Review of Environmental Factors Addendum

Upper Cascades Reliability Improvement Program – Catalina Reservoir

Determination

This Review of Environmental Factors Addendum (REFA) assesses potential environmental impacts of the Upper Cascades Reliability Improvement Program – Catalina Reservoir project. 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 REFA and the approved REF. Additional environmental impact assessment may be required if the scope of work or work methods described in this REFA change significantly following determination.

Certification

I certify that I have reviewed and endorsed this REFA 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 information it contains is neither false nor misleading.

Prepared by:

[redacted]

Ellen Curtis
Environmental Scientist
Sydney Water
Date: 16 July 2026

Reviewed and endorsed by:

[redacted]

Deana Filipas
Environment Representative
Sydney Water
Date: 29 July 2026

Endorsed by:

[redacted]

Maaran Mutharasa
Project Manager
Sydney Water
Date: 7 August 2026

Decision Statement

The main potential additional construction environmental impacts of the proposal change include additional vegetation removal and heritage impacts. Erosion and sedimentation, dust, noise, and traffic impacts remain consistent with the approved REF. During operation, the main potential additional impacts are associated with visual amenity and dewatering to the surrounding environment. 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.

Determined by:

[redacted]

Elissa Howie
A/Senior Manager
Environment and Heritage, Sydney Water
Date: 3 September 2026

1 Proposal description

Table 1-1 Proposal need, objectives and consideration of alternatives

Aspect	Relevance to proposal
Approved REF	Upper Cascades Reliability Improvement Program – Catalina Reservoir (June, 2024).
Proposal need and objectives	The proposal is part of the Upper Cascades Reliability Improvement program. This program is required to provide additional drinking water network storage and system reliability and resilience to meet Sydney Water's servicing commitments. The core objectives of this proposal are to: • deliver a suitably sized water supply storage reservoir for the Catalina water supply zone, increasing water security for customers • provide positive long-term benefits by improving the reliability and resilience of the water supply network for the Blue Mountains community.
Proposal change description and methodology	Refer to Figure 1-1 for the approved REF scope, which includes: • site establishment and investigation work, including - vegetation removal - establishing temporary compounds and access roads - installing environmental controls (e.g. erosion and sediment) - setting up traffic management measures. • demolition/removal of the existing reservoir and pavement, footpath and/or road surfaces, respectively • earthwork associated with construction of the new reservoir • construction of the new reservoir, including associated connections (e.g. water, stormwater, electricals) and ancillary infrastructure (e.g. overflow relief and scour) • commissioning infrastructure • site restoration. Proposed changes are required due to scope adjustments during detailed design and subsequent refinements. The proposal change is shown in Figure 1-2 to Figure 1-6 and will include: • additional and/or more clearly defined site setup requirements including: - demolishing/removing all existing above ground infrastructure, vegetation clearing and some removal of below ground infrastructure, to facilitate construction within the proposed construction footprint (vegetation clearing is not proposed in the AHIP extension area) - construct new hardstand (poured concrete) to operate as a mobile crane pad and laydown areas

Aspect	Relevance to proposal
	- prior to removing existing infrastructure (e.g. headwall), complete asbestos remediation works or make safe works in areas of identified contamination - proposed bushland restoration works along site batter (within the proposed AHIP extension area) to facilitate slope stabilisation and natural long-term erosion control. • minor adjustment to the construction footprint of the proposed new reservoir, overflow relief structure and scour structure, within the same lot • additional and/or more clearly defined ancillary infrastructure, not covered under the approved REF, e.g. water, stormwater and electrical lines • proposed secondary compound site located within a council easement immediately north of Lot 66 DP 2517 (62 Narrow Neck Road), approximately 350 m south of the construction footprint. Apart from the proposed secondary compound, AHIP extension area and bushland stabilisation works, the proposed changes remain within the previously assessed construction footprint. The new proposed secondary compound site does not fall within an area requiring an AHIP.
Justification for proposal change	During detailed design it was determined that an AHIP variation would be required to facilitate headwall construction, bushland restoration work, natural sedimentation and runoff control, and to allow for potential access through nearby Rural Fire Service's (RFS) land. Ongoing design discussions identified additional and/or more clearly defined ancillary infrastructure scope, which had not been assessed under the previously approved REF. Design changes and improvements include an increased understanding of ancillary infrastructure (e.g. new water, stormwater and electrical lines), accounting for additional potential compound and laydown areas, and minor adjustments to the new reservoir footprint. Further concerns regarding stormwater and scour discharges from the site into the adjacent Aboriginal Place (Upper Kedumba River Valley, or "The Gully") were identified during ongoing consultation with the Blue Mountains City Council (BMCC) and The Gully Traditional Owners. In response to these concerns, the project made the decision to shift the proposed location of the scour, including point of discharge, outside the curtilage of The Gully. This change in the proposed scope ensures minimal impacts to the sensitive receiving environment downstream from the scour.
Location and land ownership	As per the existing approved REF, most of the proposal is located within Sydney Water's land (Catalina Reservoir) at 11-21 Valley Road (Regional Road) within the suburb of Katoomba in the Local Government Area (LGA) of BMCC. Land parcels owned by Sydney Water include: • Lot 1 DP 34359; Lot 2 DP 34359; Lot 2 DP 881800; Lot 1 DP 935066; Lot 1 DP 180589; Lot 1 DP 34360; Lot 2 DP 34360; Lot 17 DP 232969; Lot 18 DP 232969.

Aspect	Relevance to proposal
	On the advice of BMCC, a secondary compound site is proposed, and if suitable will be located within a council easement immediately north of Lot 66 DP 2517 (62 Narrow Neck Road) and approximately 350 m south of the construction footprint. Site suitability will be confirmed in consultation with the contractor and council. This area was not assessed in the existing approved REF. Valley Road and the proposed AHIP extension footprint are mapped as Crown Land (Road) which includes access to The Gully Aboriginal Place for proposed bushland restoration works.
Site establishment and access tracks	The proposed site establishment and access tracks within the main construction site (Catalina Reservoir) remain as per the existing approved REF. A secondary compound area to support construction is proposed within a council easement immediately north of Lot 66 DP 2517 (62 Narrow Neck Road). This site is positioned between residential properties to the north and south, and there is evidence of it being used by locals as unofficial off-street parking. The easement is ungated and provides access west from Narrow Neck Road to Valley Road/Boomerang Street in the east. The driveway of one property, 1 Mission Street; Lot 55 DP 2517, passes through the eastern end of the easement and owners of this property would be consulted prior to works starting to confirm any access impacts. If suitability and access to the proposed secondary compound is approved by the landowners, activities at this site will include delineating any storage and laydown areas, installing temporary security structures (e.g. fencing/gates), installing erosion and sediment controls, traffic management (if required), site establishment activities including geotechnical and contamination investigations, and minor vegetation impacts (if required). The site can be accessed via the existing road network. However, there are no sealed tracks passing through the allotment, and it may be necessary to establish temporary access tracks/hardstand through the site. Use of this site would be determined in consultation with the relevant landowner.
Ancillary facilities (compounds)	Construction compound(s) will likely be required to house site sheds, construction amenities and materials laydown. Indicative locations for the compounds are shown on Figure 1-1 (approved REF) and Figure 1-2 (scope change). The exact location of these will be chosen by the contractor and remain within the field assessment area, in consultation with the landowner(s) and approved by Sydney Water's Project Manager as described in the mitigation measures in Table 4-2 and the Approved REF. Compounds may require considerable earthworks to provide a level surface for heavy machinery to access, e.g. the reservoir, during construction. A temporary access track, including laying of gravel and installing temporary security fencing/gates, is anticipated through Lot 66 DP 2517 to provide a stable surfaced.
Proposal timing	Construction is expected to start Q1 2031 and take about 20 months to complete. Completion is anticipated by Q3 2033.

