Hunter Water Corporation

Seaham Weir Pool
Review of Environmental Factors

October 2023

Version history

Prepared by Jacobs Pty Ltd on behalf of Hunter Water.

Rev	Author	Sections changed	Approved By	Date Approved
A	Portia King	Initial draft for client review	Vivira Samuel	19 June 2023
B	Portia King	Draft	Vivira Samuel	7 July 2023
C	Portia King	Crown land version	Vivira Samuel	17 July 2023
D	Portia King	Final draft for client review	Vivira Samuel	21 September 2023
E	Portia King	Final REF	Vivira Samuel	12 October 2023

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Table of Contents

Figures

Tables

1 Introduction

1.1 Proposal identification

Hunter Water proposes to undertake a range of erosion management and rehabilitation works along an 18-kilometre (km) portion of the Williams River, known as Seaham Weir Pool (the proposal). Seaham Weir Pool is located about 25 km north of Newcastle and encompasses the section of the Upper Williams River from the Seaham Weir, Seaham, NSW, to approximately 2 km upstream of the Clarence Town Bridge, Clarence Town, NSW (refer to **Figure 1-1**).

Hunter Water manages Seaham Weir Pool as a primary drinking water source within the Williams River drinking water catchment. Seaham Weir Pool is also a popular recreational boating area between Seaham and Clarence Town. Long-term water quality monitoring has shown a gradual and continuing deterioration in Seaham Weir Pool. The key elements of the proposal are derived from Seaham Weir Pool Erosion Management Plan recommendations (Williams River Erosion Management Working Group, 2023) which seek to address riverbank erosion through bank stabilisation works.

Key elements of the proposal include:

- Bank stabilisation activities categorised as follows:
  - Category 1: Annual riverbank monitoring
  - Category 2: Revegetation of the riparian zone and weed removal in areas where native vegetation has been lost or removed and has contributed to collapsing banks
  - Category 3: Revegetation and vegetation enhancement with stock-exclusion electric fencing. Trenching would occur at 4 locations to allow for off-river stock watering points to be installed between 10 and 30 m from the river
  - Category 4: Construction of bank stabilisation works, mostly comprising of rock and/or timber fillets. Other stabilisation work may include battering, benching, log walls, rock toe protection, rock rip-rap and revetments. In some locations, these stabilisation works would occur together with revegetation and fencing.
- Ancillary facilities and laydown areas including stockpile areas and access tracks to facilitate construction.

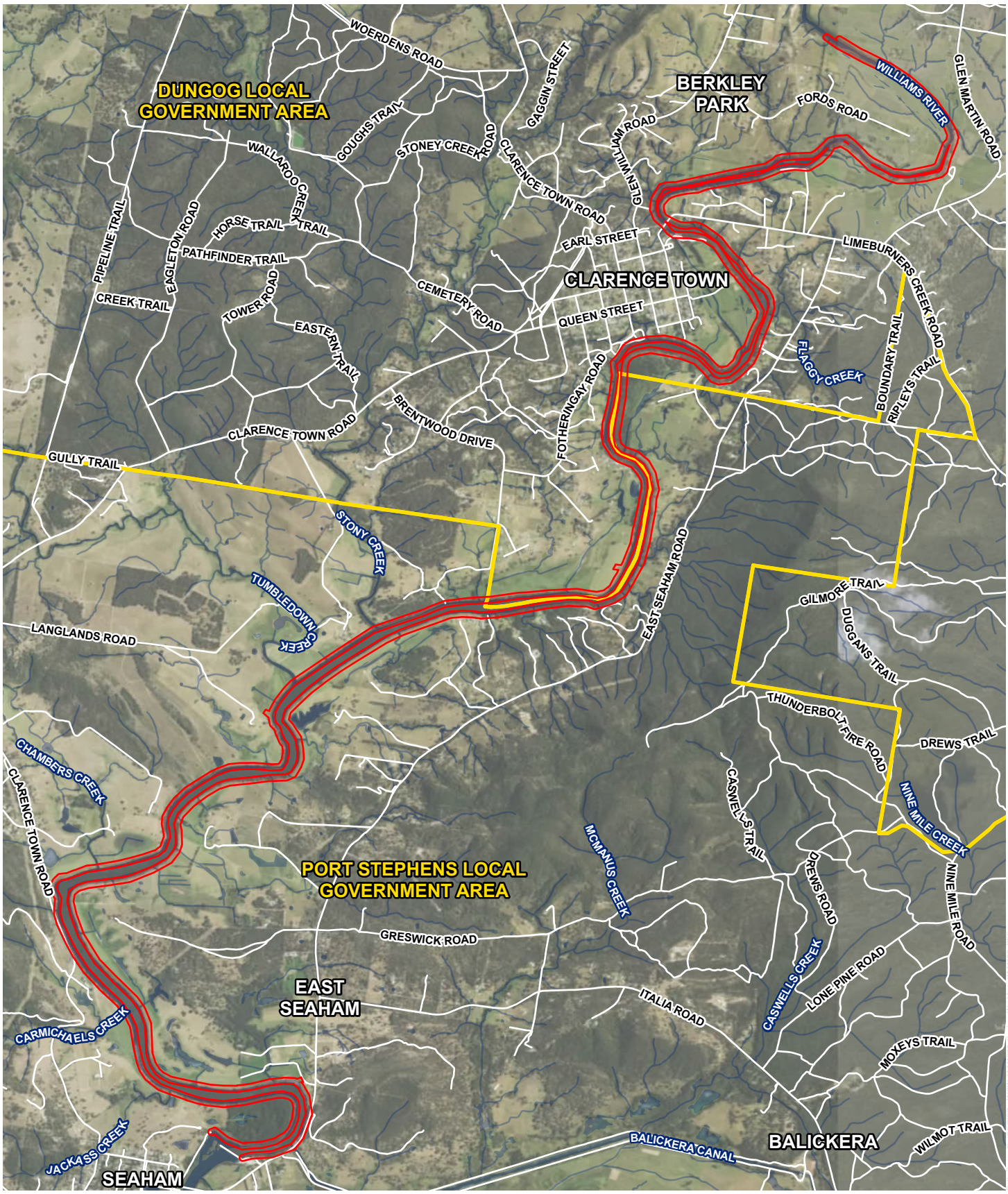
The proposal is shown in **Figure 1-2** and described further in **Chapter 3**.

Construction of the proposal would be anticipated to begin in February 2024 and take about five years to complete (completion estimated by 2027). Construction would be scheduled to avoid boating zones during peak summer periods.

1.2 Purpose of the report

This report has been prepared by Jacobs Group (Australia) Pty Ltd (Jacobs) on behalf of Hunter Water. For the purposes of these works, Hunter Water is the proponent and the determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The purpose of the Review of Environmental Factors (REF) is to describe the proposal, to document the likely potential construction and operation environmental impacts of the proposal on the environment, and to detail mitigation measures to be implemented.



Proposal area

Local Government Area boundary

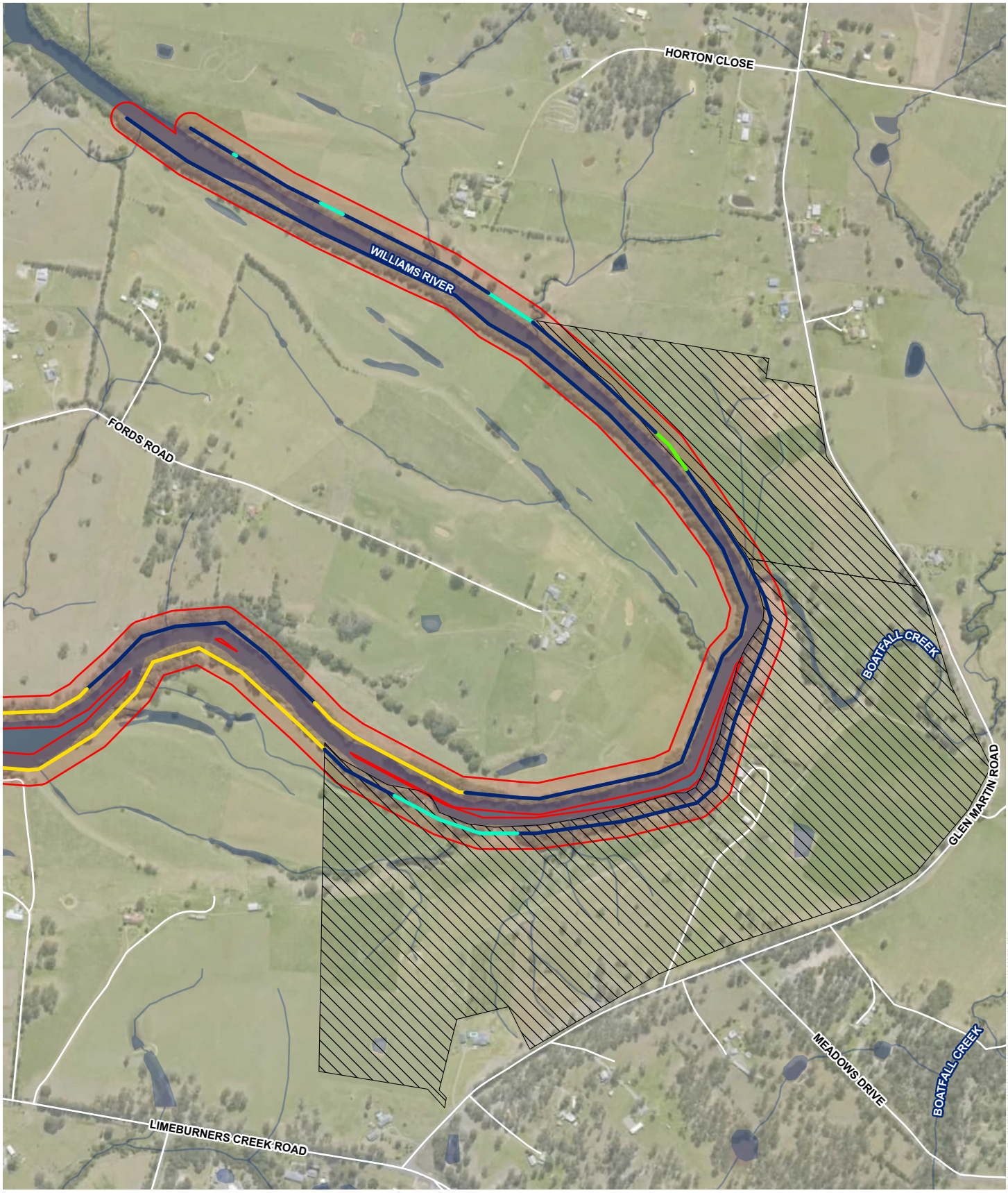
0 1 2 km

1:50,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Aerometrex 2023

Figure 1-1 Proposal locality



Proposal area

Management category

- Category 1: Monitoring
- Category 2: Revegetation/vegetation enhancement
- Category 3: Revegetation/vegetation enhancement with fencing
- Category 4: Bank stabilisation work with fencing (where required)

Site recommended for bank reshaping (within Category 4 only)

