Review of Environmental Factors Addendum

Thompsons Creek and South Creek Catchments Wastewater Network Stage 1 – South Creek Extension and Thompsons Creek Optimisation

Determination

This Review of Environmental Factors Addendum (REFA) assesses potential environmental impacts of South Creek Extension and Thompsons Creek Optimisation (the proposal change). The REFA 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 Thompsons Creek and South Creek Catchments Wastewater Network Stage 1 Review of Environmental Factors (10 January 2025) (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:	Reviewed and endorsed by:	Endorsed by:
[redacted]	[redacted]	[redacted]
Sara Gibbons REFA authors CreekConnect Date: 8 August 2025	Sarah Mitchell Senior Environmental Scientist Sydney Water Date: 21/08/2025	Will Watts Project Manager Sydney Water Date: 21/08/2025

Decision Statement

The main potential construction environmental impacts of the proposal change include impacts to biodiversity and Aboriginal heritage. The proposal change will reduce potential construction impacts to soils and water by reducing the volume of excavated materials and groundwater extraction. The proposal change also incorporates landowner feedback into the design, minimising potential impacts on the community. The proposal change will not result in any changes to the operational impacts assessed in the approved REF. 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 the approved 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:		Murray Johnson Environment and Heritage Services Senior Manager Sydney Water Date: 04/09/2025

1. Proposal description

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

Aspect	Relevance to Proposal
Proposal approvals	• Thompsons Creek and South Creek Catchments Wastewater Network Stage 1 Review of Environmental Factors (10 January 2025) (Approved REF) • Thompsons Creek and South Creek Catchments Wastewater Network Stage 1 REF Addendum: South Creek Pressure Main Optimisation (30 January 2025)
Proposal need and objectives	The proposal is part of the Upper South Creek Network (USCN) program. It is needed to provide wastewater servicing to new growth and development areas within the Liverpool and Penrith local government areas (LGAs). The USCN program is designed to service development within the Upper South Creek (USC) precinct. It is required to meet Sydney Water's objective to provide timely delivery of reliable wastewater infrastructure to support development and growth in the South West Growth Area (SWGA) and Western Sydney Aerotropolis Growth Area (WSAGA). All flows from the proposal will ultimately connect to the USC Advanced Water Recycling Centre (AWRC) and will be operated under the future USC catchment and AWRC Environment Protection Licence (EPL). Until the future USC catchment EPL is in place, a scheduled development work licence under s47 of the *Protection of the Environment Operations Act 1997* (POEO Act) will be required for construction of the proposal. The key driver for the proposal is to ensure there is sufficient wastewater system capacity to service the government's planned development within the SWGA.

Proposal change description and methodology	The proposal change involves modifying the 6.25 km Thompsons Creek gravity carrier alignments (TCGC01 and TCGC02), relocating maintenance holes along TCGC01 and TCGC02, and extending the South Creek gravity carrier (SCGC01) to connect to SP1228 interim pumping station.
	Specifically, the proposal change will:
	• Extend the South Creek gravity carrier (SCGC01) by about 0.8 km to connect to the SP1228 interim pumping station and relocate maintenance holes along the southern section of SCGC01 from SC MH07 to SC MH12 (see **Figure 1-1**). The extension will result in three additional maintenance holes along SCGC01 (SC MH13 to SC MH15).
	• Modify sections of the TCGC01 and TCGC02 alignments and the associated maintenance holes and vent shafts, including shifting a section of the alignment:
	  ○ west at Victor Avenue / Watts Road (see **Figure 1-2**)
	  ○ west at Ramsay Road (see **Figure 1-2** and **Figure 1-3**)
	  ○ west at Kelvin Park Drive (see **Figure 1-4**)
	  ○ slightly east at Medich Place (see **Figure 1-5**).

Aspect	Relevance to Proposal
	• Upsize TCGC01 to OD1499. TCGC01, TCGC02, and the extension of SCGC01 will be constructed using trenchless construction methods (e.g., Horizontal Directional Drilling (HDD), Horizontal Auger Boring (HAB) and micro-tunnelling). An area of about 40 m wide by 60 m in length will be required around each maintenance hole to enable launch pits and laydown areas. Design optimisations of the Thompsons Creek gravity carrier alignments have resulted in a reduction of 11 maintenance holes across TCGC01 and TCGC02.
Justification for proposal change	Sydney Water has refined the USCN concept designs for individual catchments by adopting an innovative 'program-wide' network design approach. The network optimisation provides a more flexible and efficient network solution that can be scaled to meet demand. This proposal change includes several changes resulting from the network optimisation and feedback from landowners. **Network optimisation** The Thompsons Creek design optimisation includes extending SCGC01 to connect to SP1228 interim pumping station and reducing the total number of maintenance holes along TCGC01 and TCGC02. As a result of the optimisation, some works approved as part of the REF are no longer required, including construction and operation of the 3.1 km Thompsons Creek pressure main (TCPM01). This network optimisation provides significant capital expenditure (CAPEX) savings for the broader USCN program by: • reducing the quantity of pipework and associated infrastructure • eliminating the need to construct temporary infrastructure • allowing the network to be built incrementally to match demand • standardising designs across the network. These changes enhance efficiency of the wastewater management system by reducing material waste, lowering resource consumption, and minimising the network's overall environmental footprint. It also streamlines the construction process and avoids the risk of overbuilding. **Landowner Feedback** Some of the proposed changes to the TCGC01 and TCGC02 alignments and associated maintenance holes directly respond to landowner concerns. The alignments have been relocated closer to and/or within the flood zone to reduce impacts on developable land and future development, specifically for: [redacted] **Constructability**

Aspect	Relevance to Proposal
	Key changes to the TCGC01 alignment and associated maintenance holes were required due to constructability constraints, specifically: • **High voltage power lines:** overhead power lines on the eastern side of Ramsay Road require a minimum safe working distance of at least 3 m. To maintain this offset, the alignment would have to be shifted an additional 10 m east into developable land at the front of adjacent properties, close to existing structures. Therefore, the alignment was relocated to follow the flood zone at the rear of properties on the western side of Ramsay Road. • **Proximity to existing structures:** Two maintenance holes were located less than 5 m from existing greenhouses at 63-69 Victor Avenue and 105 Watts Road. As a result, the maintenance holes were shifted west to avoid impact to the existing structures during construction.
Location and land ownership	The proposal change is located within the South West Growth Area (SWGA), about 40 km southwest of the Sydney CBD in the suburbs of Badgerys Creek, Bradfield, Rossmore, and Kemps Creek. It is in the local government areas (LGA) of Liverpool City Council (south of Elizabeth Drive) and Penrith City Council (north of Elizabeth Drive). The proposal change intersects private property, developer owned land, and council land. Due to the proposal change, six additional properties that were previously unaffected are now impacted: [redacted] The proposal change has avoided direct impact to six properties and three public roads from the approved REF alignment: [redacted] • Martin Road (Local) • Cuthel Street (Local) • Lawson Road (Local).

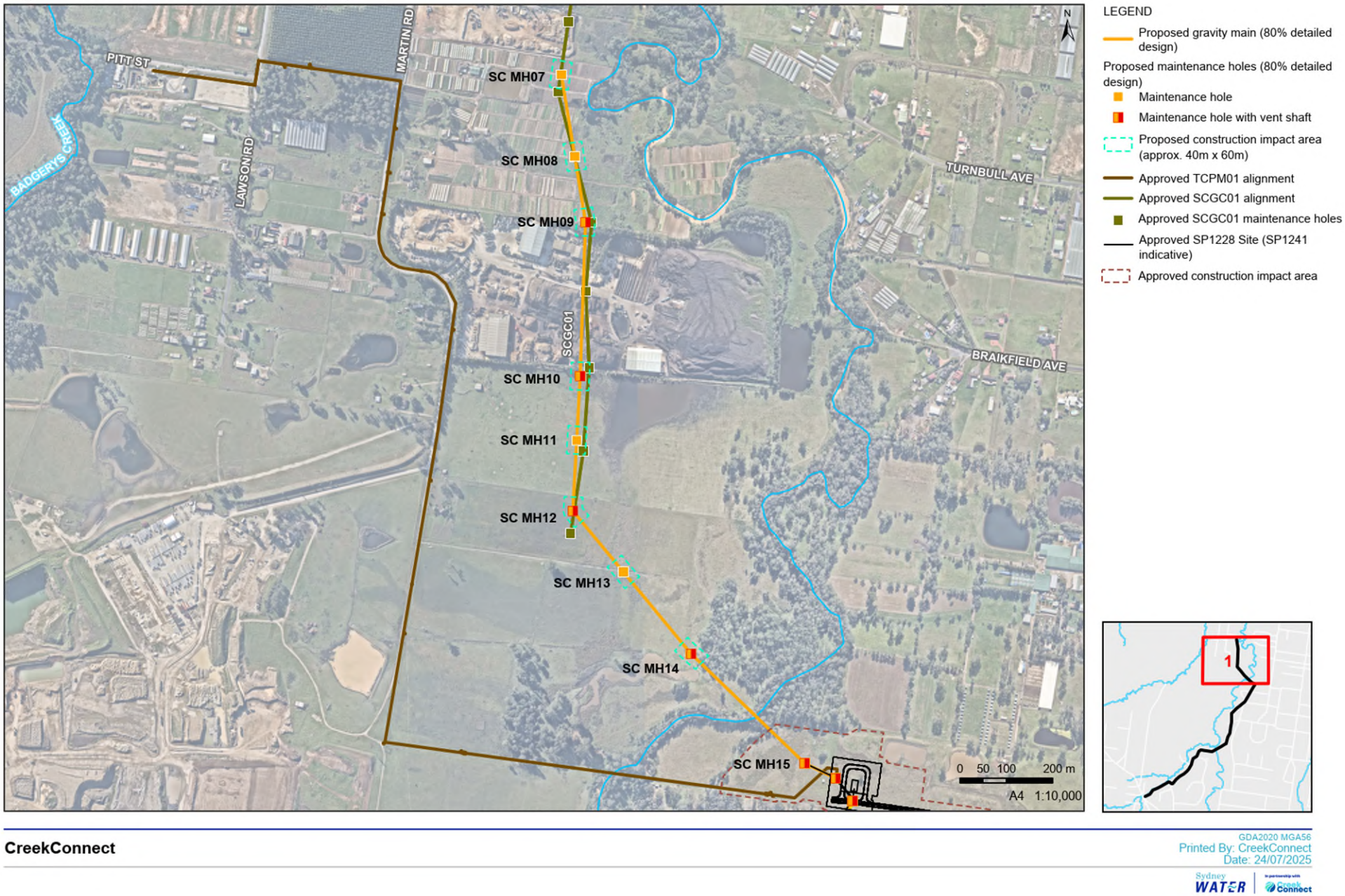

Figure 1-1: South Creek Extension (SCGC01) - Proposed alignment (1 of 5)