Aspect	Relevance to proposal
Operational requirements	Generally, the operational requirements will be per the approved REF. Approved and changed (refined) operational requirements are summarised below. **Approved REF:** • The new infrastructure will be connected to the water supply system to enhance storage and supply to the Blue Mountains region. • Planned, periodic routine maintenance activities such as inspections, testing and repairs, will occur as necessary. • Rare, unplanned water release/discharges, e.g. unplanned valve or instrumentation failure, in a semi-controlled manner via the overflow relief mechanism. As there is no existing stormwater infrastructure, released water will be directed into bushland, east of Sydney Water's property. • Overflow design reduces discharge velocity to protect the receiving environment from potential erosion and sedimentation impacts. **Operational change/refinement** Site stormwater and drainage scope details are now available, with this infrastructure designed to use the overflow relief system as a drainage point. This infrastructure will convey stormwater runoff generated during rainfall events, as well as any reservoir overflow when required (see above points), to the same discharge location. Stormwater discharges will occur more frequently during rain events, whereas reservoir overflow discharges would only occur infrequently under abnormal operating conditions. However, the design accounts for potential indirect effects from uncontrolled runoff/water release and uses a design similar to release structures managed by the BMCC within The Gully (Figure 1-4).

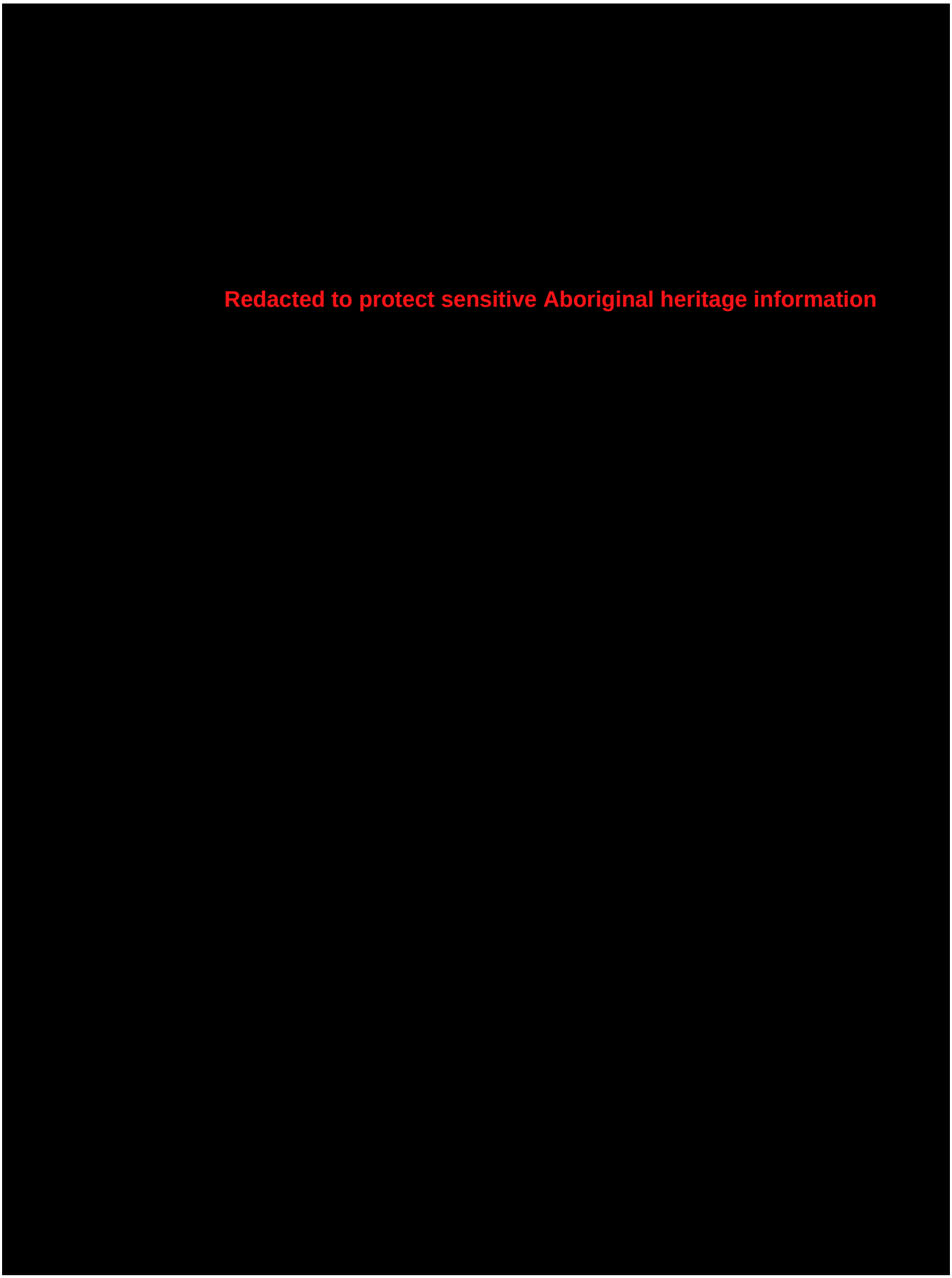


Figure 1-1 Proposal scope in approved REF (Sydney Water, 2024). Compare to Figure 1-2 for proposed scope refinements.