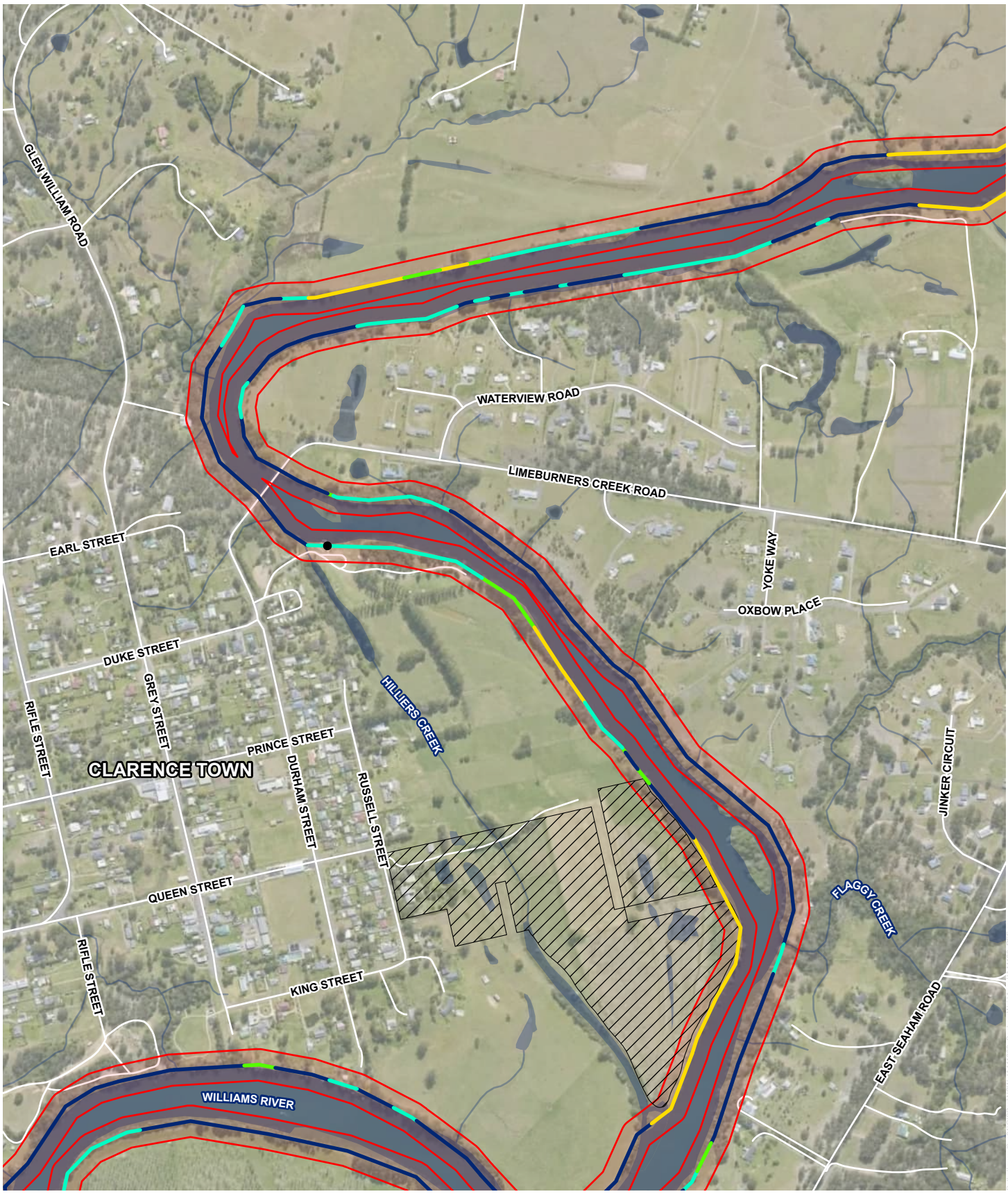
0 200 400 m

1:10,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 1-2a Proposal overview



Proposal area

Clarence Town boat ramp

Management category

Category 1: Monitoring

Category 2: Revegetation/vegetation enhancement

Category 3: Revegetation/vegetation enhancement with fencing

Category 4: Bank stabilisation work with fencing (where required)

Site recommended for an off-river stock watering point (within Category 3 only)

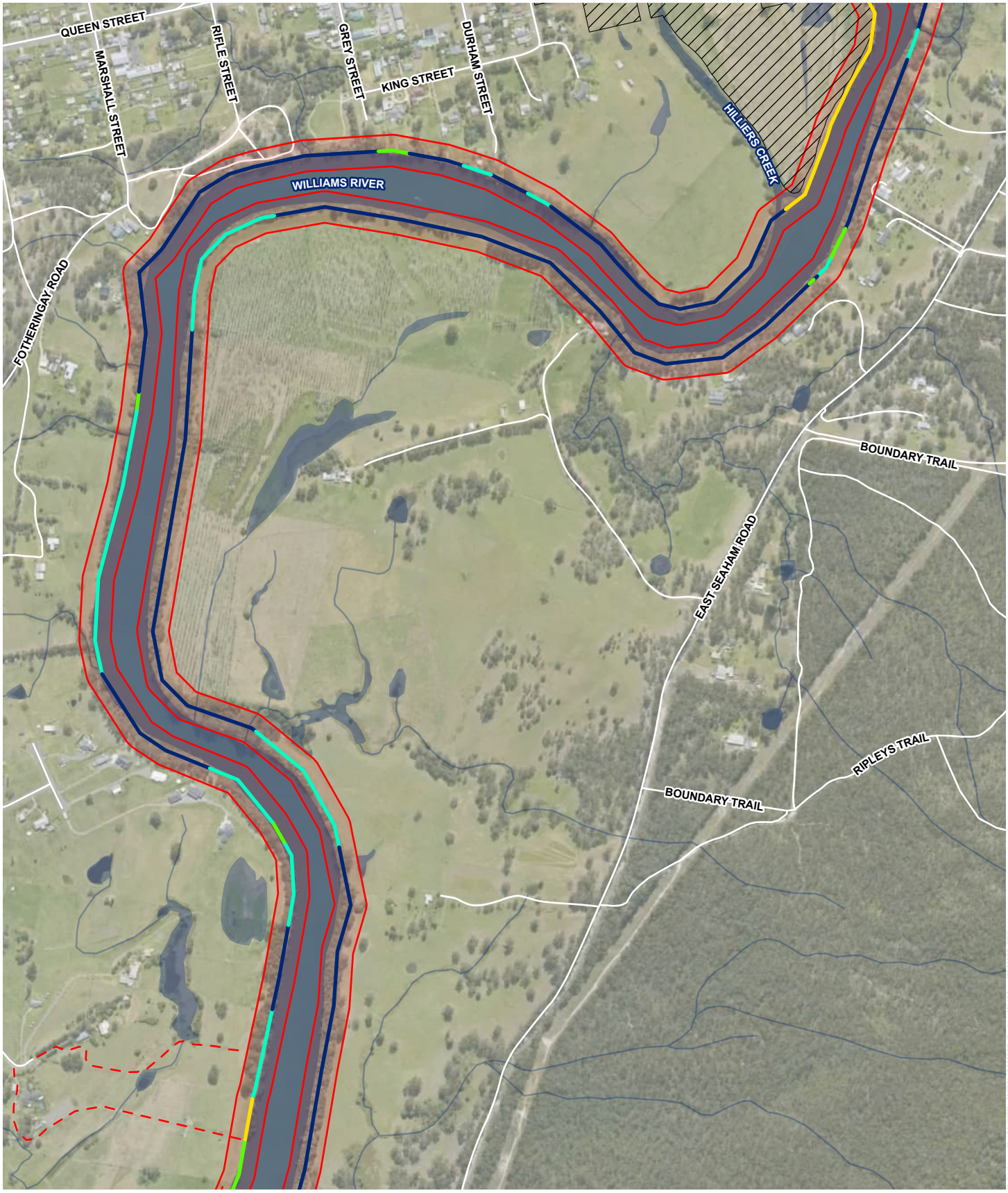
0 200 400 m

1:10,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 1-2b Proposal overview



Proposal area

Stockpile haulage route

Management category

Category 1: Monitoring

Category 2: Revegetation/vegetation enhancement

Category 3: Revegetation/vegetation enhancement with fencing

Category 4: Bank stabilisation work with fencing (where required)

Site recommended for an off-river stock watering point (within Category 3 only)

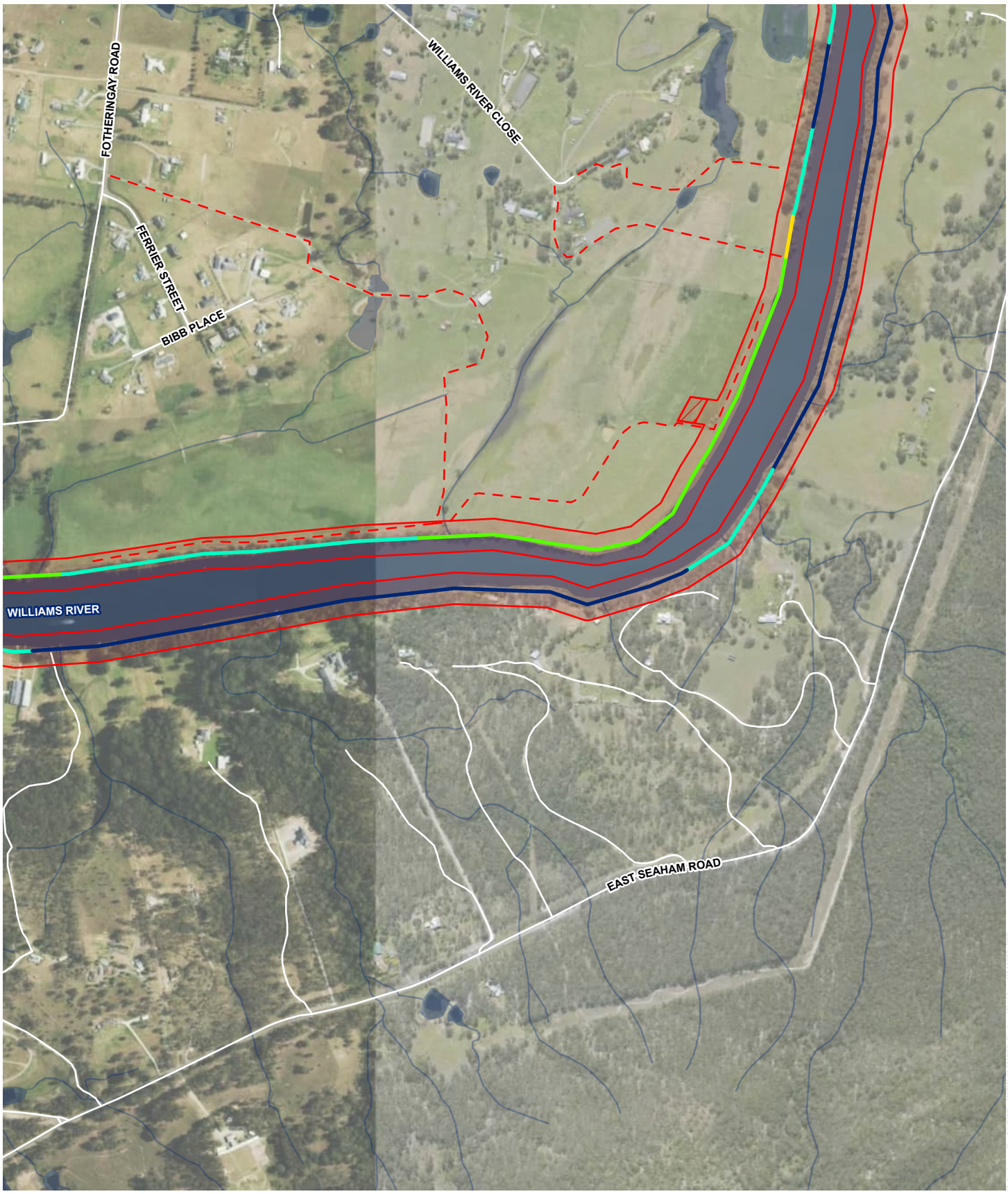
0 200 400 m

1:10,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 1-2c Proposal overview



Proposal area
Stockpile area
Stockpile haulage route

Management category
Category 1: Monitoring
Category 2: Revegetation/vegetation enhancement
Category 3: Revegetation/vegetation enhancement with fencing
Category 4: Bank stabilisation work with fencing (where required)