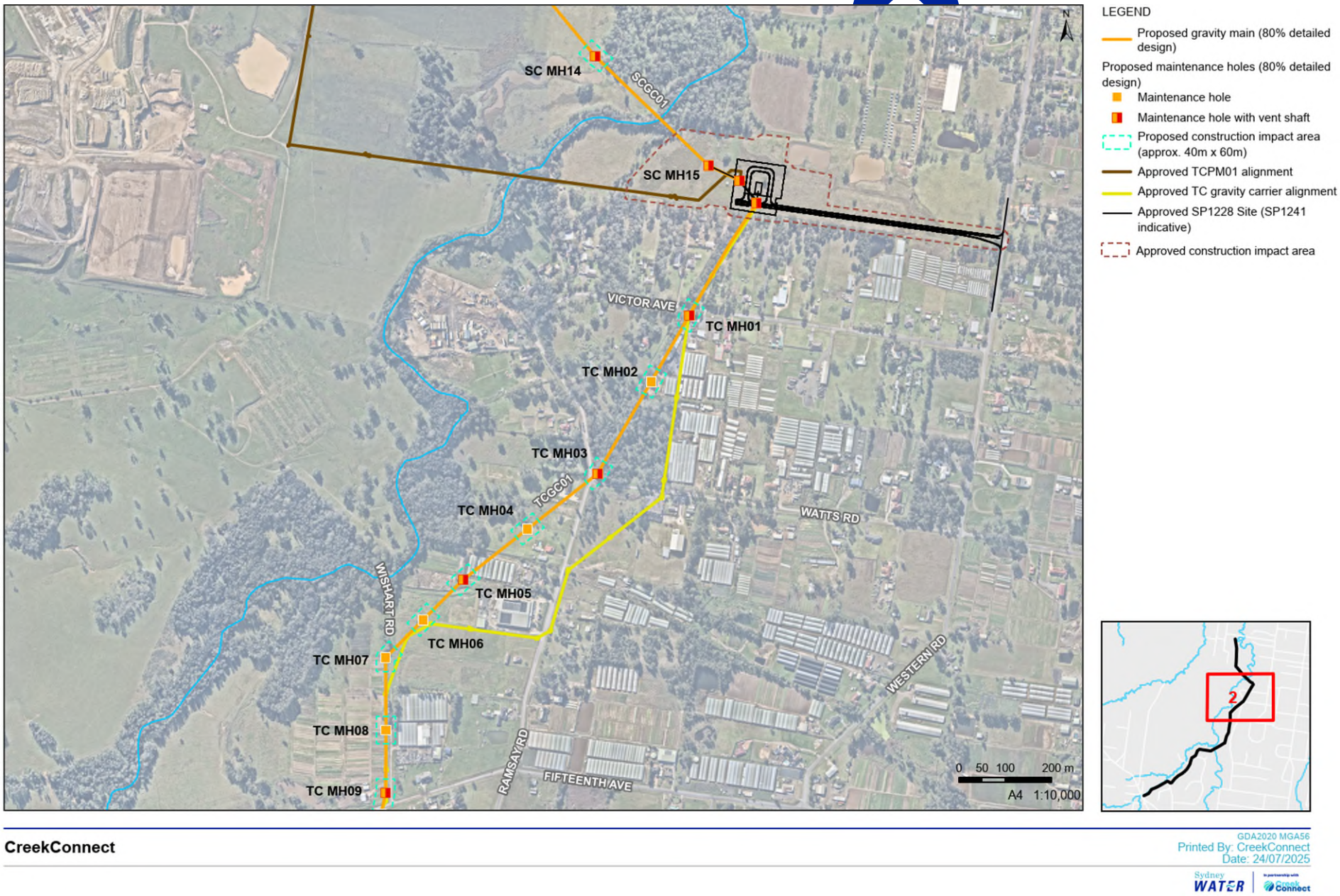

Figure 1-2: Victor Avenue/Ramsay Road – Proposed alignment (2 of 5)

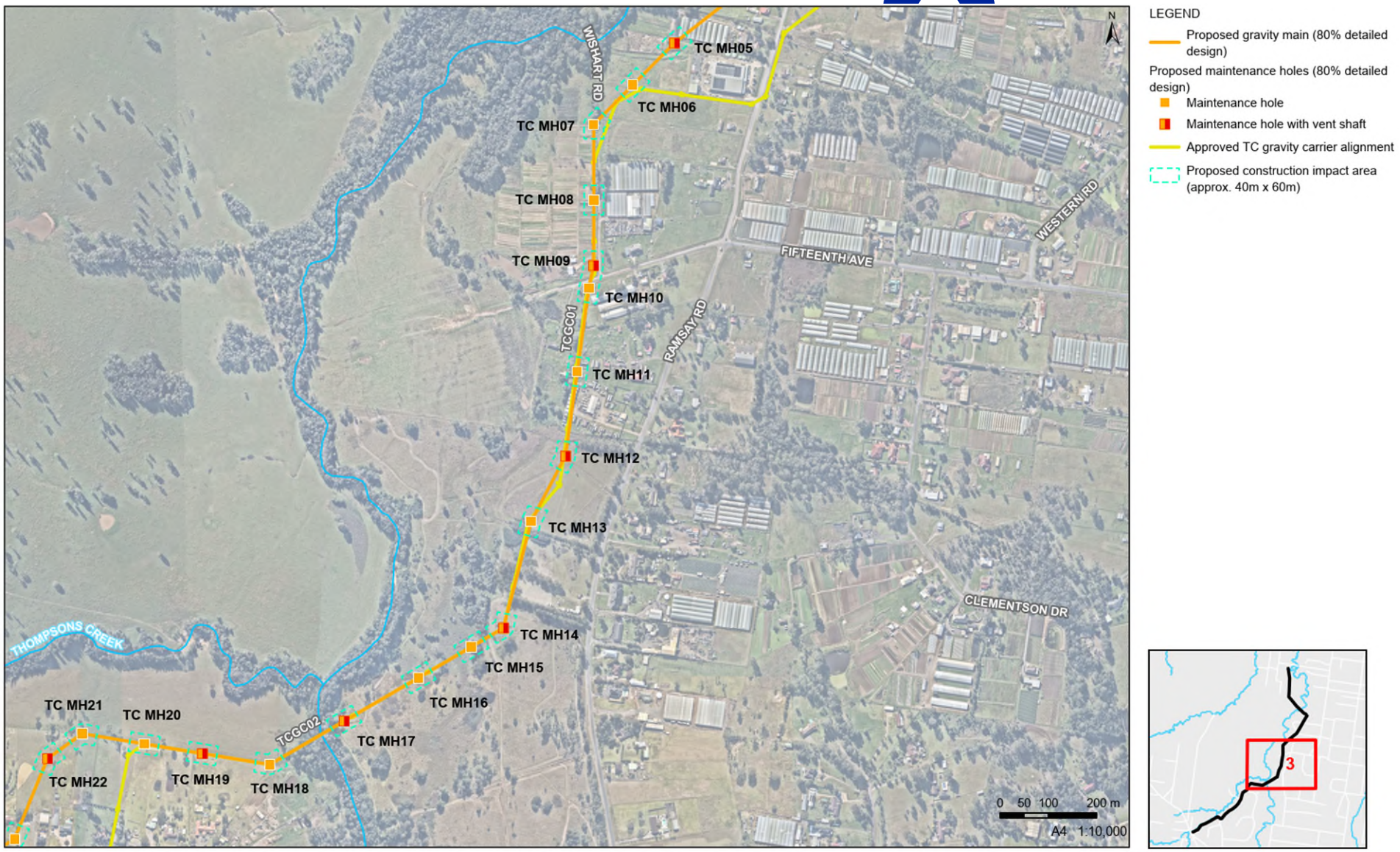

Figure 1-3: Rossmore Grange – Proposed alignment (3 of 5)