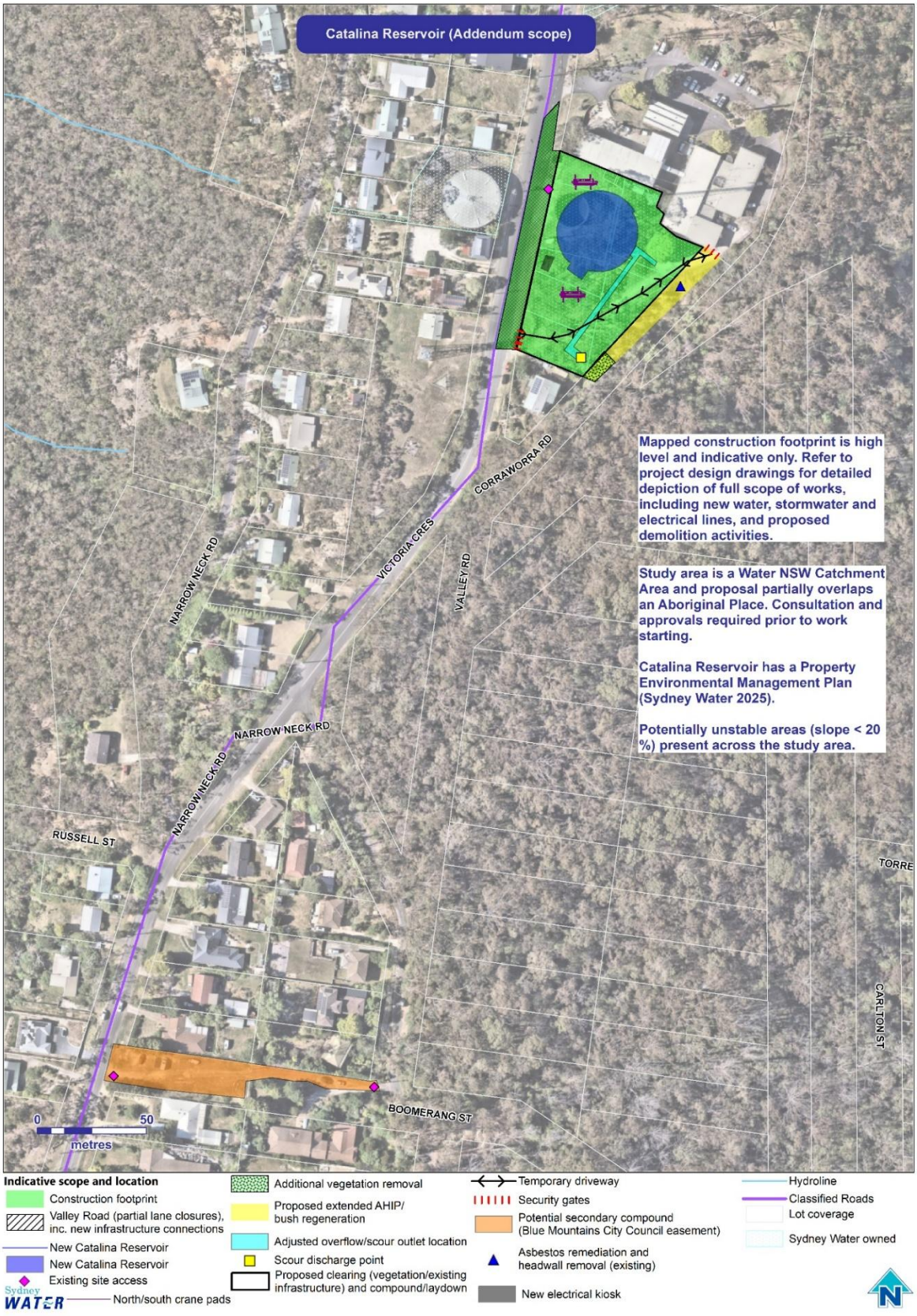


Figure 1-2 Location of proposal change: high level overview of construction footprint and indicative compound/s.



Figure 1-3 Indicative construction design details proposed for the Catalina Reservoir project, showing details and location of existing and proposed infrastructure at the time of writing this REFA.







Figure 1-4 Indicative overflow dissipation structures. Examples are typical of the area and show structures installed by the Blue Mountains City Council.

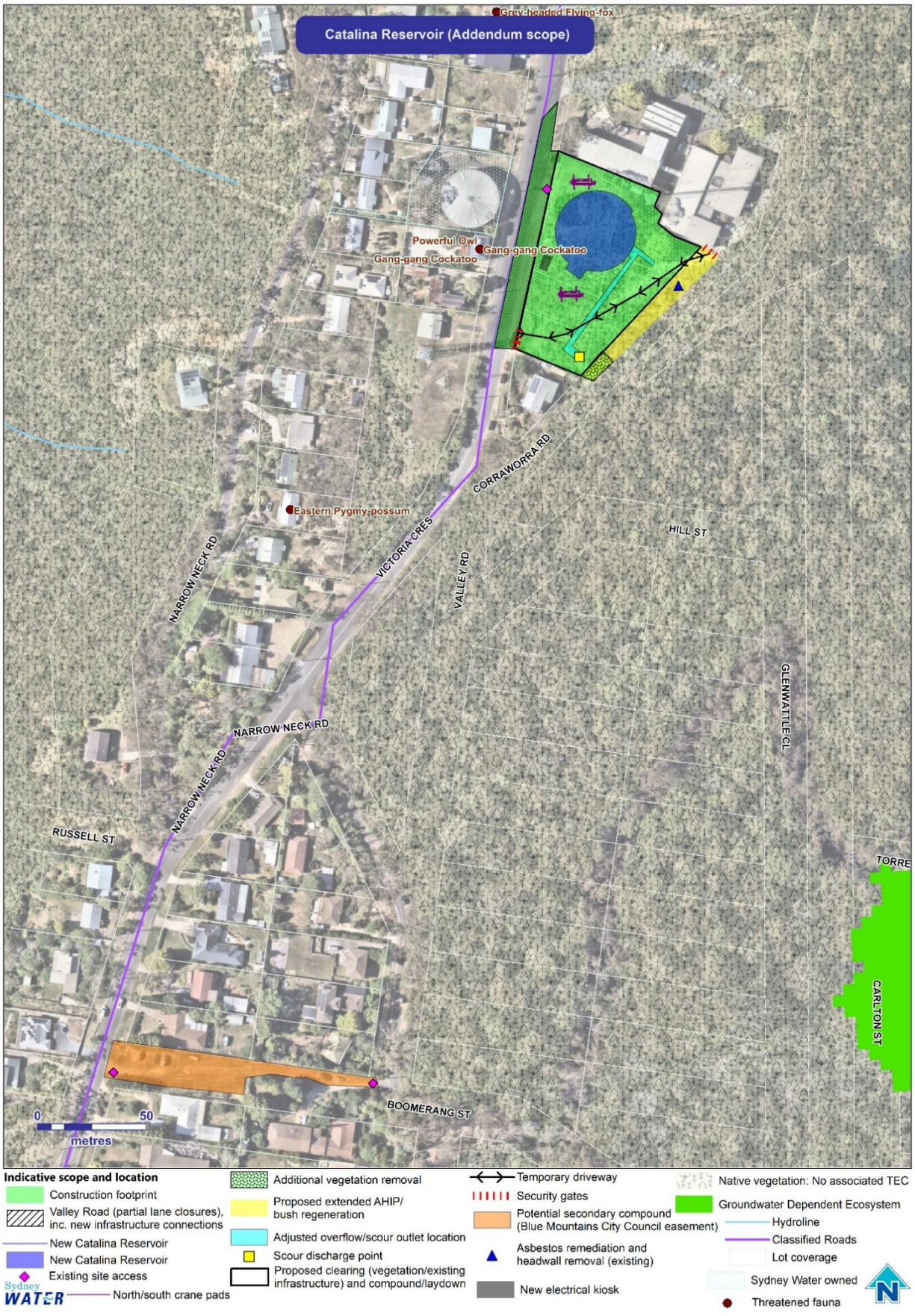


Figure 1-5 Location of proposal change and environmental constraints: biodiversity.