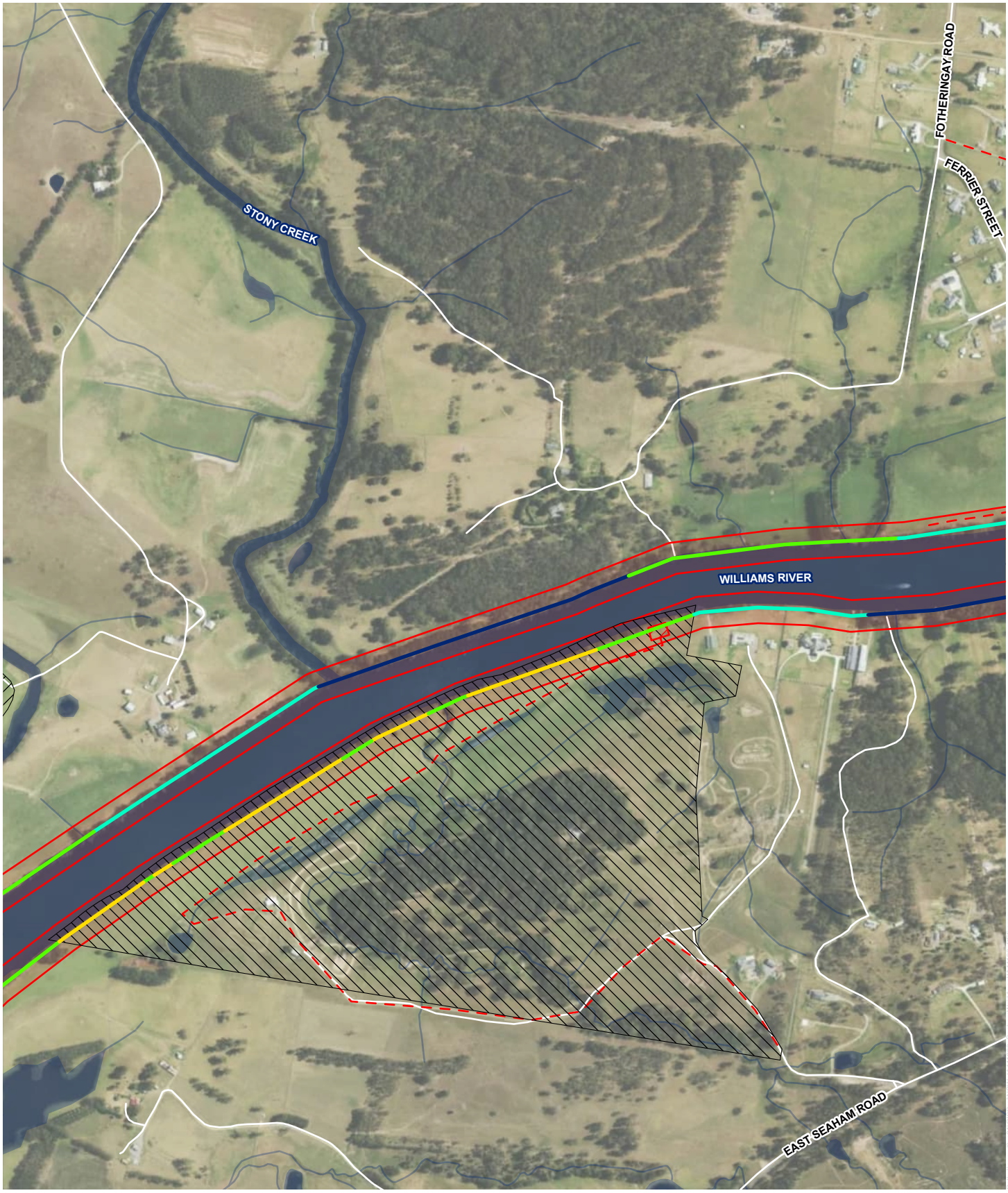
0 200 400 m

1:10,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 1-2d Proposal overview



Proposal area
Stockpile area
Stockpile haulage route

Management category
Category 1: Monitoring
Category 2: Revegetation/vegetation enhancement
Category 3: Revegetation/vegetation enhancement with fencing
Category 4: Bank stabilisation work with fencing (where required)

Site recommended for bank reshaping (within Category 4 only)
Site recommended for an off-river stock watering point (within Category 3 only)

0 200 400 m

1:10,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 1-2e Proposal overview

Proposal area
Stockpile area
Stockpile haulage route

Management category

Category 3: Revegetation/vegetation enhancement with fencing

Category 4: Bank stabilisation work with fencing (where required)

Site recommended for bank reshaping (within Category 4 only)

Site recommended for an off-river stock watering point (within Category 3 only)

0 200 400 m

1:10,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 1-2f Proposal overview

Stockpile haulage route

Site recommended for an off-river stock watering point (within Category 3 only)

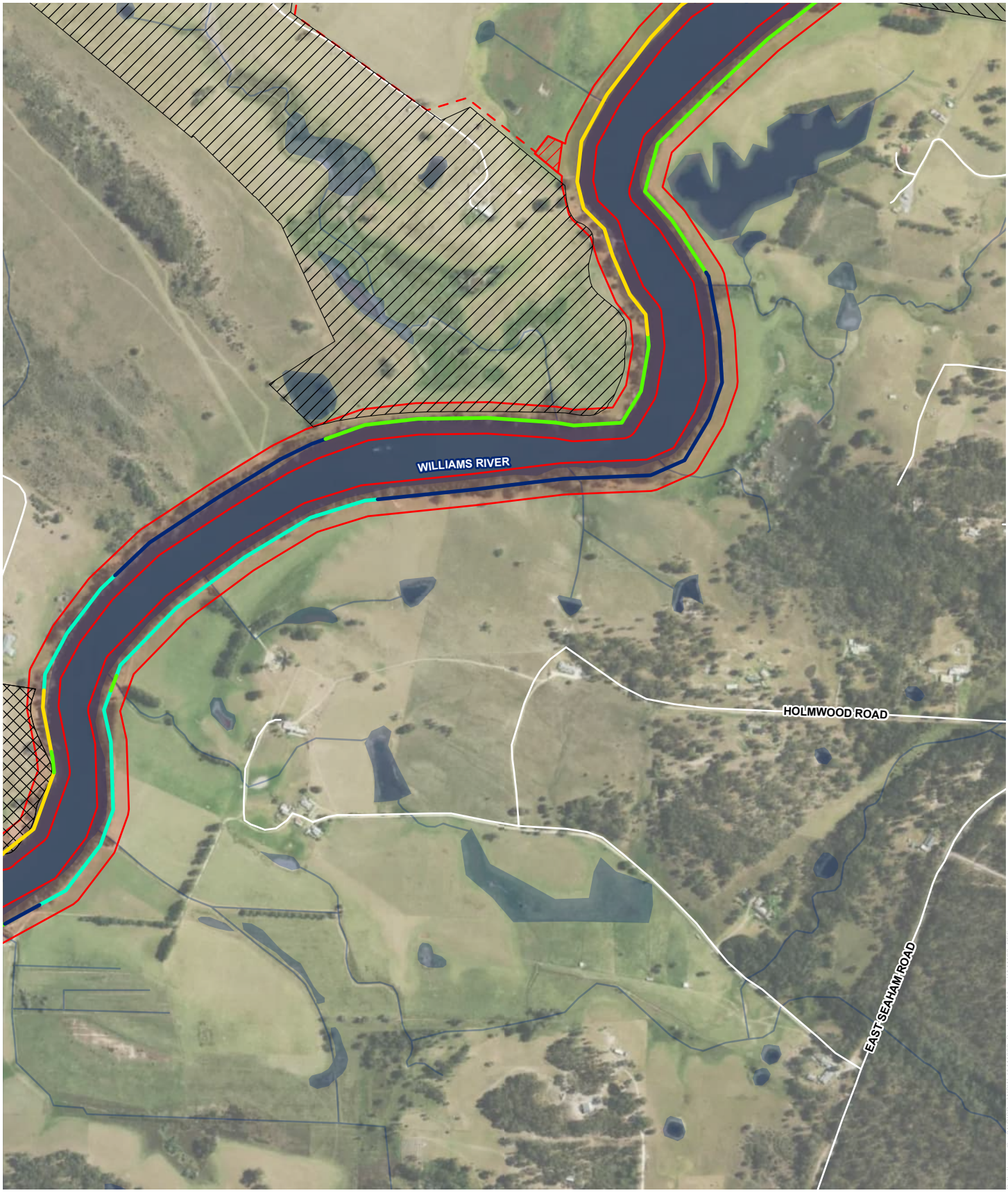
0 200 400 m

1:10,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 1-2g Proposal overview



Proposal area
Stockpile area
Stockpile haulage route

Management category
Category 1: Monitoring
Category 2: Revegetation/vegetation enhancement
Category 3: Revegetation/vegetation enhancement with fencing
Category 4: Bank stabilisation work with fencing (where required)

Site recommended for bank reshaping (within Category 4 only)
Site recommended for an off-river stock watering point (within Category 3 only)

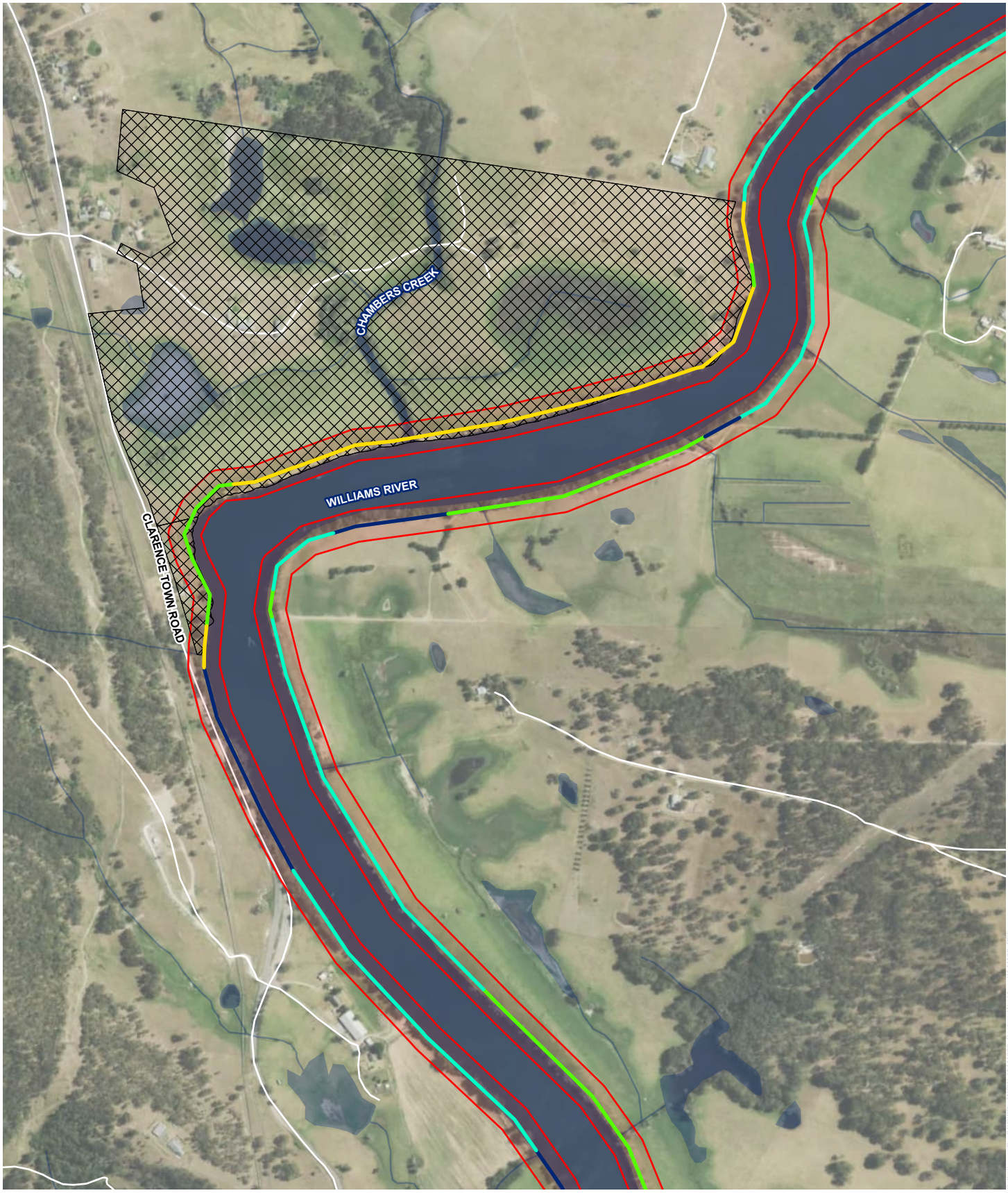
0 200 400 m

1:10,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 1-2h Proposal overview