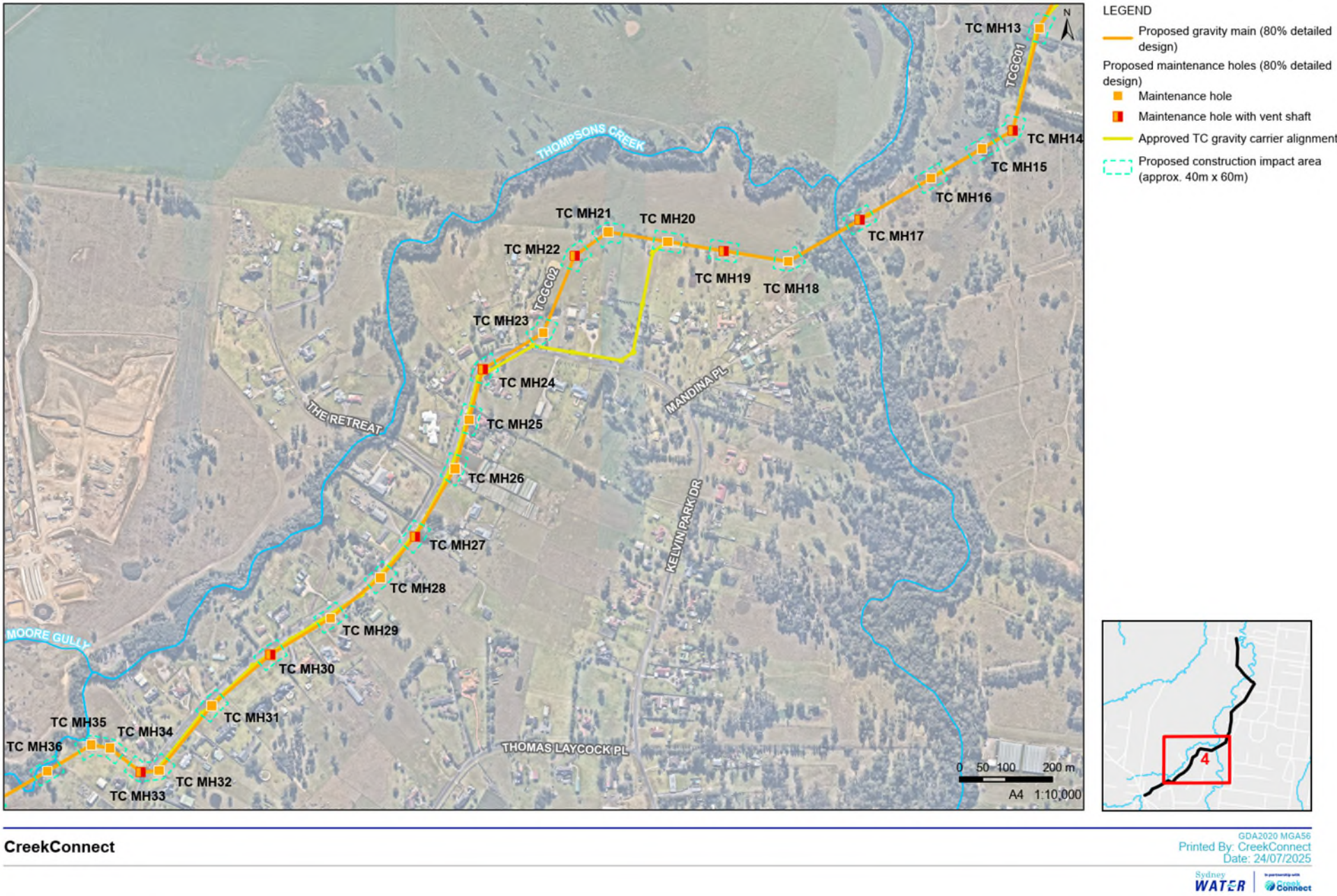

Figure 1-4: Kelvin Park Drive – Proposed alignment (4 of 5)

Figure 1-5: Medich Place - Proposed alignment (5 of 5)

2. Consultation

Consultation matters in addition to those matters considered in the approved REF are detailed below.

2.1 Community and stakeholder consultation

The proposal change will impact six private properties that were previously unaffected, avoid impacts to certain properties and changes the impact for several properties. Some of the proposed changes have been made in response to landowner feedback received during detailed design consultations. Landowner consultations will continue throughout design and delivery.

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).

Notification to the Department of Planning, Housing and Infrastructure (DPHI) is required under SEPPs (Precincts – Central River City) (2021) and (Precincts – Western Parkland City) (2021) for clearing of native vegetation in non-certified land in the Sydney region growth centres. DPHI was notified as part of the approved REF about the impacts to 0.574 ha of ENV in non-certified land. Their response included the following comments:

- In accordance with relevant orders, agreements, legislation, planning instruments and policies the retention, maintenance and enhancement of native vegetation, habitat and riparian areas must be a key consideration in the refinement of the proposal's design.
- Efforts to avoid impacts to land classified as ENV should be prioritised. If avoidance is not possible, this must be clearly justified, and the design should minimise impacts to existing native vegetation under the SEPP (Precincts—Western Parkland City) 2021.
- Where impacts are unavoidable, offsetting of ENV under SEPP (Precincts—Western Parkland City) 2021 is required. The approach to offsetting must be confirmed and documented in the REF.
- In consultation with Sydney Water, the contractor must provide the DPHI with shapefiles of impacted ENV.

These comments were taken into consideration during design development and are addressed in **Table 3-1**. The proposal change will modify the impact to native vegetation in non-certified land, and therefore, additional notification to DPHI is required. The proposal change will reduce impacts to ENV in non-certified land by 0.056 ha. Additional opportunities to reduce impacts to ENV in non-certified land will continue to be explored through ongoing design development and construction planning. DPHI will be notified at least 21 days prior to commencing construction, and consideration of their comments will be incorporated into the Construction Environmental Management Plan (CEMP). This notification will confirm the final clearing areas of less than 0.518 ha of ENV in non-certified land (refer to **Table 4-4**). No other consultation under TISEPP is required (refer to **Appendix C**).

3. Legislative requirements

There are no additional legislative requirements above those already assessed in the approved REF. The proposal change is required to facilitate development for the purpose of a ‘sewerage reticulation system’. Section 2.126(6) of the State Environmental Planning Policy (Transport and Infrastructure) 2021 permits development for sewage reticulation systems without consent on any land in the prescribed circumstances. Development is carried out in the prescribed circumstances if the development is carried out by a public authority.

Accordingly, this REFA has been assessed under Division 5.1 of the EP&A Act and Sydney Water can self-determine the proposal change.

4. Environmental assessment

The environmental impacts checklist (SWEMS0019.01) was considered for the Proposal**. Table 4-1** includes only the potentially impacted/ changed aspects and **Table 4-4** lists 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 volume of excavated materials is expected to decrease due to the reduction in the number of maintenance holes. Excavation works occur in areas with moderate to high potential for salinity. Less disturbance of saline soil reduces the potential for transfer of saline sediments offsite, especially in proximity to creek lines.
Water and drainage	The proposal change will not directly impact watercourses, alter surface water drainage patterns, or adversely affect flood behaviour. Construction of the maintenance holes within SCGC01 will require dewatering resulting in short term drawdown of the immediate groundwater table. However, the proposal change would reduce the total volume of groundwater extraction compared to the approved REF as a result of the reduction of the number of maintenance holes and the removal of TCPM01 from the scope. The number of maintenance holes which are near or within terrestrial groundwater-dependent ecosystems (GDEs) remain consistent with the approved REF. Due to the short duration of works associated with construction of the maintenance holes, the proposal change is not anticipated to have measurable impacts on these ecosystems. Impacts can be managed through implementation of the mitigation measures in the approved REF.
Flora and fauna	A desktop assessment conducted on 22 April 2025 identified plant community types (PCTs) and threatened ecological communities (TECs) within the SCGC01 extension area as well as along the revised TCGC01 alignment, near Victor Avenue / Watts Road. In response, an Addendum Biodiversity Assessment Report (BAR) was prepared by CreekConnect ecologists in July 2025 to identify the likely presence of, or suitable habitat for, any threatened species entities listed under the *Biodiversity Conservation Act 2016* (BC Act), *Fisheries Management Act 1994* (FM Act), and/or *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and evaluate the potential impacts of the proposal change on biodiversity. The full report is provided in **Appendix D**. Accounting for the proposal change, the overall Thompsons Creek alignment, including the South Creek extension, is expected to impact up to 1.103 ha of native vegetation. This is an increase of about 0.065 ha compared to the approved alignment. No new PCTs or TECs types have been identified within the proposed impact areas (see **Figure 3-1** to **3-5**). The proposal change impacts on native vegetation between SC MH07 to TC MH41 are listed in **Table 4-2** below.

Table 4-2 Comparison of direct vegetation impacts (from SC MH07 to TC MH41)

Vegetation Type*	Total Approved Alignment Impact Area (ha)	Total Proposed Alignment Impact Area (ha)	Difference between Approved Project and Proposal Change (ha)
PCT 3320 Cumberland Shale Plains Woodland	0.229	0.128	0.101 (decrease)
PCT 4023 Coastal Valleys Swamp Oak Riparian Forest	-	0.100	0.100 (increase)
PCT 4025 Cumberland Red Gum River-flat Forest	0.319	0.298	0.021 (decrease)
EPBC Act **and** BC Act: River-flat Eucalypt Forest on Coastal Floodplains	0.202	0.104	0.098 (decrease)
Only BC Act: River-flat Eucalypt Forest on Coastal Floodplains	0.123	0.369	0.246 (increase)
BC Act: Cumberland Plain Woodland in the Sydney Basin Bioregion	0.165	0.104	0.061 (decrease)
Total	**1.038**	**1.103**	**0.065 (increase)**

**Please note that some PCTs are also classified as TECs. Where this occurs, the area is included once under the relevant TEC to avoid double counting areas of native vegetation.*

Updated Tests of Significance (ToS) were completed for the proposal change. The proposal change is not expected to result in a 'significant impact' on threatened species, populations or ecological communities, or their habitats. The proposal change will not be carried out in a declared area of outstanding biodiversity value. Therefore, a Species Impact Statement (SIS) and/or Biodiversity Development Assessment Report (BDAR) is not required.

About 0.518 ha of the native vegetation impacted by the proposed alignment is Existing Native Vegetation (ENV) on non-certified land and requires statutory offsets in accordance with the *Sydney Region Growth Centres Biodiversity Certification Order.* This means that the proposal change will decrease the required statutory offsets by about 0.056 ha. **Figures 3-6** to **3-8** show the areas of ENV on non-certified land within the proposed construction impact areas.

As part of design development, efforts to optimise the alignment have reduced the total impact to ENV in non-certified land by repositioning and removing maintenance holes. As a result, the proposal change decreases the overall impact to ENV in non-certified land. However, the impacted areas have changed. The most notable change in ENV impacts results from the proposed relocation of one maintenance hole (TC MH03), near the intersection of Ramsay Road and Watts Road. For the proposal change, TC MH03 has shifted west to align with the revised pipeline route, which was redirected to the rear of properties on the western side of Ramsay Road to avoid high voltage power lines. This proposed change addresses both constructability

Aspect	Potential additional impacts

constraints and concerns raised by landowners. Alternative locations considered for TC MH03 were assessed as follows:

- Positioning TC MH03 further west onto 330 Ramsay Road, which was deemed unfeasible due to the presence of existing underground services. These constraints would have resulted in MH03 and the alignment being located too close to the existing house and driveway on the property.
- Relocating TC MH03 south onto 100 Watts Road was not viable due to its proximity to high voltage power lines, which posed safety and constructability concerns.