Figure 1-6 Location of proposal change and environmental constraints: heritage and catchment area.

2 Consultation

2.1 Community and stakeholder consultation

In December 2025, continued consultation with the Blue Mountains City Council (BMCC) and The Gully Traditional Owners identified an area of concern, regarding stormwater and scour discharges from the site into the adjacent Aboriginal Place (Upper Kedumba River Valley, or "The Gully"). In response to these concerns, the project made the decision to shift the proposed location of the scour, including point of discharge, outside the curtilage of The Gully. This change in the proposed scope ensures minimal impacts to the sensitive receiving environment downstream from the scour. No additional consultation matters beyond this and those already assessed in the approved REF have been identified. However, an updated notification will be provided to relevant stakeholders where required, including:

- Blue Mountains City Council (BMCC)
- The Gully (Upper Kedumba River Valley Aboriginal Place) Traditional Owners
- Indigenous Land User Agreement (ILUA) representatives
- NSW Rural Fire Service
- Residents and businesses
- Bus companies – CDC NSW
- Services companies, including Telstra and Oxicom
- Water NSW.

Stakeholders listed as part of the approved REF and broader project have and will continue to be engaged throughout the design and construction of the proposal.

2.2 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).

Section 2.10(1)(e) and (f) of the TISEPP requires Sydney Water to notify the BMCC as the proposal will:

- install temporary structures on, or enclose, a public space under council's control
  - temporary secondary compound area on council land north of Lot 66 DP 2517 at 62 Narrow Neck Road.
- excavate a road, or a footpath adjacent to a road, for which the council is the roads authority (Valley Road)
  - excavation to install service connections will impact Valley Road and partial road closure is proposed.

A notification letter was emailed to the BMCC on the 5 May 2026. A response to clarify roadway excavation location was received 6 May 2026. Sydney Water replied and has not received further correspondence from BMCC.

The proposal is within the Sydney Drinking Water Catchment. WaterNSW were consulted regarding the original proposal and provided an opportunity to review the approved REF. At the time, WaterNSW were satisfied that the proposed construction activity would not impact on water quality in the Sydney Drinking Water Catchment, if all mitigation measures were implemented in full. Mitigation measures are captured in Section 6 of the approved REF and will be implemented as part of the changed scope. An updated notification was emailed to WaterNSW 5 May 2026 to inform them of the project design refinements (see Appendix D). A response from WaterNSW was received on 8 May 2026. WaterNSW reviewed the proposed changes to scope and outlined operational concerns (discharge from overflow/scour and potential erosion). Three additional mitigation measures were recommended and will be incorporated into this REFA. Upon determination, a copy of this REFA and associated documents will be provided to WaterNSW for record keeping.

3 Legislative requirements

There are no additional legislative requirements above those already assessed in the approved REF.

The proposal change includes development of a new water supply reservoir by Sydney Water, which is a public authority. Water reticulation system has the same meaning as in the Standard Instrument but also includes water supply reservoirs. Under section 2.159(1) of the TISEPP, development for the purpose of water reticulation systems may be carried out by or on behalf of a public authority without consent on any land. As such, the proposal change is permissible without consent.

Accordingly, this REF addendum has been assessed under Division 5.1 of the EP&A Act.

Table 3-1 Environmental planning instruments relevant to the proposal change

Environmental Planning Instrument	Relevance to proposal
Blue Mountains Local Environmental Plan (LEP) 2015	The proposed secondary compound area is located on land zoned C4 - Environmental Living. All other land zoning remains the same as per the existing approved REF.
State Environmental Planning Policy (Biodiversity Conservation) 2021 (BCSEPP)	**Water catchments (Chapter 6)** Chapter 6 of this SEPP applies as the proposal is within the Sydney Drinking Water Catchment. Section 4 of this REFA assessed potential additional environmental impacts, including to topography, water and drainage, flora and fauna, and cultural heritage aspects. The assessment confirmed that potential new impacts are negligible/minimal and meet the requirements of part 6.2 of the SEPP. As outlined in Section 2 of this REFA, WaterNSW was consulted on the proposal change and additional WaterNSW recommendations incorporated below in Table 4-2. An updated neutral or beneficial effect on water quality (NorBE) assessment is not required, as agreed with WaterNSW (see Section 2.2 above, and Appendix D below).

Table 3-2 Consideration of key environmental legislation

Legislation	Relevant to proposal	Permit or approval	Timing and responsibility
National Parks and Wildlife Act 1974 (NPW Act)	Under section 86 of this Act, it is an offence to harm or desecrate an Aboriginal place or object unless authorised by an Aboriginal heritage impact permit (AHIP), or where it is reasonably determined that no Aboriginal object will be harmed. The proposal is within an Aboriginal Place and an AHIP under section 90 of the Act was obtained	AHIP (existing 5358) AHIP variation	Post REF, pre-construction, Sydney Water (for AHIP)

Legislation	Relevant to proposal	Permit or approval	Timing and responsibility
	(2025/AHIP 5358) for scope assessed under the existing approved REF. An AHIP variation is required for the new scope. The proposal does not require work within or adjacent to a National Park.		
Native Title Act 1993 (Commonwealth)	The proposal is located within the application area of an Indigenous Land Use Agreement (ILUA) under the *Native Title Act 1993*. Since the approved REF, scope refinements have been proposed. The decision to change the proposed scope includes consideration of feedback during consultation in December 2025 with the Aboriginal community, including The Gully Traditional Owners. An additional Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared for the proposal change (ELA 2026). Based on the outcomes and recommendations of the ACHAR (ELA 2026), Sydney Water will obtain an AHIP variation for the works affecting the Aboriginal Place.	AHIP variation	Pre construction, Sydney Water

4 Environmental assessment

The environmental impacts checklist (SWEMS0019.01) was considered for the proposal change. Table 4-1 includes only the potentially impacted/ changed aspects and Table 4-2 lists relevant/ additional mitigation measures. All other environmental impacts in the approved REF remain the same and will be incorporated into the contractor's CEMP.

Table 4-1 Review of environmental aspects

Aspect	Potential additional impacts
Topography, geology and soils	The existing topography, geology and soils environment throughout the study area remain unchanged from the approved REF. However, scope changes place some work within potentially unstable areas (i.e. slope < 20 %), including the AHIP extension area and associated bush regeneration work, the proposed new scour/overflow and new discharge location, and the proposed secondary compound. The main potential impact to topography, geology and soils during construction is consistent with the approved REF, being erosion and sedimentation during ground disturbance works (e.g. earthworks, excavation, vegetation clearing and site establishment activities) and inappropriately managed or unmanaged stockpiles. During operation, scouring or erosion associated with stormwater runoff could occur if sediment controls are mismanaged, and/or the overflow structure is not designed to appropriately manage flows (see below sections, including 'water and drainage' and 'Aboriginal heritage' for further discussion). However, the scour design and location have been chosen with consideration of the environment and through consultation with key stakeholders, including Water NSW, BMCC and First Nations community, and designed to consider and reduce scour impacts. With the implementation of the mitigation measures provided in the approved REF, and additional mitigation measures below in Table 4-2, the proposal change is expected to have a minimal impact to topography, geology and soils.
Water and drainage	The existing water and drainage environment remains unchanged from the approved REF. There are no additional water and drainage features located within the proposed secondary compound site and no direct impacts from establishing this compound are expected. Mitigation measures in the approved REF will be applied to address potential indirect impacts associated with establishing and using the secondary compound. Construction of the proposed overflow relief structure and scour outlet includes some design and positioning changes. The current design includes sandstone dissipating boulders and rip rap, to align with similar installations recently undertaken by council within The Gully (see Figure 1-4). During operation, the overflow structure will capture and direct stormwater from the site to be dissipated to the surrounding bush (i.e. The Gully Aboriginal Place) in the new scour structure location. The frequency of this will align to natural rainfall events. Commissioning and maintenance requirements for discharge remain as per the approved REF and will include short-term, periodic events, with flow rate to be monitored and controlled to minimise potential environmental