Proposal area

Management category

- Category 1: Monitoring
- Category 2: Revegetation/vegetation enhancement
- Category 3: Revegetation/vegetation enhancement with fencing
- Category 4: Bank stabilisation work with fencing (where required)

Site recommended for bank reshaping (within Category 4 only)

Site recommended for an off-river stock watering point (within Category 3 only)

0 200 400 m

1:10,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 1-2i Proposal overview

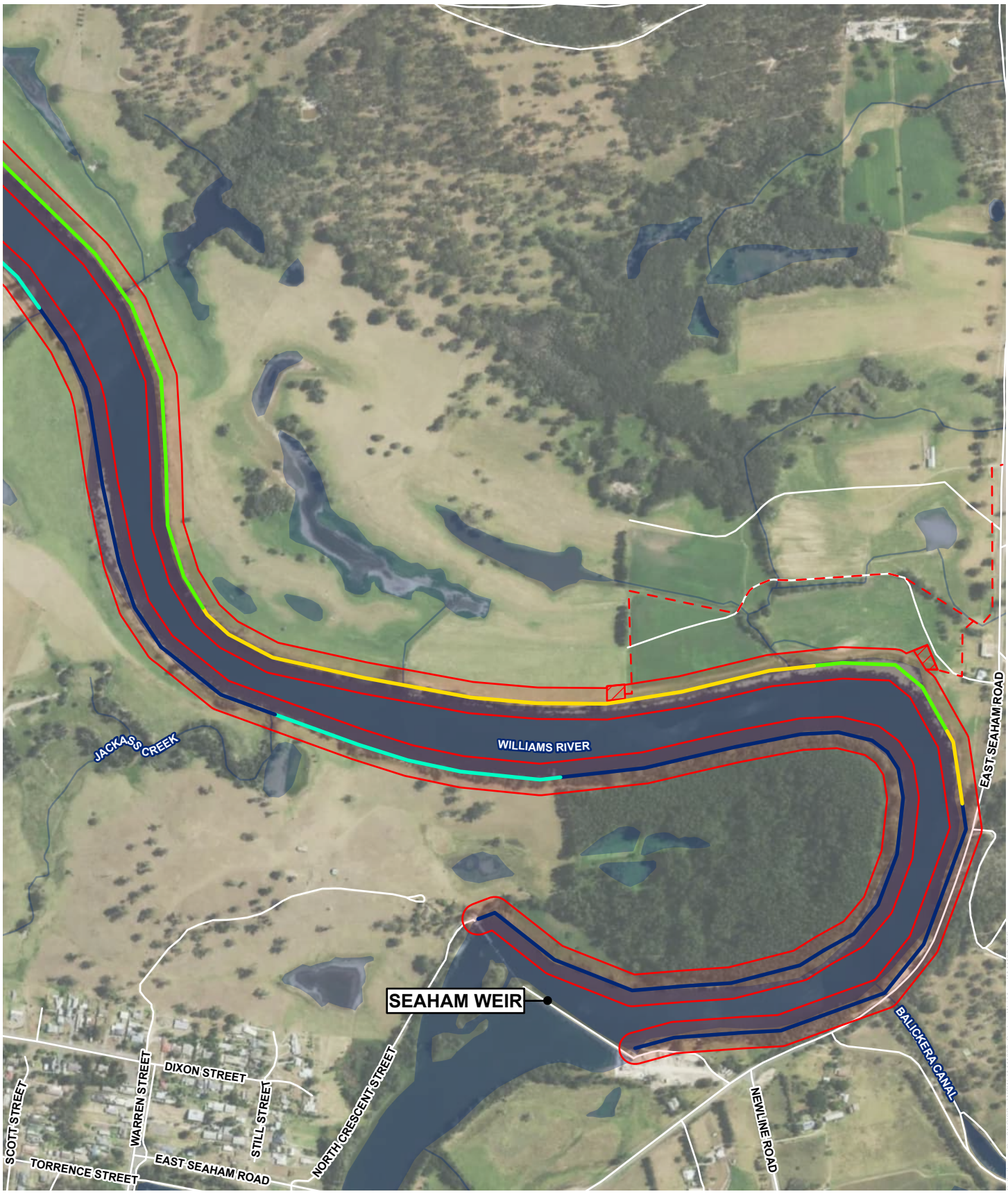


Figure 1-2j Proposal overview

2 Proposal need and justification

Long-term water quality monitoring has shown a gradual and continuing deterioration in Seaham Weir Pool. Riverbank erosion has been identified as a key factor contributing to poor water quality as a result of high levels of turbidity and nutrient concentrations. Actions that contribute to this riverbank erosion include flooding and wind waves, wake-generating boating activity, the presence of carp, the loss of stabilising riparian vegetation, static water level, and land management practices such as vegetation clearing and stock access to the river. Erosion management in the Seaham Weir Pool requires a multi-faceted catchment management approach that takes into account each of these causes.

In 2023, the Williams River Erosion Management Working Group (the working group) released the Seaham Weir Pool Erosion Management Plan (EMP) based on previous scientific studies by the University of NSW's Water Research Laboratory (WRL) (2016) and community and stakeholder feedback. The EMP outlines five management actions to address riverbank erosion; this proposal relates to 'Action 2: Carry out program of remediation work'. The EMP identified potential methods of remediation works to manage erosion such as benching, log walls and rock and timber fillets.

Action 1 of the EMP is to retain the existing boating management plan in Seaham Weir Pool as implementing the Action 2 remediation works would be sufficient to meet the proposal objectives while balancing the needs of the local community.

Furthermore, the Lower Hunter Water Security Plan (LHWSP) (NSW Government, 2022) discusses that the Williams River will continue to play an important role in supplying drinking water to the Hunter region via Grahamstown Dam. Priority 1 of the LHWSP, to be led by Hunter Water, is to protect water quality at the source and identify opportunities for improvement of key water quality issues.

With boating activities proposed to continue within the Seaham Weir Pool, the proposal is needed to address erosion and ensure the long-term viability of the Williams River as a drinking water source. The proposal is also consistent with the priorities of the LHWSP to protect water quality.

2.1 Objectives of the proposal

The objectives of the proposal are to:

- Sustain or improve water quality within the Seaham Weir Pool through reducing the potential for increased turbidity and phosphorus
- Increase the opportunity for sustained high water quality extraction in accordance with the Australian Drinking Water Guidelines principles.

2.2 Existing water infrastructure and uses

Seaham Weir was constructed in 1967 to separate the downstream tidal estuarine salt water from the upstream fresh water and to control the upstream water level. The key element of water infrastructure in this proposal is Seaham Weir Pool.

Fresh water is transferred from the Williams River to Grahamstown Dam via the Balickera Canal and Pump Station. The 9 km canal runs from Boag's Hill, near Clarence Town, to Grahamstown Dam near Williamtown.

The Williams River is used for recreational purposes north of the Seaham Weir Pool. Recreational activities including boating, fishing, water skiing and wakeboarding occur within the proposal area. Management zones are used to manage recreational activities within the proposal area include 4 knot

maximum speed area, 8 knot maximum speed area, water skiing and wakeboarding permitted area and water skiing only permitted (refer to **Figure 2-1**).

2.3 Options considered

Three options were identified by Hunter Water when determining a preferred way forward for managing the issues at Seaham Weir Pool. These options were do nothing, a 10 year staged riverbank rehabilitation program and a 5 year staged riverbank rehabilitation program. These are discussed further in the sections below.

2.3.1 Option 1 – Do Nothing

The 'do nothing' approach reflects the current boating and land management practises within the Seaham Weir Pool. Water quality would be expected to continue to deteriorate within the Seaham Weir Pool as a result of doing nothing.

2.3.2 Option 2 – 10 Year Staged Riverbank Rehabilitation

Option 2 involves a staged program of bank stabilisation works over 10 years. The proposed stabilisation works are consistent with recommendations in the *Riverbank Vulnerability Assessment* (WRL, 2016). Bank stabilisation works range from simple riparian revegetation to more complex rock protection works along Seaham Weir Pool. Stabilisation works would be prioritised according to need and property access. Option 2 achieves the objectives of the proposal.

2.3.3 Option 3 – 5 Year Staged Riverbank Rehabilitation

Option 3 involves a staged program of bank stabilisation works, similar to those outlined in Option 2, in a shorter timeframe of 5 years. Stabilisation works range from simple riparian revegetation to more complex rock protection works along Seaham Weir Pool. Stabilisation works would be prioritised according to need and property access. Option 3 achieves the objectives of the proposal in a shorter timeframe than Option 2.

2.4 Preferred option justification

Option 3 is the preferred option for the following reasons:

- The bank stabilisation works would be implemented as early as practical to ensure the riverbanks are rehabilitated and water quality risks are reduced
- The investment is consistent with the timing negotiated with Transport for NSW and community stakeholders.

The works are implemented through a single program which minimises the risk of landholder and community interruption. The preferred option is the proposal, which is described in further detail in **Chapter 3**.