TC MH03 has been positioned as close to the roadway as possible to reduce native vegetation clearing. In addition, impacts to ENV on non-certified land have been minimised by implementing trenchless construction methods.

Impacts to ENV on non-certified land will be managed by the mitigation measures listed in the approved REF. Ongoing design development and construction planning will continue to identify and implement opportunities to avoid and/or minimise impacts to native vegetation on non-certified land. These measures, which will be documented in a future Consistency Assessment, are expected to reduce the final statutory offset requirements.

Non-statutory voluntary offsetting would also be undertaken in accordance with *Sydney Water's Biodiversity Offset Guide (SWEMS0019.13)*. The required offsets for the proposal change are outlined in **Table 4-3** below.

Table 4-3: Proposed alignment offset requirements

Offset requirements	Total impacted area (ha) within non-certified land	
	ENV	Non-ENV
Proposal change impact area (ha)		
PCT sub-total	0.161	0.365
TEC Sub-total	0.357	0.220
Combined (PCT and TEC) total	**0.518***	**0.585****
Required offsets (ha)		
PCT Sub-total	0.483	0.730
TEC Sub-total	1.071	0.660
Combined (PCT and TEC) total	**1.554**	**1.390**

**Statutory offsets required under the Growth Centres BCOs (3:1)*

***Voluntary offsets implemented under Sydney Water's Biodiversity Offset Guideline (3:1 for TECs and 2:1 for PCTs)*

Aspect	Potential additional impacts
	There is a relict oxbow adjacent to one of the proposed maintenance holes (SC MH14) as shown in **Figure 3-14**. The relict oxbow was identified to have suitable habitat features that could support amphibians such as the Green and Golden Bell Frog (*Litoria aurea*) which is listed under the BC Act and EPBC Act as 'Endangered' and 'Vulnerable' respectively. The Green and Golden Bell Frog is considered to have a moderate likelihood of occurrence in the proposal change area. An Assessment of Significance was completed. The proposal change is not likely to have a significant impact on the Green and Golden Bell Frog. There is potential for the proposal change to introduce, or increase the risk of, infection of frogs by amphibian chytrid fungus, which may lead to degraded health and loss of individuals within the local area. During construction, the movement of plant and equipment have the potential to move weeds and pathogens within and out of the impact areas. This can be managed by implementing the mitigation measure outlined in **Table 4-4**. This can be managed by implementing the mitigation measures in the approved REF in addition to those outlined in **Table 4-4**.
Heritage	An updated Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared by Kelleher Nightingale Consulting (KNC) in July 2025. The full report is provided in **Appendix E**. The updated ACHAR will support an application for an Aboriginal Heritage Impact Permit (AHIP) under section 90 of the *National Parks and Wildlife Act 1974*. A field survey was conducted in May 2025 to assess sections of the proposed alignment located outside of the previously surveyed corridor. One Potential Archaeological Deposit (PAD) area (Martin Road South Creek PAD 1) was identified [redacted] A test excavation program was undertaken in June 2025 which confirmed subsurface archaeological deposit at Martin Road South Creek PAD 1, thereby designating the area as an archaeological site, namely Martin Road South Creek AFT 1. Salvage excavation is recommended to be undertaken at sites of moderate-high archaeological significance within the impact area. No archaeological salvage mitigation is warranted for low significance sites located within the impact area. Martin Road South Creek AFT 1 was assessed as displaying low archaeological significance, therefore, no archaeological salvage mitigation is warranted. An AHIP is being sought for Aboriginal objects within the boundaries of the construction impact corridor associated with the proposal change. This can be managed by implementing the mitigation measures in the approved REF in addition to those outlined in **Table 4-4**.
Noise and vibration	Temporary noise and vibration impacts are expected during construction. The proposal change will impact the same sensitive receivers identified in the approved REF. However, the level of impact is expected to change based on their proximity to the revised alignment and associated work areas. As trenchless construction methods will be used, noise impacts will generally be associated with the maintenance hole locations. There will be some additional receivers adjacent to the SCGC01 extension area who will be affected during construction of the maintenance holes.

Aspect	Potential additional impacts
	The proposed alignment maintains a minimum distance of approximately 10 m from existing structures. The approved REF permits mechanised bored tunnelling within a minimum distance of 5 m to 12 m from a structure. Landowner consultations are ongoing, and no additional mitigation measures are required. Impacts can be managed through implementation of the mitigation measures in the approved REF.
Air and energy	Temporary impacts to air quality are anticipated as a result of emissions from construction vehicles and equipment, as well as dust generation from vehicles travelling along unsealed access tracks, and during excavation and stockpiling activities. The proposal change is expected to decrease the generation of dust and exhaust emissions, primarily due to a reduction in excavation and stockpiling activities during construction. Specific locations for vent shafts were not defined in the approved REF. The proposed locations have been selected to minimise potential impacts on sensitive receivers where possible and no additional impacts are expected. With the implementation of mitigation measures in the approved REF, impacts to air and energy are expected to be minor and consistent with the approved REF.
Traffic and access	The South Creek gravity carrier extension has been routed through private paddocks to minimise traffic disruption and access issues for potentially affected landowners. During pipe installation, there may be temporary partial road closures and short-term impacts to driveway access. Impacts will be short-term and move along the alignment. Maintenance hole locations have been chosen to minimise disruption to driveways during these works. Ongoing consultation with affected landowners will be undertaken. Operation of the proposed change is expected to have minimal traffic and access impacts, as maintenance is minor and infrequent. All maintenance work will follow Sydney Water procedures. Impacts can be managed through implementation of the mitigation measures in the approved REF.

Table 4-4 Additional mitigation measures

Additional mitigation measures
During construction a 10 m buffer is required around the relict oxbow (farm dam) adjacent to Study Area C to avoid potential impacts to Green and Golden Bell Frog (refer to **Figure 3-14** below).
A hygiene protocol must be prepared prior to works starting, and implemented by the Delivery Contractor during works to avoid introduction of pathogens in machinery, tools, PPE or imported soils.
In consultation with Sydney Water, the contractor must notify DPHI of the final area of ENV to be cleared at least 21 days prior to the commencement of construction. The notification should confirm clearing of less than 0.518 ha of ENV and include figures to clearly demonstrate how the construction footprint has been designed to minimise impacts to ENV to the greatest extent practicable.

Additional mitigation measures

Archaeological salvage excavation of Aboriginal objects is to be completed prior to commencing construction works within the impacted portion of the following Aboriginal archaeological sites; Western Road AFT 1 and Rossmore Grange AFT 1.

These following Aboriginal heritage sites should be identified as “no-go zones” on the CEMP maps and workers inducted as to appropriate protection measures:

- non-impacted portions of Martin Road South Creek AFT 1
- non-impacted portions of Rossmore Grange
- non-impacted portions of Rossmore Grange AFT 1.

The boundary of the AHIP at these locations will be surveyed and protective hard barriers (i.e. ATF fencing, concrete barriers or water-filled barriers) and signage will be installed before construction.

Figure 4-1: Ecology constraints (1 of 5)

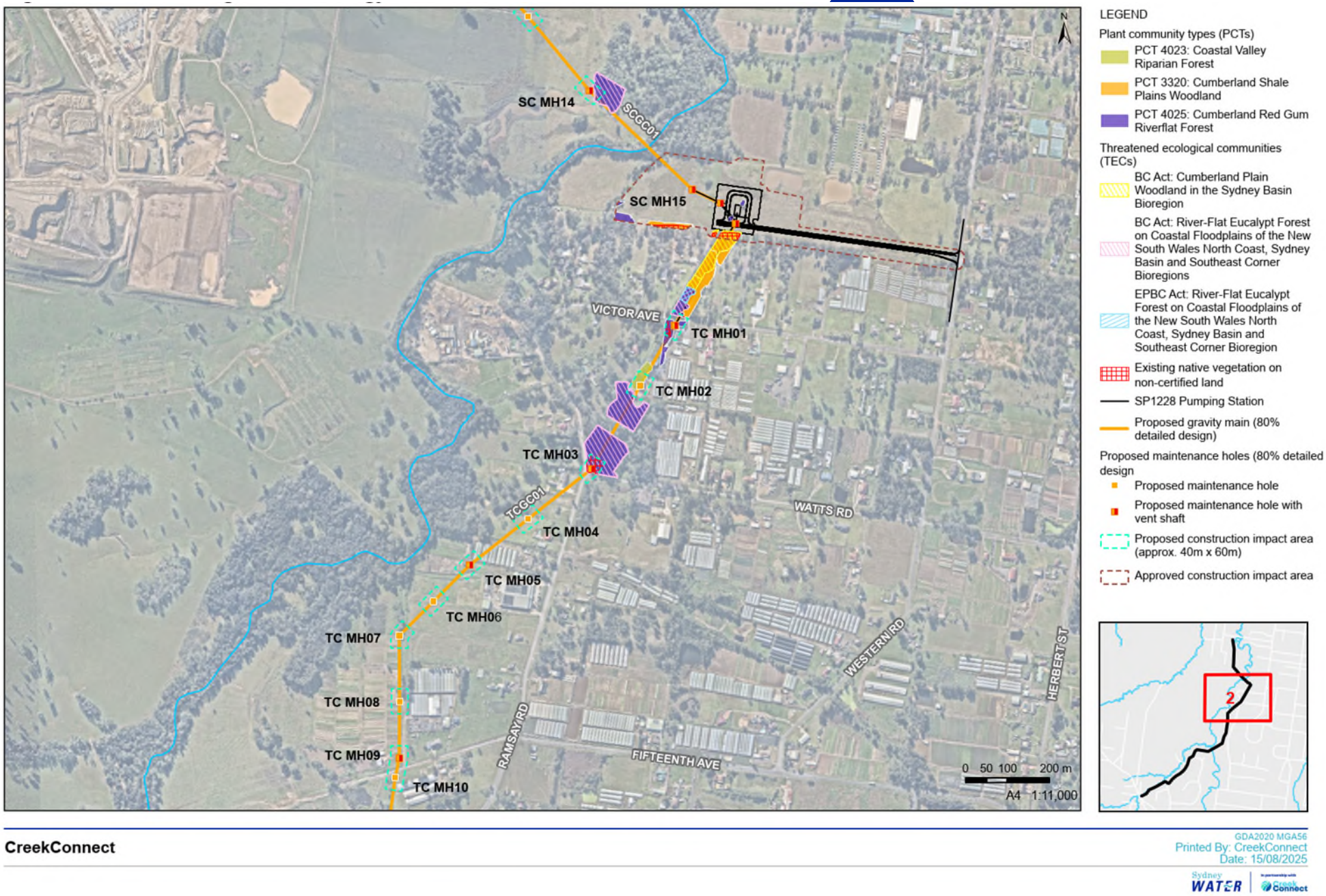

Figure 4-2: Ecology constraints (2 of 5)