Aspect	Potential additional impacts
	impacts. Potential impacts to The Gully are discussed further below (see 'Aboriginal heritage'). WaterNSW was given an opportunity to review the refined scope. They identified minor operational concerns regarding anticipated discharge from the overflow pipe, e.g. the potential for sediment erosion, if sufficient mitigation measures are not applied. However, with the implementation of the mitigation measures in the approved REF, and additional mitigation in Table 4-2 of this REFA, which include recommendations by Water NSW, impacts to surrounding waterways can be adequately managed. Any residual impacts are expected to be minor and in line with the approved REF. The refined proposal will have a neutral effect on water quality.
Flora and fauna	A desktop assessment was conducted on 22 April 2026 to understand potential changes to flora and fauna mapping across the study area, including within the AHIP extension area and proposed secondary compound area. The existing flora and fauna environment and potential impacts are consistent with the approved REF. However, scope changes propose an additional impact on mapped native vegetation. A maximum of 0.22 hectares (ha) of native vegetation (non-Threatened Ecological Community (TEC)) and a further 0.22 ha of non-native vegetation was proposed to be impacted under the approved REF. This area was quantified on the assumption that the entire study area, defined as Sydney Water's property east of Valley Road, would be cleared and assessed as having no significant impact on any threatened entity (Biosis 2022). To allow the proposed adjustments to the scour location and headwall design, removal of an additional area of about 130 m^2 (or 0.013 ha) of native vegetation is required adjacent to Sydney Water's land and within The Gully. Further minor vegetation impacts may be required to enable site establishment and use of the proposed indicative secondary compound site. However, the proposed compound area is not associated with TEC, is predominantly cleared and highly disturbed, and impacts would be restricted to trimming or removal of individual trees. In 2022, Biosis conducted a site visit to ground-truth vegetation within the study area and identified the impacted area as Sydney Peppermint - Silvertop Ash heathy open forest on sandstone ridges of the upper Blue Mountains plant community type (PCT) 1248. However, under the NSW Government's BioNet Vegetation Classification the proposed impacted area is mapped as the following PCTs: • Upper Blue Mountains Moist Forest (PCT 3692) • Upper Blue Mountains Peppermint Dry Forest (PCT 3693). Neither PCT is associated with a TEC. Sydney Water's Senior Ecologist was engaged to assess the potential additional impacts associated with the revised design and to determine whether an additional Assessment of Significance (AoS) is warranted. Our Senior Ecologist reviewed the additional area proposed for vegetation removal, previously ground-truthed as PCT 1248, against current mapping and biodiversity data (e.g. flora, fauna, populations, and ecological community).

Aspect	Potential additional impacts

The previous assessment undertaken by Biosis (2022) included Tests of Significance (ToS) for 15 threatened species, populations and communities considered to have a medium or greater likelihood of occurrence within the study area. Biosis (2022) concluded the proposal would be unlikely to have a significant impact under the EPBC Act and BC Act. These findings were reviewed as part of the assessment for the current REFA.

The species identified in the previous ToS remain relevant to the modified scope. However, it is noted that the assessments for some threatened flora species were undertaken on a precautionary basis (e.g. where surveys may not have coincided with optimal detection periods). In these instances, species were conservatively assumed to be present to inform the assessment. The proposed additional impact area being assessed as part of this REFA does not contain known individuals or clearly defined critical habitat. Given the very small and localised nature of the disturbance, and the implementation of pre-clearing surveys and avoidance measures, the current proposal is unlikely to affect any locally significant flora population.

Threatened fauna species with the potential to occur within the study area may forage transiently, fly over, or move through the additional impact area. Based on previous survey data (Biosis, 2022), the impact area does not include microhabitats associated with key breeding or roosting features, e.g. large hollow-bearing eucalypts for woodland raptors and owls or suitable structures for microbat roosting. Further, access to key foraging habitat with *Allocasuarina* or nectar bearing species such as *Eucalyptus, Banskia* or *Grevillea* would not be impacted in a meaningful way given the small scale and localised nature of the works and the availability of adjacent habitat. While some habitat elements such as fallen logs and rocks may occur within the impacted area, avoidance and mitigation measures would be implemented, including the relocation of hollow logs and rocks to retain habitat resources.

The small scale and localised nature of the additional impacts (0.013 ha) do not materially change the risk profile and are considered consistent with the original ToS conclusions. Rather than relying solely on assumed presence or absence, and given the time elapsed since the original survey, the current approach incorporates pre-clearing surveys and targeted inspections to confirm the presence or absence of threatened flora and key habitat features within the impact area prior to construction starting. Where identified, appropriate avoidance and mitigation measures will be implemented.

Safeguards and management measures specific to the potential for species have been included in Table 4-2.

Vegetation offsets

Vegetation impacts would be offset, according to Sydney Water's Biodiversity Offset Guide and are summarised below.

Approval	Non-threatened vegetation (offset ratio)*		
	Native (ha)	Non-native (ha)	Total offset area (ha)
REF	0.22 (2:1)	0.22 (1:1)	0.66
REFA	0.013 (2:1)	N/A	0.026