Proposal area

Clarence Town Bridge

Clarence Town boat ramp

Management zones

4 Knot

8 Knot

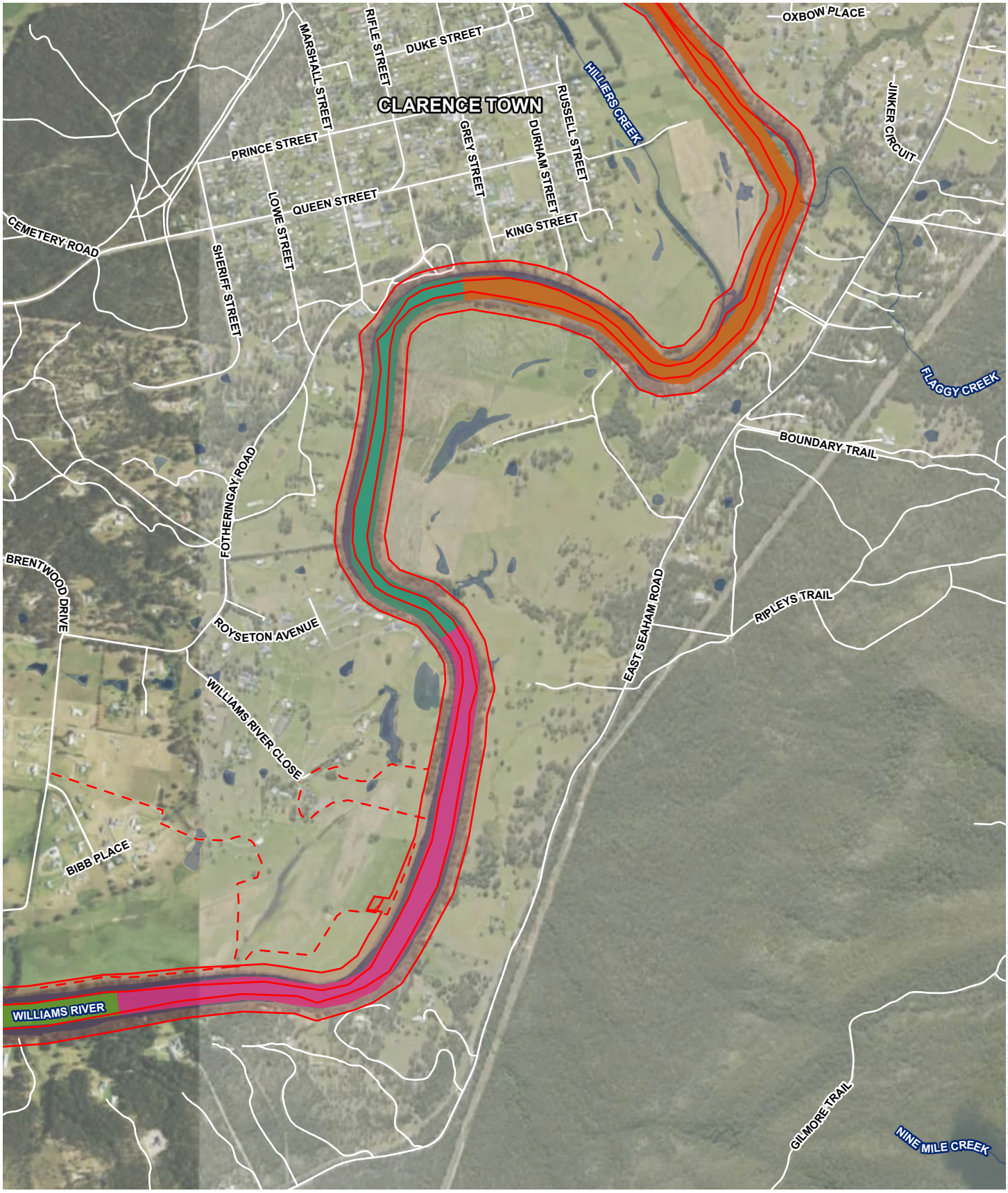
0 200 400 m

1:18,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 2-1a Existing infrastructure and management zones



Proposal area
Stockpile area
Stockpile haulage route

Management zones
4 Knot
Waterskiing and Wakeboarding Permitted
8 Knot
Waterskiing Permitted

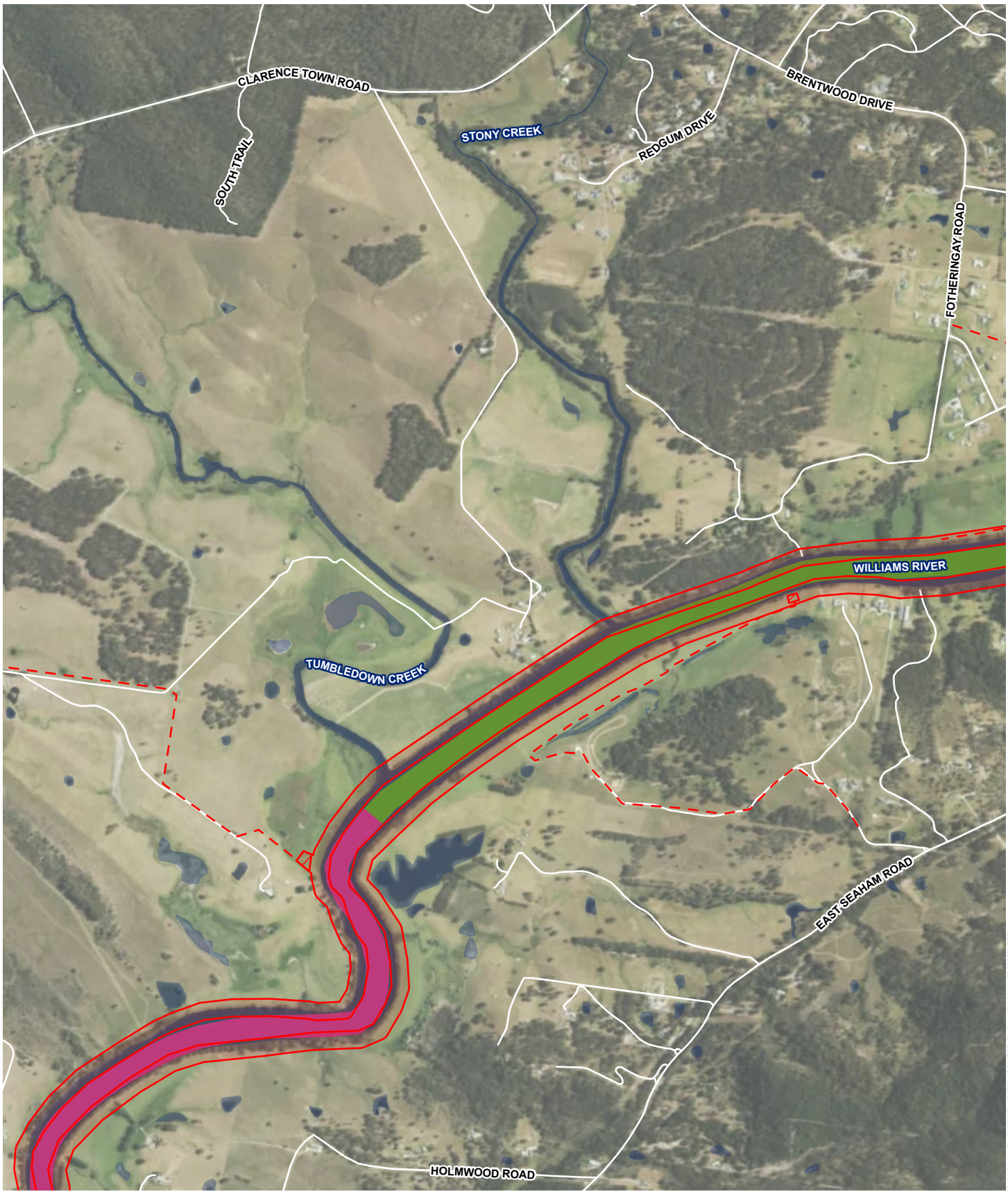
0 200 400 m

1:18,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 2-1b Existing infrastructure and management zones



Proposal area
Stockpile area
Stockpile haulage route

Management zones
Waterskiing and Wakeboarding Permitted
Waterskiing Permitted

0 200 400 m
1:18,000 at A4
GDA2020 MGA Zone 56

Data sources
Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Regional NSW 2023
Aerometrex 2023

Figure 2-1c Existing infrastructure and management zones

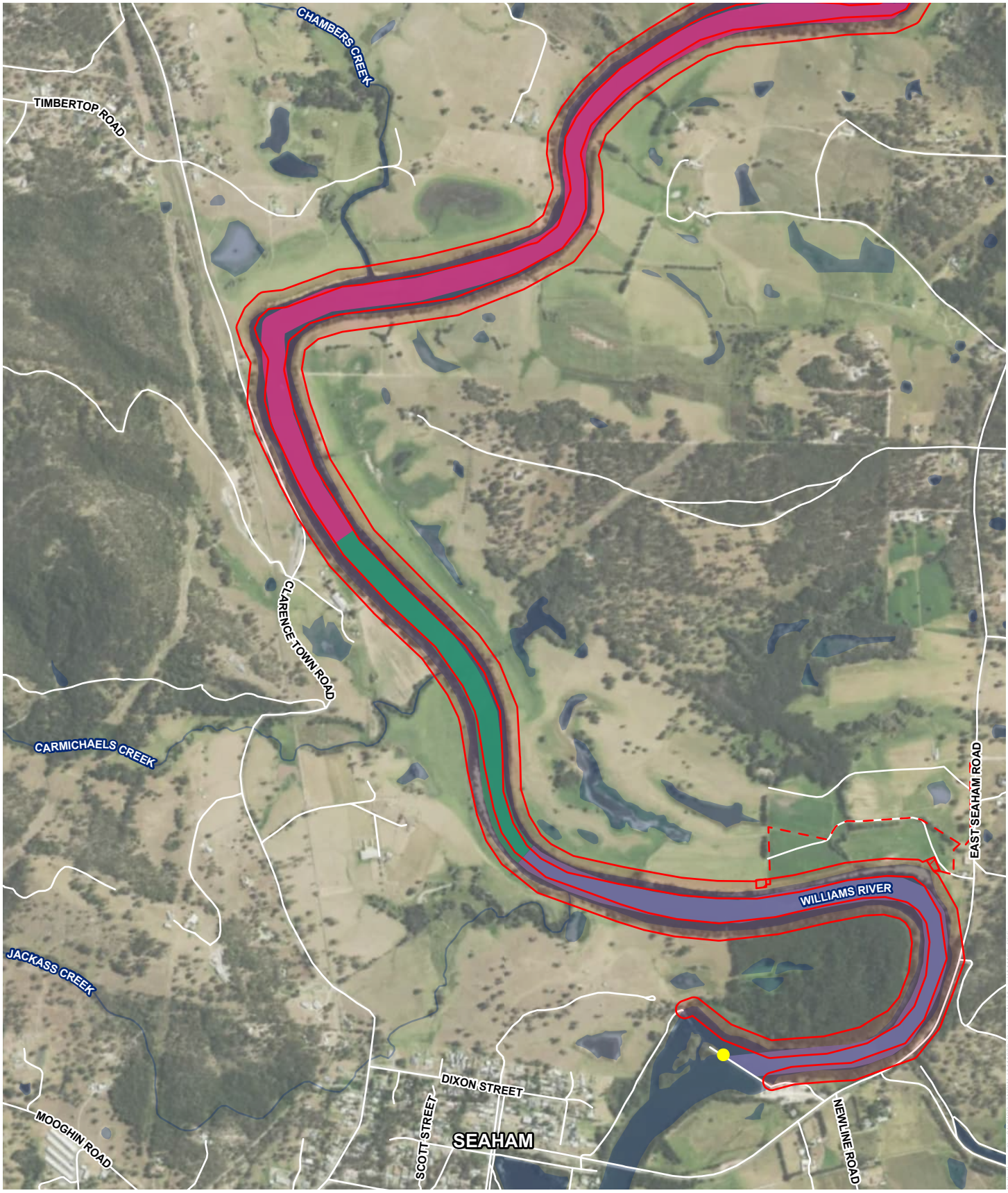


Figure 2-1d Existing infrastructure and management zones

3 Description of the proposal

3.1 Scope of works

The proposal involves four categories of bank stabilisation works which are described in more detail in the following sections. These works involve a combination of monitoring, bank stabilisation methods, revegetation and changes to land management along impacted stretches of Seaham Weir Pool to effectively manage erosion in collaboration with landholders and relevant stakeholders. Stabilisation categories have been designed by suitably qualified environmental specialists to respond appropriately to the severity of erosion in different parts of the proposal area.

3.1.1 Category 1: Monitoring

Monitoring would be carried out annually and would involve assessing the condition of the banks and adjoining areas to identify if any stabilisation works would be required. Should monitoring indicate that stabilisation works are required, an appropriate category would be applied to the section of bank. Any additional impacts would be assessed separately.

3.1.2 Category 2: Revegetation/vegetation enhancement

Revegetation and vegetation enhancement would involve replanting and weed removal. This would occur in areas where native vegetation has previously been lost or removed and has contributed to the banks collapsing. For future provisions and subject to land use requirements of landholders, stock-proof fencing may be required to protect riparian vegetation from stock. In this case, the category for the section of bank would be changed from Category 2 to Category 3. Any additional impacts associated with this change would be assessed separately.