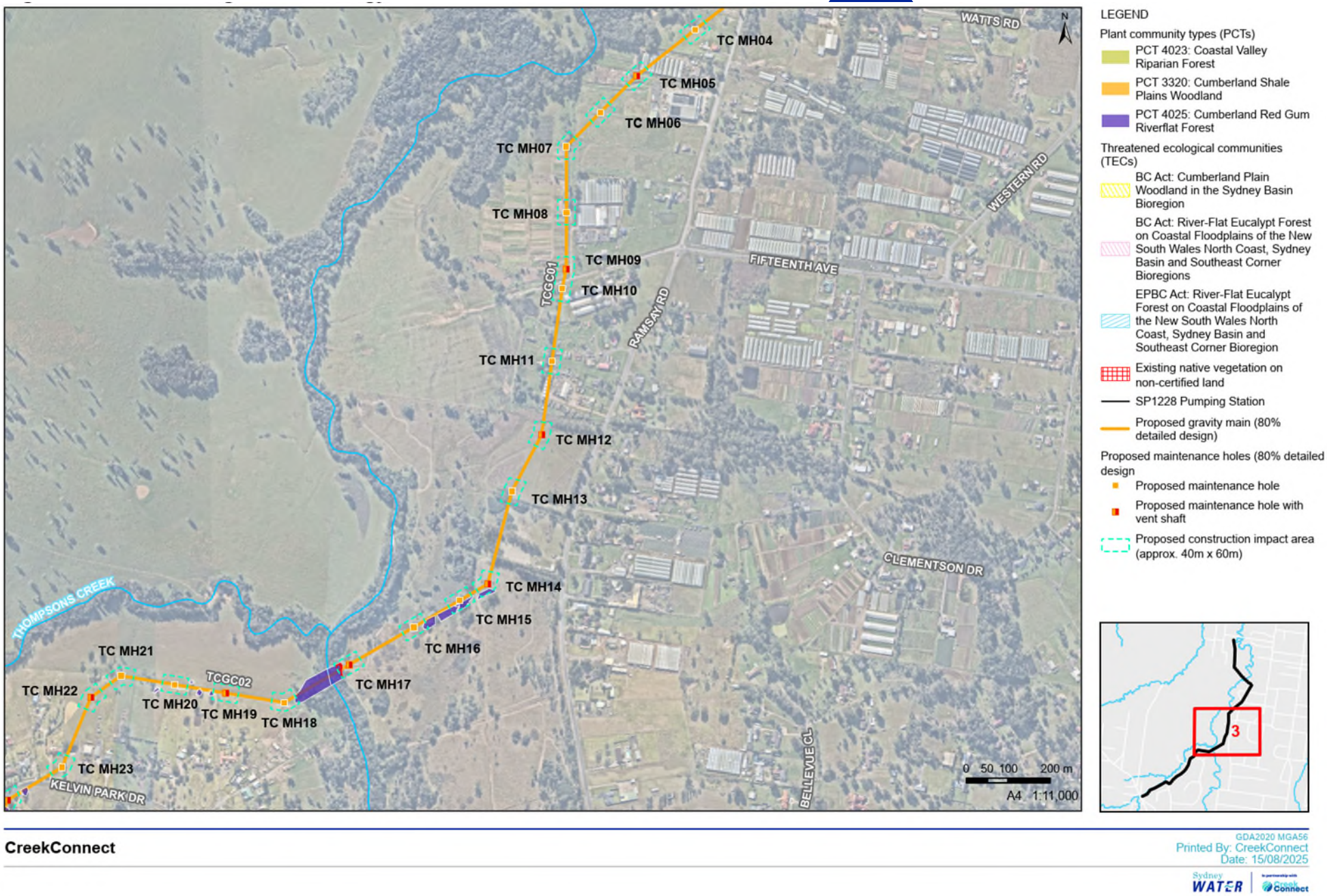

Figure 4-3: Ecology constraints (3 of 5)

Figure 4-4: Ecology constraints (4 of 5)

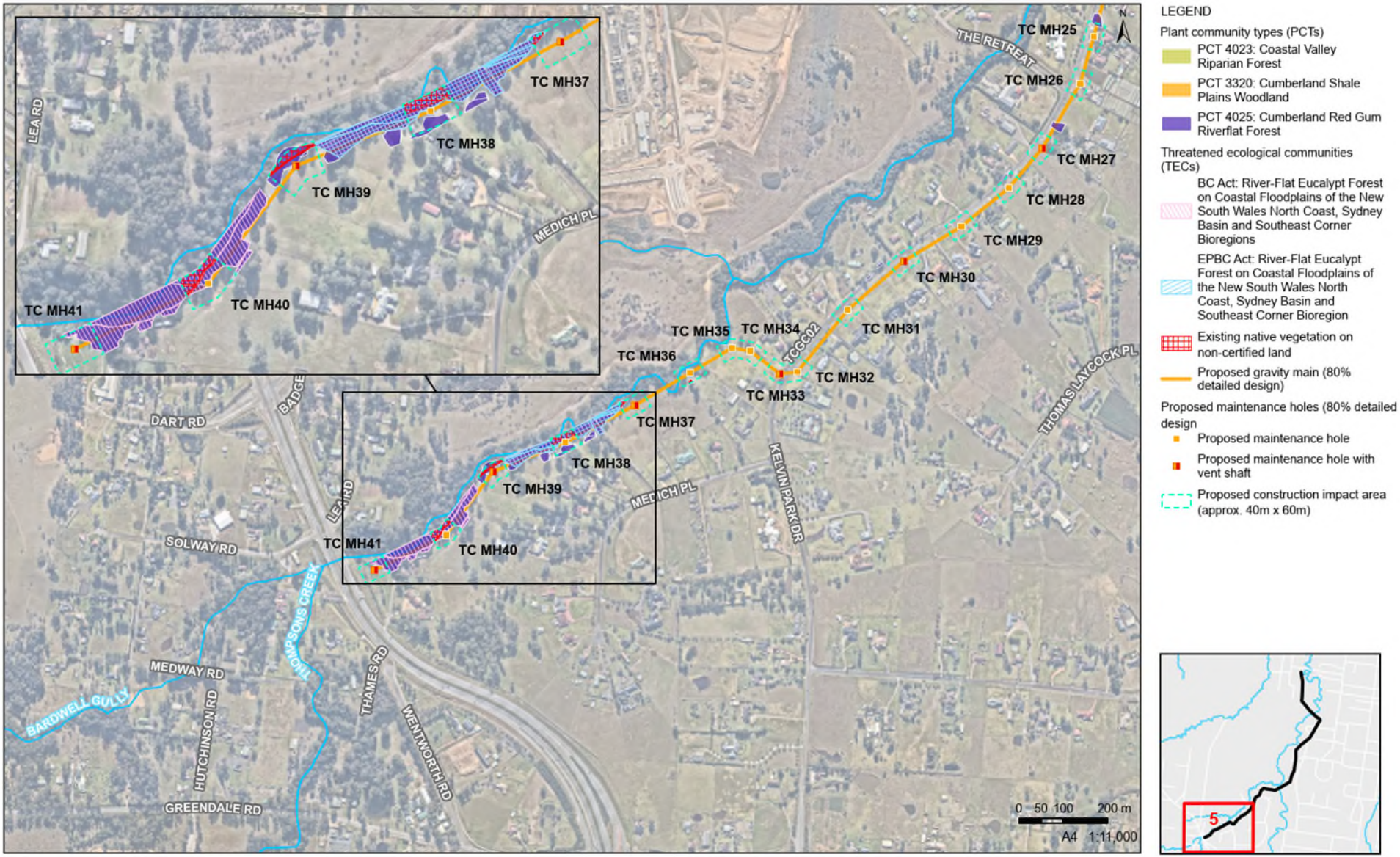

Figure 4-5: Ecology constraints (5 of 5)

Figure 4-6: Focused view of vegetation triggering statutory offsets (1 of 3)