** refer to Sydney Water's SWEMS0019.13 Biodiversity offset guide.*

Aspect	Potential additional impacts
	Offsets would form part of proposed bush regeneration works within the AHIP extension area. The latter is proposed as part of the site's long-term management plans to rectify current naturally occurring slope erosion which can be observed along the eastern edge of Sydney Water's property and would also provide natural dissipation for discharge and rainfall flowing overland into The Gully. Bush regeneration works would be completed at regular intervals across a 12-month period. This will include weed management, ground maintenance activities and care of offset plantings. With the implementation of the mitigation measures in the approved REF in and additional mitigation measures in Table 4-2, potential impacts to flora and fauna can be adequately managed.
Aboriginal heritage **Redacted to protect sensitive Aboriginal heritage information.**	The approved proposal is mostly in Sydney Water owned property with minor works in the adjacent roadway. A potential secondary compound which was not assessed in the approved REF may be required. The secondary compound is located outside the Aboriginal Place and within a council easement that is southeast of the reservoir construction footprint. **Secondary Compound** The proposal is in a high-risk landscape for Aboriginal heritage (< 200 m from waters). A search of the Aboriginal Heritage Information Management System (AHIMS) database was conducted on 2 April 2026 for the proposed secondary compound site. The search identified one Aboriginal Place (The Gully) and one registered Aboriginal site about 173 m east of the compound area [redacted] clearly located outside of the proposed secondary compound area and broader construction footprint. The proposal area constitutes 'disturbed land' as defined under the Due Diligence Code of Practice (see the definition of 'disturbed land' on page 18 of the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales). Former land uses have heavily disturbed the proposal area through activities such as vegetation clearing, establishment of existing infrastructure and major earthmoving and landscaping activities for urban growth. Historic aerials were examined as part of the approved REF, further confirming land disturbance throughout the study area and more recently to include consideration of the secondary compound area (see below, Figure 4-1). Use of the secondary compound will not directly or indirectly impact this registered site, and the proposal is unlikely to impact any Aboriginal objects. The remaining project scope, including reservoir construction, has been considered in an Aboriginal Cultural Heritage Assessment (ACHA), and is further discussed below. **ACHA summary (ELA, 2025 and 2026)** [redacted] In 2024, Eco Logical Australia (ELA) were engaged by Sydney Water to undertake an Aboriginal Cultural Heritage Assessment (ACHA) to identify the impacts of the proposed upgrades to the existing Catalina Reservoir on the Aboriginal Place. The ACHA

Aspect	Potential additional impacts
Redacted to protect sensitive Aboriginal heritage information.	identified that the study area did not contain any Aboriginal objects, and the proposed works within the Aboriginal Place (ID9) would not harm the cultural values or significance of the Aboriginal Place. The ACHA supported the application for an AHIP. Heritage NSW issued the AHIP (no. 5358) in January 2025 with a duration of 5 years. On 2 December 2025, Sydney Water attended site with representatives of the Aboriginal community including a member of the Gully Traditional Owners. This site visit was to determine location of the discharge infrastructure, including headwall and scour outlet. As a result of this meeting and ongoing consultation with these representatives, the preferred discharge location was adjusted [redacted] These subsequent scope refinements require an extension of the existing AHIP (no. 5358) area to capture minor works and changes to the approved construction footprint. The AHIP extension area comprises a 6m wide strip along the southern boundary (Figure 1-2). [redacted] An addendum ACHA was prepared in consultation with the Aboriginal community (ELA 2026). The aims of the ACHA addendum were to: • identify any previously unknown Aboriginal sites or objects within the study area through archaeological assessment and identify Aboriginal cultural values through Aboriginal community consultation • determine if the proposed impacts to the Aboriginal Place are consistent with those assessed for AHIP 5358 • identify any constraints and establish the appropriate management and mitigation measures to limit impacts to the Aboriginal Place. The ACHA addendum findings are summarised below (refer to Appendix E). • [redacted] • [redacted] • No Aboriginal objects or potential archaeological deposits were identified within the AHIP extension area during the survey and no specific cultural values were identified that contribute to the significance of the Aboriginal Place. • The impacts proposed will not damage, diminish or remove any Aboriginal cultural values that contribute to the significance of the Upper Kedumba River Valley – The Gully Aboriginal Place. This is consistent with the impact assessment for AHIP 5358. • The Gully Traditional Owners had no objection to the proposed upgrades to the Catalina Reservoir if appropriate erosion and sedimentation

Aspect	Potential additional impacts
	management was in place to ensure no harm to the Aboriginal Place during and after construction. ACHA addendum recommendations are: • Obtain an extension of Aboriginal Heritage Impact Permit 5358 prior to works commencing on site. • Apply adequate mitigation measures including erosion and sedimentation management controls. • Apply an Unexpected Finds Procedure. The above assessment findings and recommendations are consistent with the approved REF. With the implementation of the mitigation measures in the approved REF and additional measures in Table 4-2, impacts to Aboriginal heritage can be adequately managed. a b  c  **Figure 4-1 Historic aerial images of the secondary compound site showing land disturbance through the decades a) 1940s b) 1980s, and c) November 2025 (from Spatial Hub and Near Map, 2026).**
Non-Aboriginal heritage	On 27 November 2025, Sydney Water, via the West Region Regional Delivery Partner, received correspondence from the 2025 President of the Blue Mountains Historical Society (BMHS). Concerns were raised that the approved REF had overlooked features with historic importance within the vicinity of the proposal. Heritage features identified by the BMHS included: • the remains of “The Shoots”, indicated to be within [Lot 1] DP 112956:

Aspect	Potential additional impacts
	"…where coal and shale were transferred to NSWGR trucks for shipment between 1883 and 1904. There are three concrete footings, a large cutting which was for the railway siding, a large cut and benched area for unloading the skips, and footings for the recovery chutes." • the tramway route, indicated to be within [Lot 3] DP 557847: *"…the route of the Tramway which transported the coal and shale from the Katoomba coal Mine to The Shoots, … has substantial remaining earthworks along its length."* The Shoots and the associated tramway route refer to the historic Katoomba coal and shale mine tramways (1880s–1900s), particularly the steep incline utilised to move coal and shale from the Jamison Valley to the clifftop, which is now the site of the Scenic Railway at Scenic World (Keentok 2026; BMHS 2026). A subsequent desktop review, including heritage databases and the NSW Government Spatial Portal, was undertaken on 27 May 2026, to confirm that neither feature is a registered heritage item. Nonetheless, The Shoots and associated tramway route, historically located east of the proposal and extending south of Bathurst Road within The Gully, will not be impacted by the approved or changed scope. However, the historical importance of these features to the BMHS and broader community area is noted. With the implementation of the mitigation measures in the approved REF, potential impacts to non-Aboriginal heritage can be adequately managed.
Noise and vibration	A noise risk assessment was completed as part of the approved REF. The assessment was focused on activities in and within the immediate vicinity of Sydney Water's land and construction of the new reservoir. Noise and vibration impacts associated with scope refinements at this site, located east of Valley Road, have been considered and impacts are not expected to vary from the approved REF. Consistent with the approved REF, demolition, excavation and earthworks, and reservoir construction within Sydney Water's property remain the noisiest activities. Scope refinements include the use and establishment of a secondary compound area, indicatively located in a council easement and selected in consultation with the BMCC. Access to the site is off Narrow Neck Road (western access) and Valley Road/Boomerang Street (eastern access). The nearest sensitive receivers are residential properties located immediately adjacent to the north and south of the secondary compound area. For the current REFA, a separate noise risk assessment for the establishment and subsequent use of the indicative secondary compound area was carried out with consideration of the *Draft Construction Noise Guideline* (EPA 2020) and the work is deemed low risk. Subsequently, a qualitative assessment has been completed and summarised below. The work will generate noise and vibration typical of site establishment and compound use. It is expected that neighbouring properties, visitors and staff of the site, may be minimally affected by noise and vibration associated with the following activities:

