receivers. 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 and trim trees within the proposal area. The loss of the vegetation will not result in significant environmental impacts to ecosystems of the locality.
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality	The proposal will not significantly 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 is not anticipated to have an 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 BC Act)	The proposal would remove and trim trees within the proposal area. The proposal will not 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 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 an energy supply to a 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. No pollution of the environment is expected.

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. The proposal is to complete sufficient repairs to re-energise the HV line to facilitate water supply.
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 - *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.*	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 an energy supply for 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 trees within the proposal area. The proposal 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

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 *National Parks and Wildlife Act 1974* or land acquired under Part 11 of that Act*? If so, consult with DPE (NPWS).*	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? *If so, consult with DPE (NPWS).*		X
Will the proposal include a fixed or floating structure in or over navigable waters? *If so, consult TfNSW.*		X
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 *the Western Parkland 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).*		X

Appendix D – Neutral or beneficial effect on water quality (NorBE Assessment)

NorBE assessment – is there likely to be a neutral or beneficial effect on water quality? (assessment must consider surface and ground waters, and construction and operational stages)	
Are there any identifiable potential impacts on water quality? What pollutants are likely? *Major potential pollutants are sediments (fine & coarse), nitrogen, phosphorus, pathogens and hazardous chemicals and contaminants such as oil/fuel.* At what stage do the impacts occur? *ie during construction and/or post construction?*	The potential pollutants generated by the proposal during construction are sediments, dust, and contaminants such as oil/fuel. These pollutants have the potential to impact water quality through runoff, water discharge and storage of fuels and chemicals on site. Mitigation measures such as the implementation of an erosion and sediment control plan and bunding before construction starts would manage potential impacts to water quality. Refer to Section 6 for all mitigation measures.
For each pollutant list the safeguards needed to prevent or mitigate potential impacts on water quality? *These may be WaterNSW endorsed current recommended practices (CRPs) and/or equally effective other practices*	The mitigation measures used to manage sedimentation, water discharge spills into nearby waterways would include but not limited to the installation of sediment traps and frequent checks of the erosion and sediment controls are in working order. Refer to Section 6 for all mitigation measures.
Will the safeguards be adequate for the time required? How will they need to be maintained?	Yes, the mitigation measures would be managed by the contractor through the implementation of the mitigation measures in Section 6 and the CEMP.
Will all impacts on water quality be effectively contained on the site by the identified safeguards (above) and not reach any watercourse, waterbody or drainage depression? Or will impacts on water quality be transferred outside the site for treatment? How? Why?	Sediment – will be effectively contained on the site provided the required erosion and sediment controls are properly installed and maintained. Dust – offsite dust impacts would be managed though the watering and/or covering of exposed areas and conducting work in appropriate weather conditions (i.e. works would cease in windy conditions). Contaminants – would be managed through appropriate storage of contaminants, location of refuelling and functional and easily accessible spill kits. The mitigation measures outlined in this REF (Section 6) are considered effective to contain any potential impacts to water quality on site. No transfer of water is required for offsite treatment.
Is it likely that a neutral or beneficial effect on water quality will occur? Justify	The proposal is likely to have a neutral effect on water quality. Mitigation measures, outlined in Section 6, would be implemented to minimise any potential impacts. When the proposal has been completed, the level of pollutants will be the same as they were before the proposal commenced (i.e. neutral effect).

Appendix E – Biodiversity Assessment and construction compound memo

Appendix F – Aboriginal Heritage Due Diligence