3.1.3 Category 3: Revegetation/vegetation enhancement with fencing

Category 3 works would occur in areas requiring revegetation and stock-proof fencing. In addition, the installation of off-river stock watering infrastructure has been proposed at four properties.

Riverbanks in Category 3 locations would be fenced with a solar or battery powered electric fence to reduce pressure from stock on riverbanks, revegetation areas or other sensitive areas. Fences would be located about 10 m back from the bank and would require a maximum of about 3 m of disturbance to install. The exact location of fencing within each property would be dependent on site constraints and would be confirmed in construction. Revegetation would occur between the fence and the riverbank.

Where off-river stock watering infrastructure is required, a pipe and pump system would be installed to transport river water to a watering point no more than 30 m from the riverbank. This system would be solar, or battery powered. An example of revegetation protected by fencing is provided in **Photo 3-1**.

Photo 3-1 Example of bank revegetation and stock management fencing on the Tweed River in northern NSW

3.1.4 Category 4: Bank stabilisation works

Category 4 involves a range of bank stabilisation works to protect riparian zones from wake-generating activities, in conjunction with revegetation, allowing native vegetation to properly establish and provide ongoing bank stabilisation in the long-term. Category 4 would also be accompanied by revegetation in areas where wakes are generated, such as in the 'water-skiing permitted, and wakeboarding permitted' management zones and the '4 knot speed' limit management zone. Category 4 would also be accompanied with fencing where there is a need to restrict livestock from the riverbanks.

The most common type of stabilisation works would involve rock and/or timber fillets. These are energy dissipating structures constructed to mean high water level in front of eroding riverbanks. These structures absorb wave action and create an area of still water between the fillet and the eroding bank. Generally, fillets are keyed into the riverbank at the upstream end and laid parallel to the bank, overlapping each other at the downstream end. An example of rock fillets with timber pins is shown in **Photo 3-2**.

Other stabilisation works may involve constructing one or a combination of the following treatments along sections of the river to protect and stabilise the banks:

- **Benching** involves bank reprofiling with a 1.5 to 3.5 m flat 'bench' to improve bank stability and provide access for performing other stabilisation works
- **Battering** involves bank reprofiling works to reduce and even out the bank slope to improve bank stability and improve conditions for vegetation establishment. This is expected to occur at three locations as shown in **Figure 1-2**
- **Log walls** involve placing a network of timber posts linearly and offset from the riverbank to absorb waves and protect the lower bank. An example of log wall is shown in **Photo 3-3**
- **Rock toe protection** involves the placement of loose rock to protect and secure the lower bank meanwhile the upper bank is not structurally treated. Over time the bank is stabilised by the deposition of sediments behind the row of stones. Rock toe protection has a lower ecological and visual impact than full rock bank protection, however the upper bank is at risk to erosion if left unvegetated. An example of rock toe protection is shown in **Photo 3-4**
- **Rock rip-rap** or revetment involves placing a layer of large stones along the lower and upper bank.

Photo 3-2 Example of rock fillets with timber pins on the Bellinger River in northern NSW

Photo 3-3 Example of log wall on the Hunter River

Photo 3-4 Example of lower bank rock toe protection works on the Clarence River in northern NSW

3.2 Construction activities

This section provides a summary of the likely construction methodology, work hours, plant and equipment and associated activities that would be used to construct the proposal. The construction methodology would be confirmed by the construction contractor after detailed design.

3.2.1 Work methodology

Overarching construction plans

A Project Management Plan (PMP) would be prepared by the contractor and would outline the work methodology from start to completion including:

- An outline of the proposal and a defined scope
- A complete list of all members of the proposal team (including subcontractors), their respective roles and responsibilities and a communications flowchart
- Deliverables including a timeline or schedule showing substantial stages of the works including major planning components, consent approvals required, construction targets, equipment and materials required, hold points and any other issues of significance to the project.

The main safety component of the PMP is the site-specific Safe Work Method Statement (SWMS) and Work, Health and Safety Management Plan (WHSMP). The SWMS would detail each component involved in constructing the project, the risk/s involved and the relevant control measures to be adopted. These risks include work health and safety, quality and environmental factors. The SWMS determines responsibilities for actions, training/qualifications necessary to undertake certain tasks, and safety procedures to be followed while on site.

A Construction Environmental Management Plan (CEMP) would be prepared by the construction contractor and endorsed by Hunter Water prior to construction. The purpose of the CEMP is to provide a structured approach to the management of environmental issues during proposal construction. The CEMP would involve the preparation of site-specific construction plans.

The Construction Soil and Water Management Plan (CSWMP) would outline the controls and mitigation measures put in place during construction to ensure erosion and sediment movement are prevented or reduced.

Construction methodology

The proposal would include the following construction activities:

- Site establishment/mobilisation, including:
  - Setting up and implementing the environmental management plan which would include risks and mitigation measures for construction
  - Obtaining work permits and site approvals as necessary
  - Flagging no go zones where necessary
  - Site pedestrian and recreation use management
  - Locating services and protecting where necessary

  - Establishing and mobilising temporary stockpile areas
  - Establishing sediment and erosion controls for stockpile areas where necessary
  - Delineating temporary access roads along existing road network and access tracks
  - Establishing haul roads and loading/tipping pads for barge loading sites
  - Preparing the site including site facilities
  - Establishing construction site controls including fencing, project signage at the boat ramp, waste management and amenities
  - Site set out
  - Preparing a dilapidation report for the Clarence Town boat ramp
  - Accessing Clarence Town boat ramp as required for the barge.
- Revegetation and weed removal
  - Accessing site via light vehicle
  - Planting vegetation
  - Removing weeds
  - Removing green waste from site via light vehicle.
- Fencing
  - Accessing site via light vehicle
  - Installing fence posts and stringing fence wire
  - Installing electric fence system.
- Off-site stock watering points
  - Accessing site via light vehicle
  - Trenching to a depth of one metre (m) from riverbank to watering point
  - Installing powered pump and pipe system and watering trough.
- Bank stabilisation works
  - Transporting materials via barge from stockpile/loading site to construction site
  - Accessing site via barge or light vehicle, depending on activity
  - Placing and securing rock or timber materials
  - Riverbank reprofiling work to reduce bank slope or reshape bank
  - Minor stockpiling of topsoil and spoil
  - Removal and reuse of any remaining topsoil or spoil to fill behind the fillets.

- Site demobilisation and restoration, including:
  - Removing temporary stockpile areas and clearing up material stockpiles
  - De-mobilising plant and machinery
  - Restoring stockpile locations back to the same condition or otherwise agreed with the landholder.
- Monitoring:
  - Post completion monitoring to establish baseline monitoring data
  - Two-year maintenance period.

The construction contractor would aim to use sustainable materials and recycled content for the proposal, where practicable.

3.2.2 Plant and equipment

The construction works would require the use of a variety of construction plant and equipment. The main plant and equipment required may include, but is not limited to, the following:

- Barge
- Trucks
- Light vehicles
- Excavators
- Crane
- Posi truck
- Punt
- Augur
- Water cart.

3.2.3 Construction workforce

The construction workforce is expected to consist of about 15 construction personnel. However, the construction workforce is expected to fluctuate, depending on the type of stabilisation works being undertaken and associated activities. The final number of construction workers would be dependent on the construction method and would be determined by the construction contractor.

3.2.4 Construction access and traffic management

Different aspects of the proposed bank stabilisation works require access from either the river or from land. The use of a barge to undertake works is preferred at locations with steep banks for safety and to minimise impacts on well vegetated riverbanks. Where less vegetation is present and access allows, stabilisation works on the riverbank are preferred.

The preferred method of access along the proposal area would be via a barge. However, land-based access would also be required to support revegetation, fencing and trenching, stockpiling and compound activities. This would be confirmed by the construction contractor prior to construction.

Construction would generate heavy vehicle movements associated with the delivery of construction materials, plant and equipment, and the removal of spoil, waste, and equipment. An estimated average of about 5 trucks would be required on site each day, resulting in up to 10 truck movements in and out of the site per day.

A higher number of vehicles would be anticipated during site establishment and demobilisation, expected to be a maximum of 30 truck movements in and out of the site per day. The CEMP would include measures to manage traffic and access during construction. Light vehicles associated with contractors would also contribute to traffic generation by the proposal, however these movements are expected to be limited to the times before and after shifts.

3.3 Operational requirements

Once the stabilisation works have been completed, Hunter Water would maintain riparian zone vegetation as required for a two-year period until the vegetation is established. Hunter Water would inspect and maintain bank stabilisation works periodically until the riverbank is stabilised by vegetation. Hunter Water would discuss the long-term ownership and maintenance of riparian fencing and off-river watering infrastructure with landholders. Maintenance would generally become the responsibility of the landholder after the two-year maintenance period. These discussions would be tailored to the individual property and site circumstances and needs, following a defect rectification period after installation.

In unanticipated events, works may need to be removed or repaired. The environmental impacts of removal or repair are considered to be similar or less than impacts associated with installation and construction. The impact assessment is discussed in **Chapter 6**.

3.4 Timing and staging

Construction of the proposal would be anticipated to begin in February 2024 and take about five years to complete (completion estimated by 2027). Construction would be timed to avoid impacting the peak water skiing season. Therefore, stabilisation works within the wake boarding and water skiing zones would occur between May and October. However, the timing of stabilisation works may be refined depending on the needs and limitations of each area.

Works would be generally carried out during standard construction working hours as follows:

- 7am to 6pm Monday to Friday
- 8am to 1pm Saturdays
- No works Sunday or public holidays.

Construction hours would be in accordance with the Interim Construction Noise Guideline (Department of Environment and Climate Change (DECC), 2009) (ICNG) (discussed in **Section 6.4**).

Work outside of standard working hours such as night works is not expected for the proposal. If works are required outside of standard working hours, the works would need to be clearly justified, with appropriate control measures identified and approval provided from Hunter Water prior to works commencing.

3.5 Ancillary facilities and access

The proposal would be supported by five stockpile sites as shown in **Figure 1-2**. One site is located near Clarence Town, two sites are near the middle of the proposal area and two sites are near Seaham. These stockpile sites would be used for material storage, lay down areas and amenities. Locations of these ancillary sites have been selected for safe barge access from the Williams River.

Ancillary sites have been selected to, where possible, avoid vegetation clearing, impact to Aboriginal and historic heritage.

The public boat ramp at Clarence Town would be used to launch the barge during construction. This ramp is expected to be suitable for use during construction.

Stockpile haulage routes have been selected to make use of existing access tracks and the existing road network to access the stockpile sites within the proposal area (refer to **Figure 1-2**). No road works are expected as part of the proposal to use stockpile haulage routes.

4 Statutory framework

4.1 Environmental Planning Instruments

The EP&A Act provides for the creation and implementation of State Environment Planning Policies (SEPPs) and Local Environment Plans (LEP). Collectively they are referred to as Environmental Planning Instruments (EPIs) and can be used to determine whether an activity is permissible. The following section outlines relevant EPIs for this proposal.

4.1.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&ISEPP) describes certain developments that may be carried out without consent in order to facilitate the delivery of infrastructure in NSW.

The aim of Chapter 2 (Infrastructure) is to facilitate the effective delivery of infrastructure projects across NSW. This section describes certain developments that may be carried out without consent in order to facilitate the delivery of infrastructure in NSW.