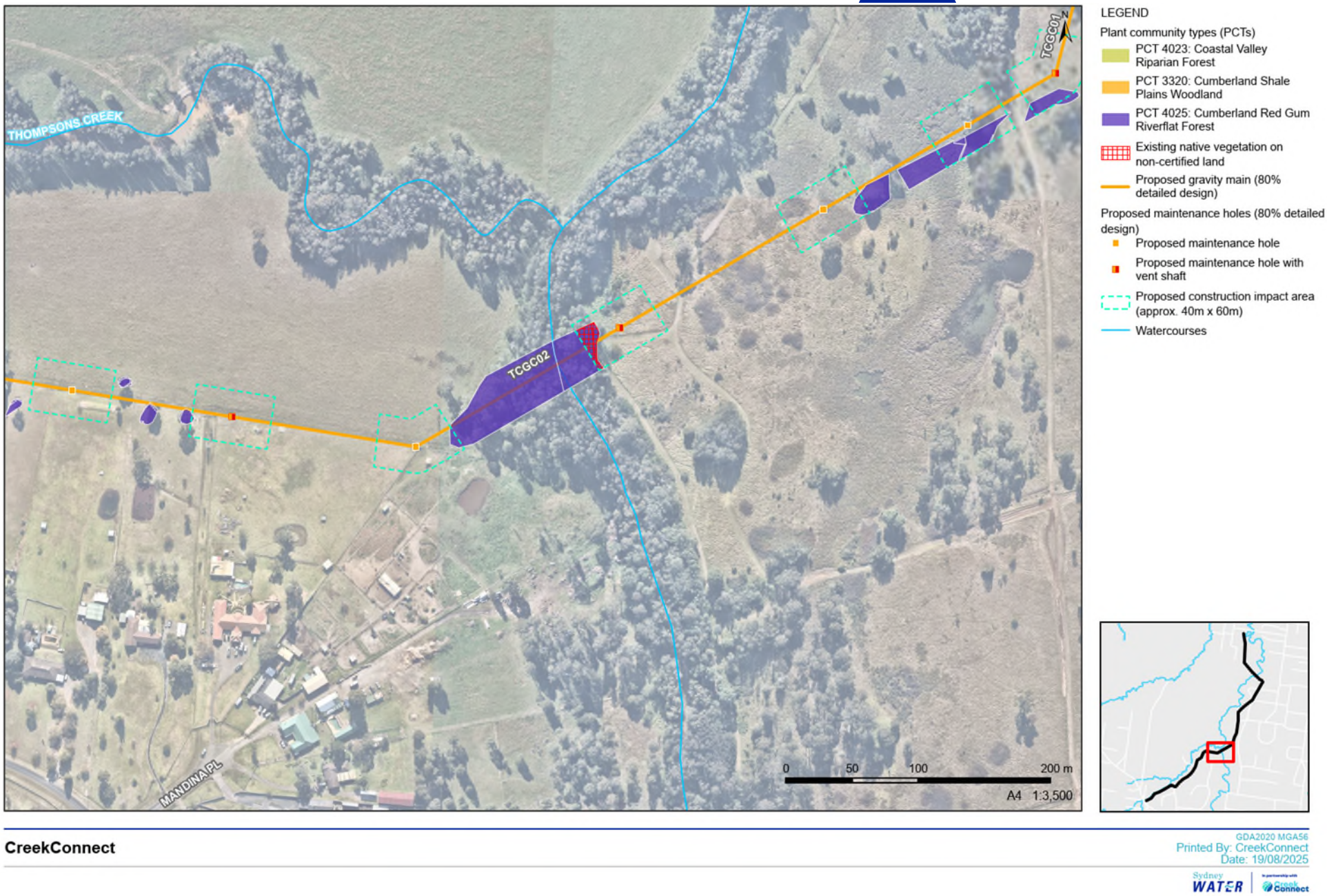

Figure 4-7: Focused view of vegetation triggering statutory offsets (2 of 3)

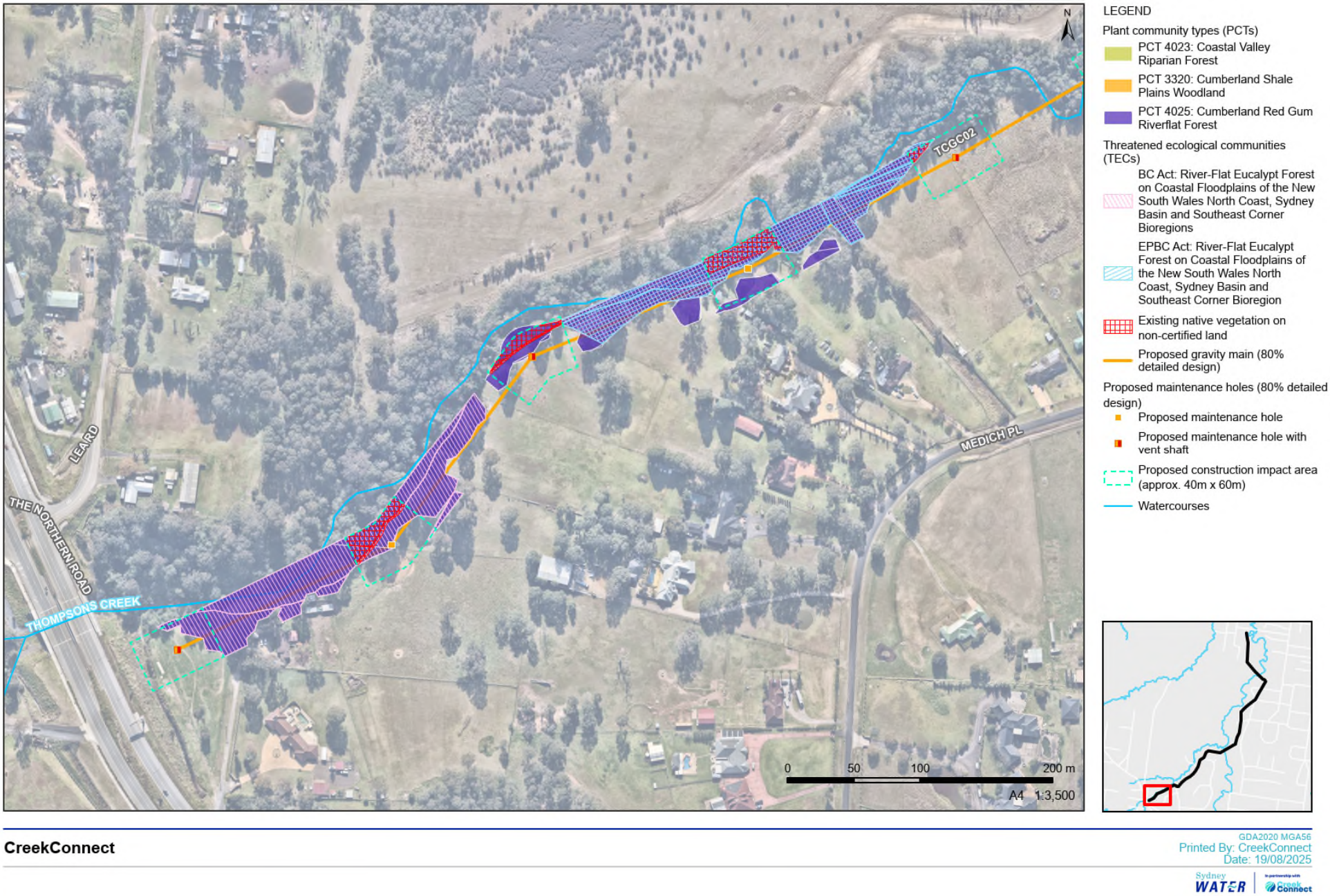

Figure 4-8: Focused view of vegetation triggering statutory offsets (3 of 3)

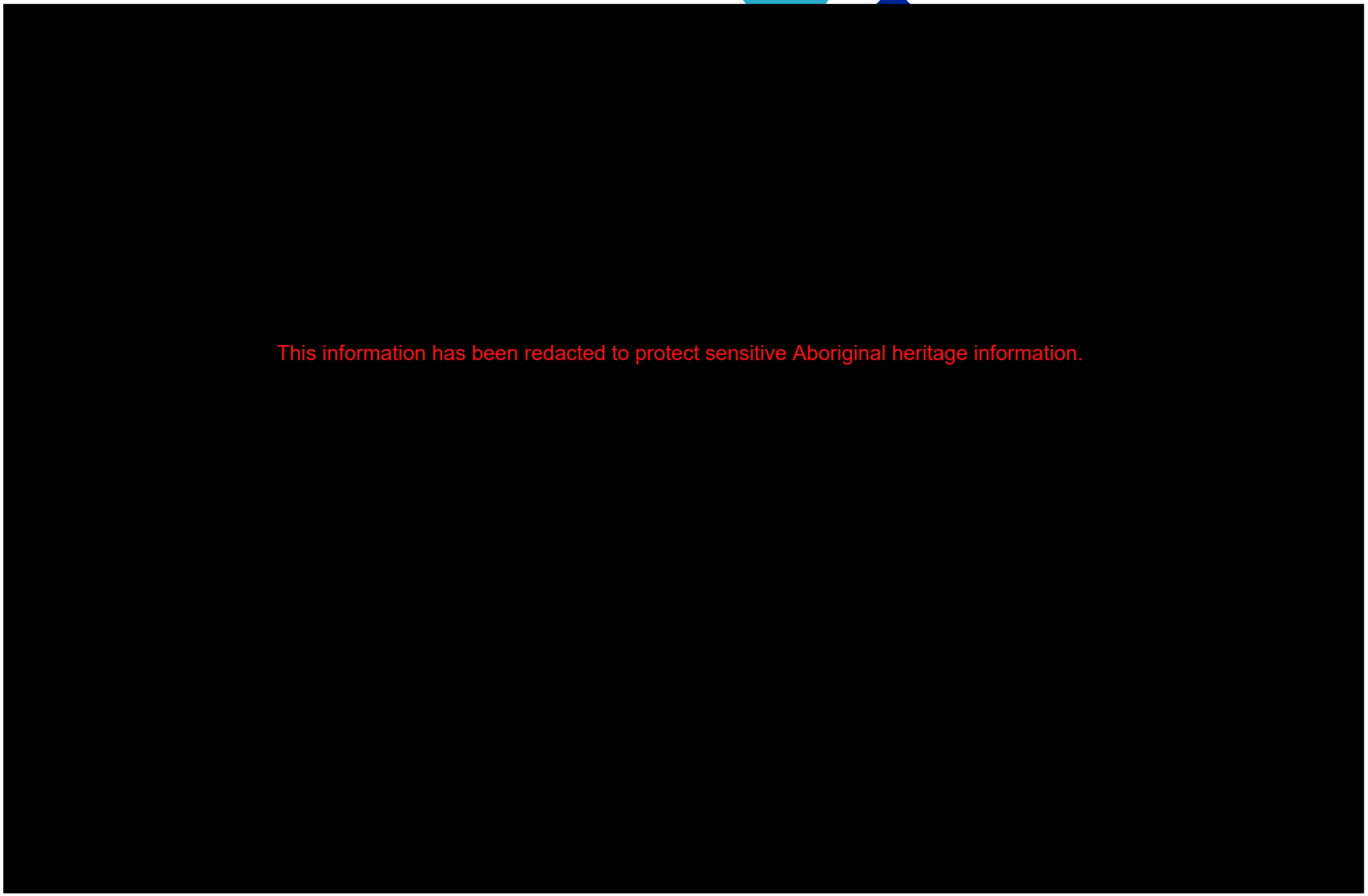

Figure 4-9: Heritage constraints (1 of 5)