Aspect	Potential additional impacts
	• erecting temporary security fencing (if required) • vehicle and staff movements • alarms on machinery, such as vehicle reversing alarms • use of small power tools. This will be temporary with no lasting noise or vibration impacts expected. Night use of the secondary compound area is not proposed. Potential impacts would be managed by mitigation measures outlined in the approved REF and additional measures below (Table 4-2).
Air and energy	Proposed scope refinements, including the establishment and use of the indicative secondary compound site, are not expected to cause additional air and energy impacts. With the implementation of the mitigation measures in the approved REF, air and energy impacts can be adequately managed.
Waste and hazardous materials	Impacts from waste and hazardous materials outlined in the approved REF remain relevant to the refined scope being assessed in this addendum. Additional information has since become available, which includes confirmed asbestos at the eastern boundary of Sydney Water's property and The Gully. There is no known contamination concerns associated with the proposed secondary compound area. Prior to its use and site establishment, geotechnical and contamination investigation sampling will be completed to better understand site conditions at the secondary compound area including presence of waste, contaminants and/or hazardous materials. Proposed scope refinements, including establishing the secondary compound area, asbestos remediation activities and additional vegetation impacts, will result in a minor increase of waste materials and contaminated materials (e.g. asbestos containing material) requiring appropriate disposal. During construction, there is also potential for the waterway to be contaminated from minor leaks or spills if mitigation measures are not adequately applied (see above for further discussion on 'water and drainage'). With the implementation of the mitigation measures in the approved REF and additional mitigation measures below (Table 4-2), potential impacts can be managed.
Traffic and access	Proposed access to the main construction area, east off Valley Road, remains as per the approved REF and no additional impacts to traffic and access at this site are anticipated. Access to the indicative secondary compound area is to be confirmed in discussion with BMCC. However, it is likely that it will be off Narrow Neck Road due to road size constraints associated with Valley Road/Boomerang Street. There is likely to be a minor increase in traffic movements along established roads between the secondary compound and the main construction area (Sydney Water's land). However, use of a secondary compound area would provide workers with alternative off-street parking, potentially reducing congestion in and around the main construction area.

Aspect	Potential additional impacts
	Prior to construction, anticipated vehicle movements in and out of the study area would be incorporated into the proposal's traffic management plan (TMP). As per the approved REF, the TMP will be prepared by the contractor, in consultation with the BMCC. Road closures in addition to impacts assessed in the approved REF are not anticipated. Mitigation measures in the approved REF are sufficient to manage potential additional impacts due traffic and access changes.
Social and visual	Additional noise and vibration, air quality and traffic and access impacts to social amenity are assessed above. There are no additional social and visual impacts expected from the construction of Catalina Reservoir within Sydney Water's property. Additional minor impacts are anticipated south of the main construction footprint for receivers adjacent to the proposed secondary compound area. Nearby residents would likely experience some visual impacts associated with the presence of plant and machinery and typical construction compound activities. These impacts will persist for the duration of the project, though they will be temporary and additional impacts to visual and social amenity are considered minor. Mitigation measures in the approved REF are sufficient to manage potential additional impacts to social and visual aspects.
Cumulative and future trends	The work required to construct the new Catalina Reservoir will not result in additional cumulative impacts or future trends. The work will help facilitate improved outcomes for water security of the Blue Mountains region.

Table 4-2: Mitigation measures

Mitigation measures
Topography, geology and soils

The Sydney Water project manager is responsible for ensuring commitments by Sydney Water to external stakeholders, i.e. Water NSW and Aboriginal community, are applied as required before, during and after construction of the proposal, including:

- Water NSW
  - The proposed overflow structure directing site stormwater run-off and reservoir overflows to the south-southeast of the site shall have an appropriately sized and designed energy dissipater, armoured with boulders and cobbles to ensure sufficient dissipation of the highest volume of flows from the site, so as not to cause any scouring or erosion.
  - Construction of the proposed overflow structure shall not commence until suitable erosion and sediment controls have been installed in accordance with "the Blue Book". The controls shall be regularly inspected, maintained, and retained until works have been completed and ground surface stabilised or groundcover re-established.
  - The overflow structure shall be appropriately monitored, managed and maintained, with regular inspections (including following significant rain events or overflows from the dam) to ensure its continued stability and functioning, so as not to cause erosion.

Mitigation measures

- Recommendation 2 of the Aboriginal Cultural Heritage Assessment (ACHA) addendum (ELA 2026).
  - Construction footprint boundary should be clearly defined.
  - Erosion controls installed prior to any groundworks, preconstruction within the study area.
  - Erosion controls installed for the overflow outlet must consider future sedimentation management.
- Secondary compound
  - Prior to its use and site establishment, undertake geotechnical and contamination investigation sampling including presence of waste, contaminants and/or hazardous materials.

Flora and fauna

- Engage a suitably qualified Ecologist including Licensed Fauna Spotter Catcher to undertake a pre-clearing survey and habitat assessment. The survey will identify and record:
  - habitat features (e.g. hollow-bearing trees, logs, burrows)
  - presence or signs of native fauna
  - weeds or threatened flora species
  - areas requiring specific management or exclusion.

  Should any significant flora or fauna habitat features (as above) be identified, impacts would be reassessed in accordance with Sections 7.2 and 7.3 of the *Biodiversity Conservation Act* and the EPBC Act Significant Impact Guidelines.

  Where injured fauna are found during the activity, contact should be made with a suitably accredited wildlife care organisation such as WIRES. The contact details of the injured animals should not be handled by unqualified staff.

- Impacts on potential habitat should be minimised through:
  - Retention of habitat features (e.g. logs, bush rock, leaf litter, dead wood) in situ where outside the disturbance corridor.
  - Where removal is required, relocation of material to adjacent habitat confirmed by the Pre-clearing ecologist.
  - Avoidance of impacts to nectar-bearing species (e.g. *Banksia*, *Grevillea*, *Eucalyptus*) where feasible.

Manage vegetation impacts as outlined below:

- Offset vegetation impacts assessed in Table 4-1 consistent with Sydney Water's Biodiversity Offset Guide (SWEMS0019.13) ratios:
  - non-threatened native vegetation: 2:1
  - non-native vegetation: 1:1.
- Ensure all retained vegetation is protected in accordance with AS4970 – Protection of vegetation on development sites. This requires exclusion zone fencing installed around retained trees using temporary fencing or flagging tape and Tree Protection Zone (TPZ) signs. It is recommended to use star pickets or hazard flagging at 4m centres along the TPZ and confirm with the Environmental Manager it has been correctly installed before clearing works.
- All selective pruning is recommended to be undertaken in accordance with AS4970 and AS 4373 Pruning of Amenity Trees.

Aboriginal heritage

Mitigation measures

Harm to any Aboriginal objects and declared Aboriginal places is only permitted once an Aboriginal Heritage Impact Permit (AHIP) has been granted, **including the variation to existing AHIP 5358**.

Include Aboriginal Heritage Management Plan (AHMP) in CEMP to address AHIP conditions.

Waste and hazardous materials

A construction Contamination Management Plan must be prepared by a suitably qualified person as part of the CEMP and reviewed by Sydney Water's Environmental Representative in consultation with the Contamination and Hazardous Materials team. The plan must identify the type and location of known/potential contamination, land-owner notification, management requirements (waste minimisation, waste segregation and classification) and reuse, offsite recycling and/or disposal measures.