The proposal falls under the definition of waterway or foreshore management activities as defined in Section 2.164 of the T&ISEPP, as it falls into the definition of "riparian corridor and bank management, including erosion control, bank stabilisation, re-snagging, weed management, revegetation and the creation of foreshore access ways." Division 25, Section 2.165(1) of the T&ISEPP enables development for the purpose of waterway or foreshore management activities to be carried out by or on behalf of a public authority without consent on any land if it is in connection with environmental management works (Section 2.165(3)(d)).

a) The proposal would be undertaken for the purpose of environmental management works (defined in Section 2.3(2)) as being "works for the purpose of avoiding, reducing, minimising or managing the environmental effects of development (including effects on water, soil, air, biodiversity, traffic or amenity, and environmental protection works).

As Hunter Water is a public authority and the proposal meets the conditions of Section 2.165 as detailed above, the proposal is considered permissible without consent pursuant to the provisions of the T&ISEPP and can be assessed under Part 5, Division 5.1 of the EP&A Act. Development consent from Dungog Shire Council or Port Stephens Council is not required.

The proposal area is not located on land reserved under the *National Parks and Wildlife Act 1974* (NPW Act) and does not affect land or development regulated by the *State Environmental Planning Policy (Planning Systems) 2021*.

4.1.2 State Environmental Planning Policy (Resilience and Hazards) 2021

The State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP) consolidates and repeals the provisions of the State Environmental Planning Policy (Coastal Management) 2018, State Environmental Planning Policy 33 – Hazardous and Offensive Development and State Environmental Planning Policy 55 – Remediation of Land.

Chapter 2 (Coastal management) aims to manage development in the coastal zone in a manner consistent with the objects of the *Coastal Management Act 2016* including the management objectives for each coastal management area.

A small portion of the proposal area near Seaham would be located within the Coastal Environment Area Map and Coastal Use Area Map, to which Chapter 2 of Resilience and Hazards SEPP applies. Under Sections 2.10 and 2.11 of Resilience and Hazards SEPP, development consent must not be

granted to development on land identified as ‘coastal environment area’ and ‘coastal use area’ unless the consent authority has considered the impact of the proposal on certain factors. As development consent is not required, no further assessment is required.

Two coastal wetlands were identified in proximity to the proposal and are discussed further in **Section 6.3**.

Chapter 4 (Remediation of land) of the Resilience and Hazards SEPP provides a state-wide planning framework for the remediation of contaminated land and to minimise the risk of harm. Section 4.6 of the Resilience and Hazards SEPP requires consideration of whether the land is contaminated and whether it is suitable (or can be made suitable) for proposed development. As the proposal is being assessed under Division 5.1 of the EP&A Act, Hunter Water is not required to consider Chapter 4 of the Resilience and Hazards SEPP. Potential contamination impacts, however, are discussed in **Section 6.1**.

4.1.3 State Environmental Planning Policy (Biodiversity and Conservation) 2021

The State Environmental Planning Policy (Biodiversity and Conservation) 2021 (Biodiversity and Conservation SEPP) incorporates and repeals 11 SEPPs including the State Environmental Planning Policy (Vegetation in Non rural areas) 2017 and the State Environmental Planning Policy (Koala Habitat Protection) 2021.

Chapter 3 (Koala habitat protection 2020) and Chapter 4 (Koala habitat protection 2021) aim to encourage conservation and management of areas of natural vegetation that form koala habitats. However, these chapters only apply to developments where council is the consent authority. As such, no further assessment in accordance with Biodiversity and Conservation SEPP is required.

Section 6.3 provides further discussion in relation to ecology.

4.1.4 Local Environmental Plans

The proposal area is located in both the Dungog and Port Stephens LGAs. The relevant local planning instruments are the *Dungog Local Environmental Plan 2014* (Dungog LEP) and the *Port Stephens Local Environmental Plan 2013* (Port Stephens LEP).

Dungog Local Environmental Plan 2014 and Port Stephens Local Environmental Plan 2013

Section 5.12 of the Dungog and Port Stephens LEPs does not restrict or prohibit developments carried out by or on behalf of a public authority, that are permitted to be carried out with or without development consent, or as an exempt development, under the T&ISEPP. The proponent, Hunter Water, is both a public authority and the determining authority under Part 5, Division 5.1 of the EP&A Act for the proposal.

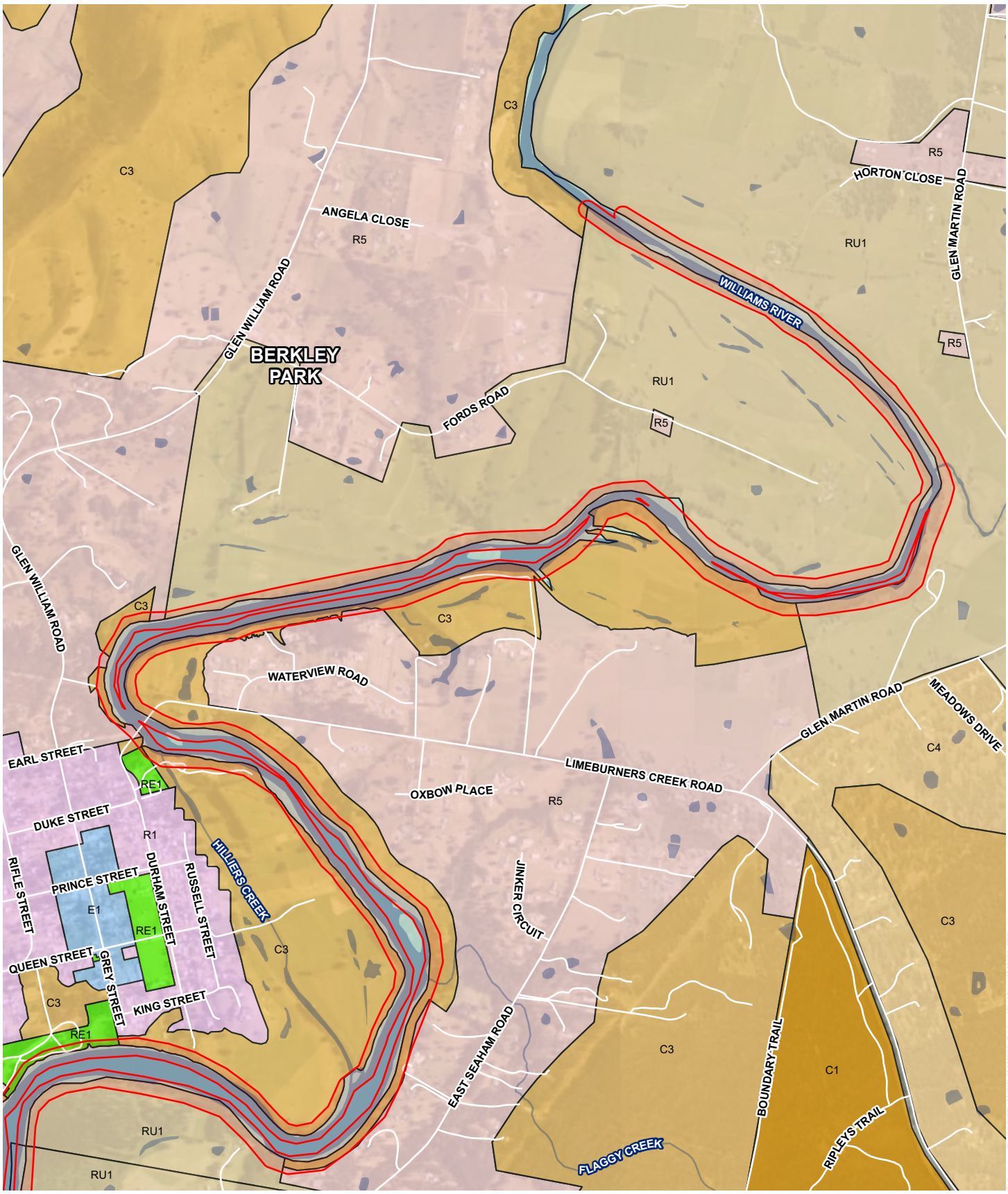
The Williams River is zoned W1 – Natural Waterways. The riverbanks within the proposal area predominantly traverse land zoned as Primary Production (RU1) or Environmental Management (C3). Smaller sections of the riverbanks within the proposal area are also zoned as Rural Landscape (RU2), Large Lot Residential (R5) and Public Recreation (RE1). The proposal area also traverses the SP1 Hunter Water zone at the Seaham Weir. The proposal is considered to be consistent with the objectives of the land zones. This is discussed further in **Table 4-1** and land zoning is shown in **Figure 4-1**.

Despite any provision of the LEP, the T&ISEPP prevails over the LEP to the extent of any inconsistencies. Therefore, the proposal is permissible without consent due to the provisions of the T&ISEPP without the need for any further consideration of the LEP.

Table 4-1 Consistency of the proposal with zone objectives

Zone objectives	Consistency
Zone W1 Natural Waterways • To protect the ecological and scenic values of natural waterways • To prevent development that would have an adverse effect on the natural values of waterways in this zone • To provide for sustainable fishing industries and recreational fishing.	The proposal is consistent with these objectives as it seeks to improve the water quality of Seaham Weir Pool and retain existing boating and recreational uses. The proposal would not be expected to have any negative adverse effect on Seaham Weir Pool.
Zone RU1 Primary Production • To encourage sustainable primary industry production by maintaining and enhancing the natural resource base. • To encourage diversity in primary industry enterprises and systems appropriate for the area • To minimise the fragmentation and alienation of resource lands. • To minimise conflict between land uses within this zone and land uses within adjoining zones • To provide for recreational and tourist activities that are compatible with the agricultural, environmental and conservation value of the land • To promote the rural amenity and scenic landscape values of the area and prevent the silhouetting of unsympathetic development on ridgelines.	The proposal is consistent with the objective to minimise conflict between land uses as the proposed stock management fencing would reduce the impact of agricultural activities contributing to erosion and sedimentation within the waterway. The proposal would not be expected to impact on the remaining objectives.
Zone C3 Environmental Management • To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values • To provide for a limited range of development that does not have an adverse effect on those values • To promote the rural amenity and scenic landscape values of the area and prevent the silhouetting of unsympathetic development on ridgelines.	The proposal is consistent with these objectives as it seeks to implement bank stabilisation works to address erosion and improve the water quality of Seaham Weir Pool.
Zone RU2 Rural Landscape • To encourage sustainable primary industry production by maintaining and enhancing the natural resource base • To maintain the rural landscape character of the land. • To provide for a range of compatible land uses, including extensive agriculture • To facilitate a variety of tourist and visitor-orientated land uses that complement and promote a stronger rural sector appropriate for the area.	The proposal is generally consistent with these objectives.
Zone R5 Large Lot Residential • To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality • To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future • To ensure that development in the area does not unreasonably increase the demand for public services or public facilities	

Zone objectives	Consistency
• To minimise conflict between land uses within this zone and land uses within adjoining zones • To isolate housing from existing intensive agriculture or future intensive agricultural areas.	
Zone RE1 Public Recreation • To enable land to be used for public open space or recreational purposes • To provide a range of recreational settings and activities and compatible land uses • To protect and enhance the natural environment for recreational purposes.	
Zone SP1 Special Activities • To provide for special land uses that are not provided for in other zones • To provide for sites with special natural characteristics that are not provided for in other zones • To facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land • To ensure the protection of water catchment areas to safeguard the quality and quantity of groundwater and surface water. • To facilitate the provision of infrastructure provided by Hunter Water Corporation.	