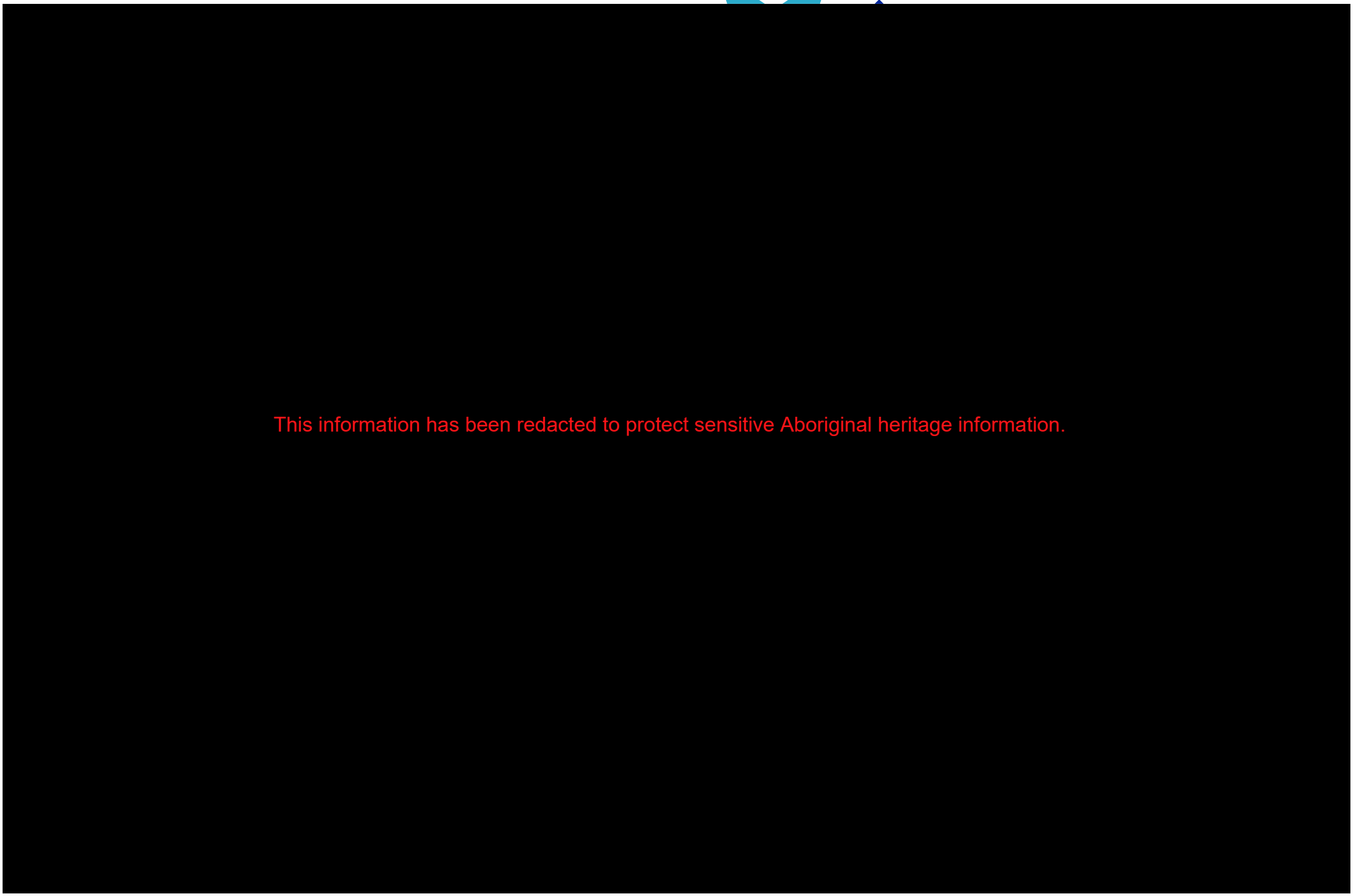

Figure 4-10: Heritage constraints (2 of 5)

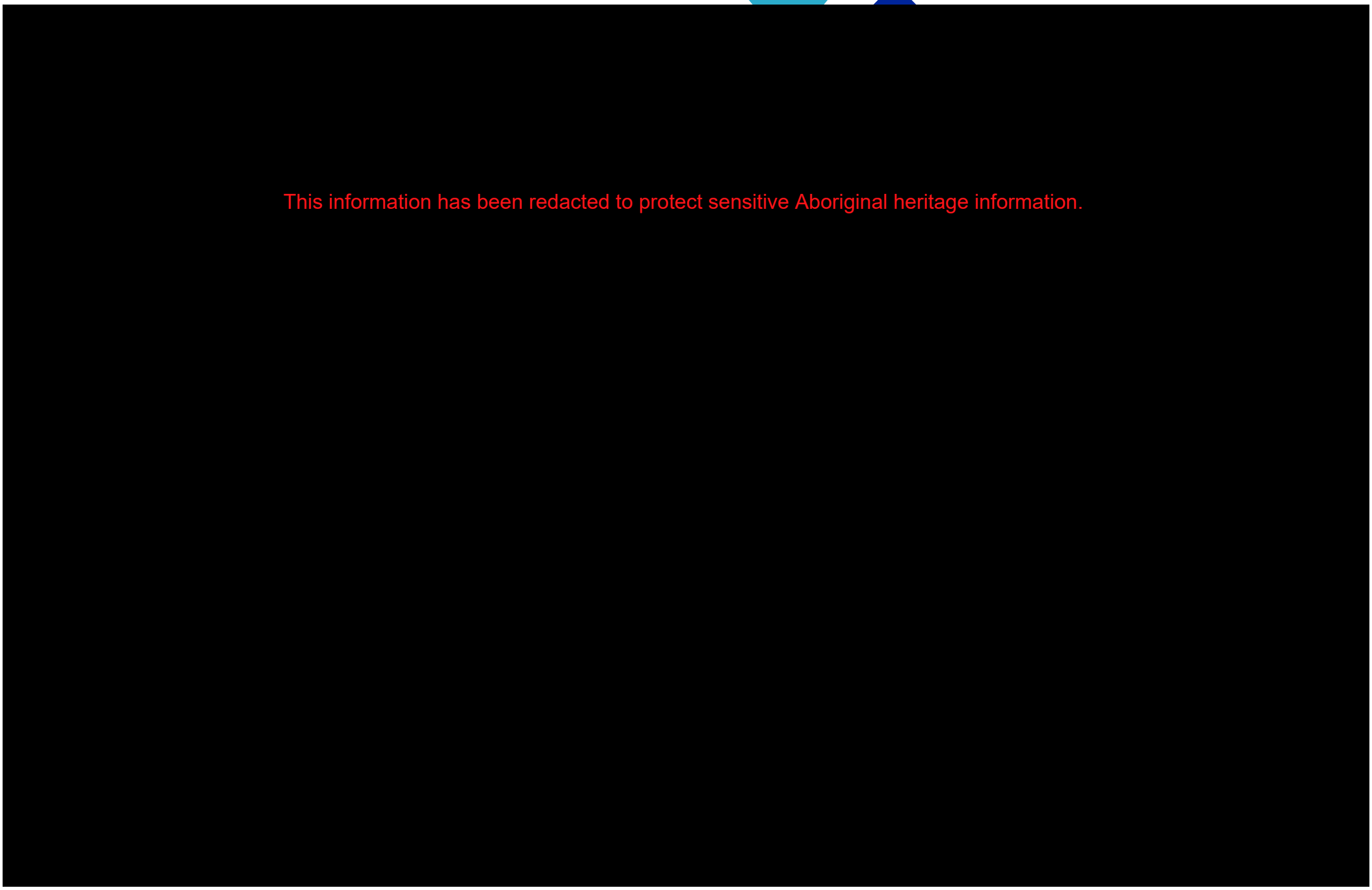

Figure 4-11: Heritage constraints (3 of 5)

Figure 4-12: Heritage constraints (4 of 5)