A post-construction Contaminated Land Management Plan (CLMP) must be prepared by a suitably qualified person prior to completion of the project. The plan must be reviewed by the Contamination and Hazardous Materials team. The plan must identify the type and location of contamination, risk mitigation measures such as location, type and extent of capping layers (if applicable) and the required ongoing management measures.

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

5 Conclusion

Sydney Water has prepared this REFA to assess the potential environmental impacts of the Upper Cascades Reliability Improvement program – Catalina Reservoir project. The proposal is required to provide a suitably sized water supply storage reservoir for the Catalina water supply zone, increasing water security for customers. This proposal change was required due to ongoing consultation with council and Traditional Owners and reflects an improved understanding of construction requirements during detailed design.

The main potential additional construction environmental impacts of the proposal change include additional vegetation removal and heritage impacts. Erosion and sedimentation, dust, noise, and traffic impacts remain per the approved REF. During operation, the main potential additional impacts are associated with visual amenity and dewatering to the surrounding environment. Given the nature, scale and extent of impacts and implementation of the mitigation measures outlined in this REFA and the approved REF, the proposal is unlikely to have a significant impact on the environment. Therefore, an environmental impact statement is not required under Division 5.1 of the EP&A Act.

The REF considers how the proposal aligns with the principles of Ecologically Sustainable Development (ESD) (Appendix B). The proposal will result in positive long-term environmental improvements. The proposal will not result in the degradation of the quality of the environment and will not pose a risk to the safety of the environment.

Appendix A – Section 171 Checklist

Requirements in addition to the approved REF are considered in the table below.

Section 171 Checklist	REF finding
Any transformation of a locality	The proposal will not result in the transformation of a locality. Consistent with the approved REF, construction of the new reservoir is situated at a locality that is historically associated with water supply infrastructure. Areas around the proposed secondary compound will be temporarily impacted during construction of the proposal, but the area will be returned to its pre-construction condition.
Any environmental impact on the ecosystems of the locality	The proposal change will impact an additional 0.013 hectares of non-TEC native vegetation. Offsets would be provided in accordance with Sydney Water's Biodiversity Offsets Guideline.
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality	Use of the secondary compound area would result in a minor reduction of the aesthetic value of the immediate locality. Impacts would be temporary for the duration of the proposal, with the area returned to its pre-construction condition.
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 located adjacent to and partially within a place having cultural significance (The Gully). The proposal change includes extending the scope of works further within this site. Potential additional project impacts have been assessed, and an Aboriginal Heritage Impact Permit variation application will be submitted. The proposal will only proceed after an Aboriginal Heritage Impact Permit is obtained.
Any impact on the habitat of any protected animals (within the meaning of the *Biodiversity Conservation Act 2016*)	The proposal change will impact an additional 0.013 hectares of non-TEC native vegetation. This increase in impact to the vegetation has been considered above and the proposal change would have a minor impact on the habitat of protected animals. .
Any degradation of the quality of the environment	The proposed work includes the construction of infrastructure that will convey stormwater runoff generated during rainfall events, as well as any reservoir overflow when required to the same discharge location. Stormwater discharges will occur more frequently during rain events, whereas reservoir overflow discharges would only occur infrequently under abnormal operating conditions. However, this is not expected to degrade the quality of the environment. The overflow relief structure would be designed to reduce the velocity of discharges and displace the water over an engineered surface, to reduce the likelihood of scouring or erosion and reduce potential indirect effects from uncontrolled runoff/water release.

Section 171 Checklist	REF finding
Any other relevant environmental factors.	The proposal has been assessed against the factors listed above and in the approved REF, and there are no other relevant environmental factors to consider.

Appendix B – Consideration of Ecologically Sustainable Development

There are no ESD considerations in addition to those covered in the approved REF.

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?		✓
Be likely to generate traffic that will strain the capacity of the road system in the LGA?		✓
Connect to, and have a substantial impact on, the capacity of a council owned sewerage system?		✓
Connect to, and use a substantial volume of water from a council owned water supply system?		✓
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?	✓	
Excavate a road, or a footpath adjacent to a road, for which the council is the roads authority, that is not minor or inconsequential?		✓
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?		✓
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?		✓
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)?		✓
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?		✓

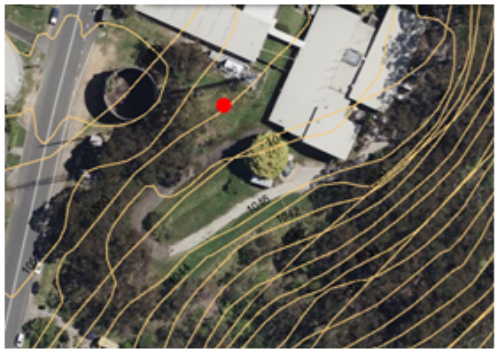
TISEPP section	Yes	No
Section 2.15, consultation with public authorities other than councils		
Will the proposal be on land adjacent to land reserved under the *National Parks and Wildlife Act 1974* or land acquired under Part 11 of that Act? *If so, consult with DPE (NPWS).*		✓
Will the proposal be 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).*		✓
Will the proposal include a fixed or floating structure in or over navigable waters? *If so, consult TfNSW.*		✓
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.*		✓
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*.		✓

Appendix D – Water NSW consultation email

[redacted]

Thank you for your email and the update on the project and design.

With regards to the scope and design changes, our main concern would be the new overflow structure and scour outlet – given it is proposed to discharge much of the site's stormwater runoff, as well as any reservoir overflow (when required) to the same discharge location. We also note that the discharge site and subsequent flow path is relatively steep terrain.



However, given the indicative overflow dissipation structure (as shown below in figures 2 & 3), we do not seek to formally review any updated REF (REFA), however we would recommend the following be committed to in the Part 5 assessment/approval:

1. The proposed overflow structure directing site stormwater run-off and reservoir overflows to the south-southeast of the site shall have an appropriately sized and designed energy dissipater, armoured with boulders and cobbles to ensure sufficient dissipation of the highest volume of flows from the site so as not to cause any scouring or erosion.
2. Construction of the proposed overflow structure shall not commence until suitable erosion and sediment controls have been installed in accordance with "the Blue Book". The controls shall be regularly inspected, maintained, and retained until works have been completed and ground surface stabilised or groundcover re-established.
3. The overflow structure shall be appropriately monitored, managed and maintained, with regular inspections (including following significant rain events or overflows from the dam) to ensure its continued stability and functioning so as not to cause erosion.

Can you please provide us with the finalised amended documents and approvals for our records.

[redacted]

Appendix E – ACHA (AHIP 5358 variation)

Eco Logical Australia, 2026. *AHIP 5358 variation - Catalina Reservoir Katoomba NSW: Aboriginal Cultural Heritage Assessment*. Prepared for Sydney Water.

Aboriginal heritage information must not be made publicly available or be published in any form or by any means by Sydney Water or our contractors / joint ventures, unless written approval has been provided to Sydney Water from DPE's AHIMS Registrar .

For publicly displayed REFs, all Aboriginal heritage information that identifies individual sites must be removed.

SW 228 09/26

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