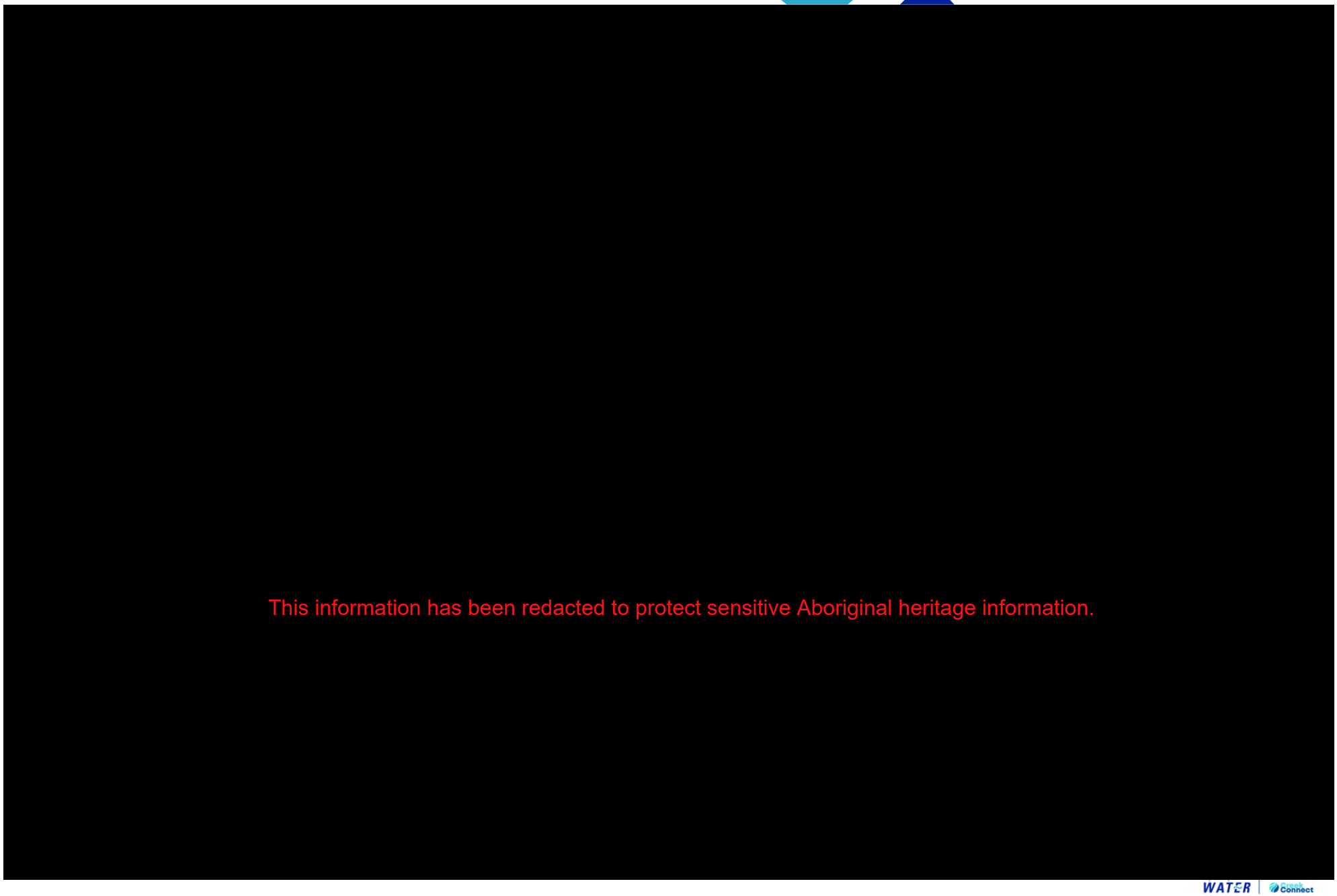

Figure 4-13: Heritage constraints (5 of 5)

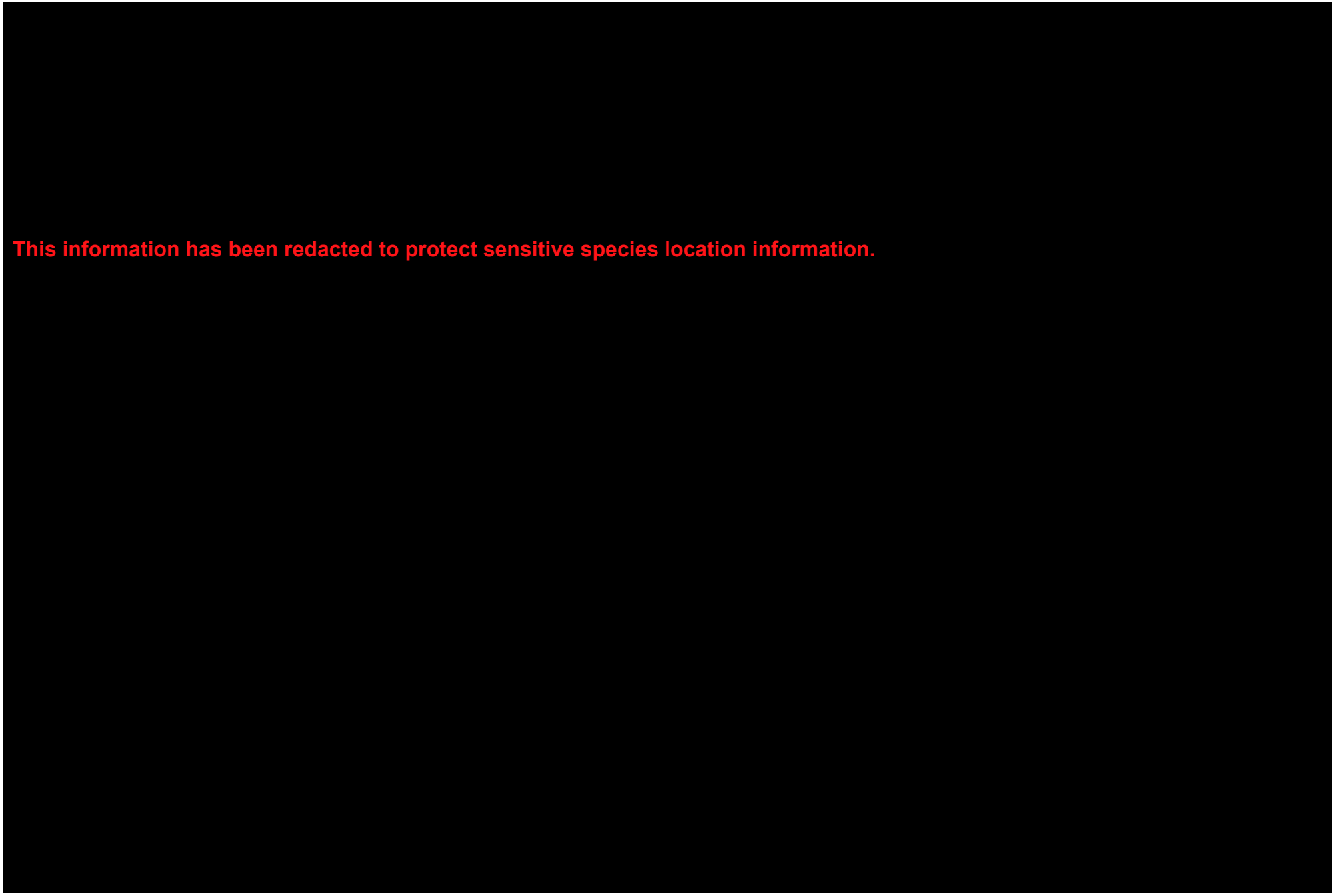

Figure 4-14: Relict oxbow (farm dam) adjacent to Study Area C

5. Conclusion

Sydney Water has prepared this REFA to assess the potential environmental impacts of South Creek Extension and Thompsons Creek Optimisation. The proposal change is required to meet Sydney Water's objective to provide timely delivery of reliable wastewater infrastructure to support development and growth expected in the SWGA and WSAGA. It will create an efficient wastewater management system while minimising impacts to landowners in the area.

The main potential construction environmental impacts of the proposal change include impacts to biodiversity and Aboriginal heritage. Overall, the proposal change will reduce potential construction impacts to soils and water by reducing the volume of excavated materials and groundwater extraction. The proposal change also incorporates landowner feedback into the design, minimising potential impacts on the community.

Given the nature, scale and extent of impacts and implementation of the mitigation measures outlined in this REFA, the proposal change is unlikely to have a significant impact on the environment. Therefore, an e nvironmental impact statement is not required under Division 5.1 of the EP&A Act.

The proposal change aligns with the principles of Ecologically Sustainable Development (ESD) listed in the approved REF (**Appendix B**). The proposal change will not result in the degradation of the quality of the environment and will not pose a risk to the safety of the environment.

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Appendix A – Section 171 checklist

There are no requirements in addition to those considered in the approved REF.

Section 171 checklist	REF finding
Any environmental impact on a community	The proposal change involves temporary disturbance in the form of noise, air quality, visual impacts and occasional residential access disruptions. While impacts are consistent with the approved REF, new sensitive receivers have been identified. However, it is not anticipated that these impacts will cause significant disruption to the community. There will be environmental improvements by providing a reliable wastewater service to the community.
Any environmental impact on the ecosystems of the locality	The proposal change will result in a minor increase of native vegetation clearing by 0.065 ha compared to the approved REF. Clearing of ENV within non-certified lands has decreased by 0.056 ha from the approved REF and will be offset accordingly. Ongoing design development and construction planning will continue to identify and explore opportunities to limit clearing of native vegetation. The proposal change is not expected to have a significant impact to the ecosystem. It is expected to reduce future ecosystem impacts by ensuring reliable wastewater collection and treatment.
Any effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or any other special value for present or future generations	The Proposal will have a minor impact 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. This includes impact to Aboriginal heritage items. The proposal change will alter the approved REFs impacts on Aboriginal heritage. One newly identified archaeological site (Martin Road South Creek AFT 1) will be impacted by the proposal change. However, impacts to one previously impacted Aboriginal heritage area (BCBW18 AS 02) will be avoided as the proposal change removes the need to construct TCPM01. Impacts to Aboriginal heritage have been minimised by implementing trenchless methods. As detailed in the approved REF, all works that have the potential to impact Aboriginal heritage will be managed by AHIP requirements. Controls will be implemented to prevent impacts to Aboriginal heritage objects outside of the AHIP areas.
Any impact on the habitat of any protected animals (within the meaning of the *Biodiversity Conservation Act 2016*)	The proposal change has potential for minor, localised impacts on the habitat of protected animals. Clearing of native vegetation will result in removing potential foraging habitat. The proposal change is unlikely to have a significant impact on any threatened species or populations listed under the BC Act.

Appendix B – Consideration of Ecologically Sustainable Development

There are no ESD consideration 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?		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		

TISEPP section	Yes	No
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 (i.e. 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 – Addendum Biodiversity Assessment Report

Appendix E – Aboriginal Cultural Heritage Assessment Report

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.