Proposal area

Land zoning

C1
C3
C4
E1
R1
R5
RE1
RU1
W1

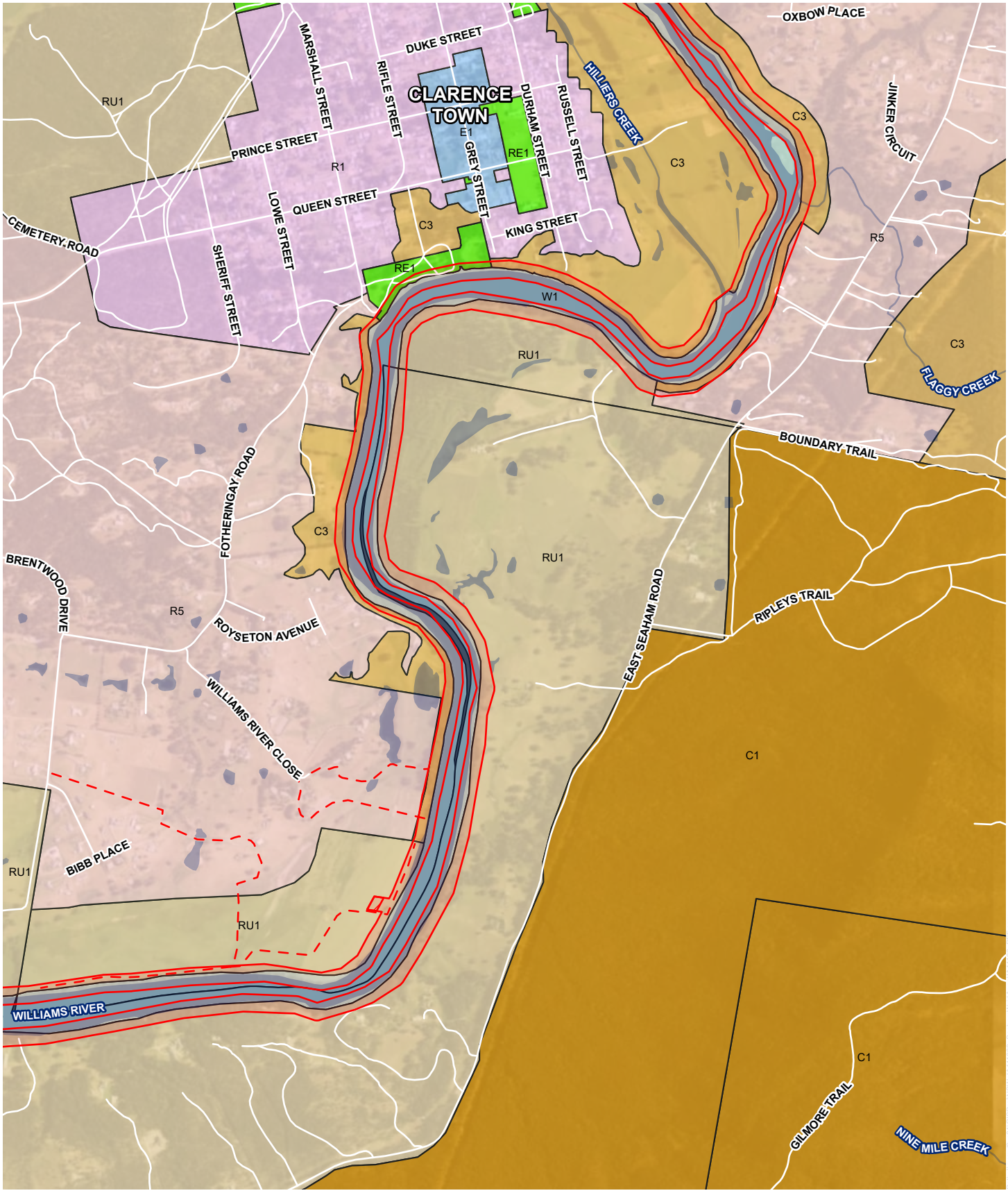
0 200 400 m

1:18,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Planning and Environment
Aerometrex 2023

Figure 4-1a Land zoning



Proposal area
Stockpile area
Stockpile haulage route

Land zoning
C1
C3
E1
R1
R5
RE1
RU1
W1

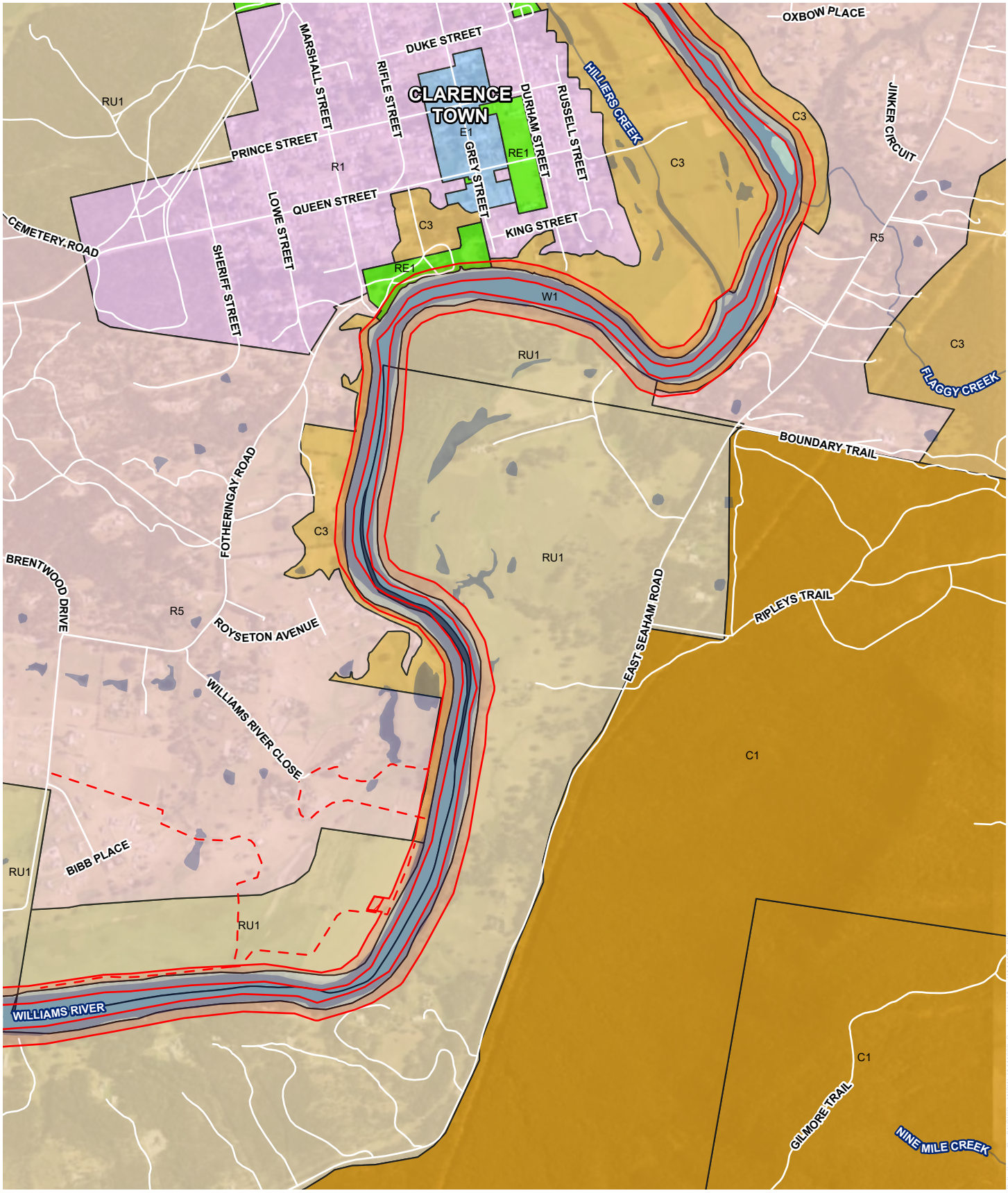
0 200 400 m

1:18,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Planning and Environment
Aerometrex 2023

Figure 4-1b Land zoning



Proposal area
Stockpile area
Stockpile haulage route

Land zoning
C1
C3
E1
R1
R5
RE1
RU1
W1

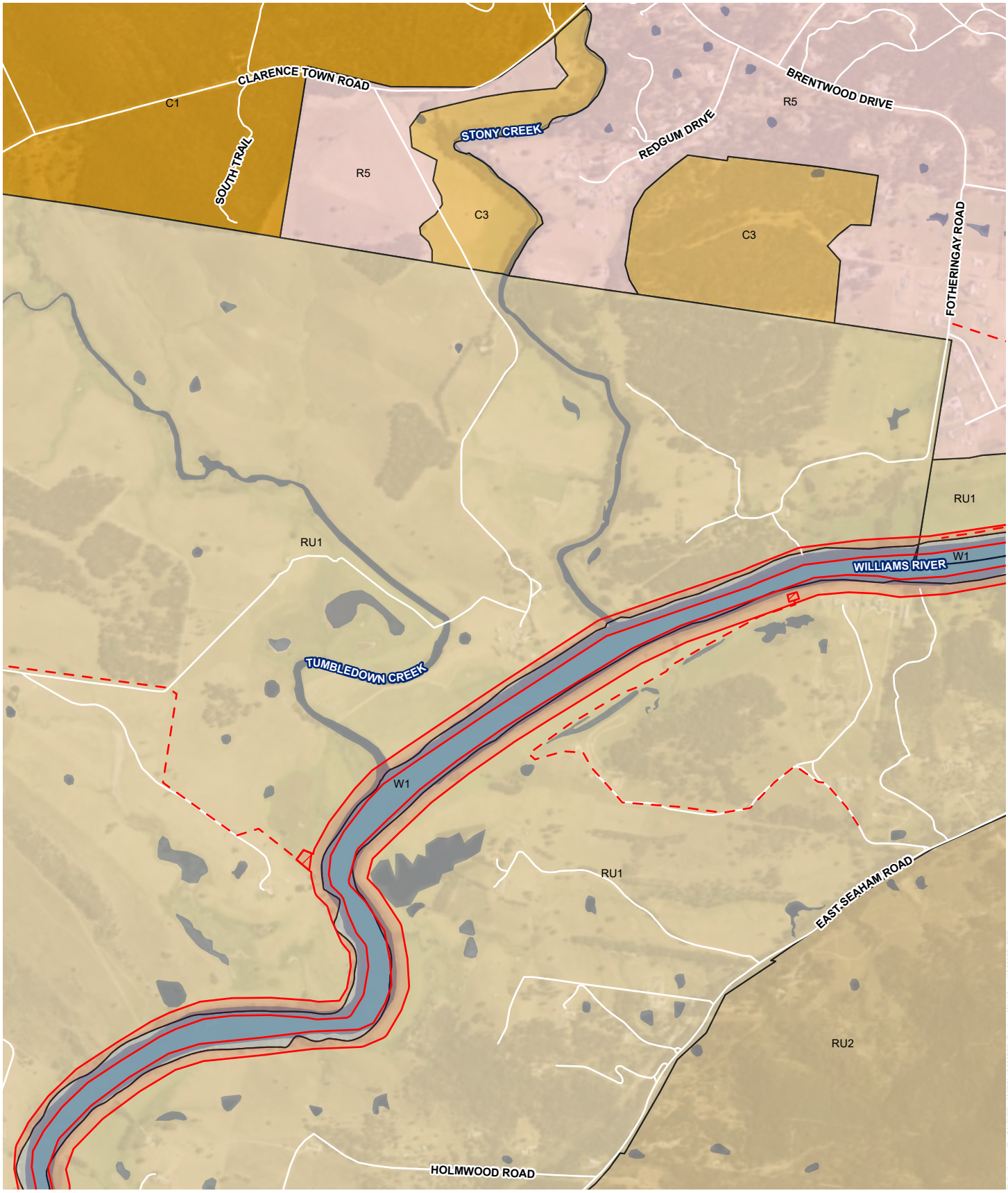
0 200 400 m

1:18,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Planning and Environment
Aerometrex 2023

Figure 4-1b Land zoning



Proposal area
Stockpile area
Stockpile haulage route

Land zoning
C1
C3
R5
RU1
RU2
W1

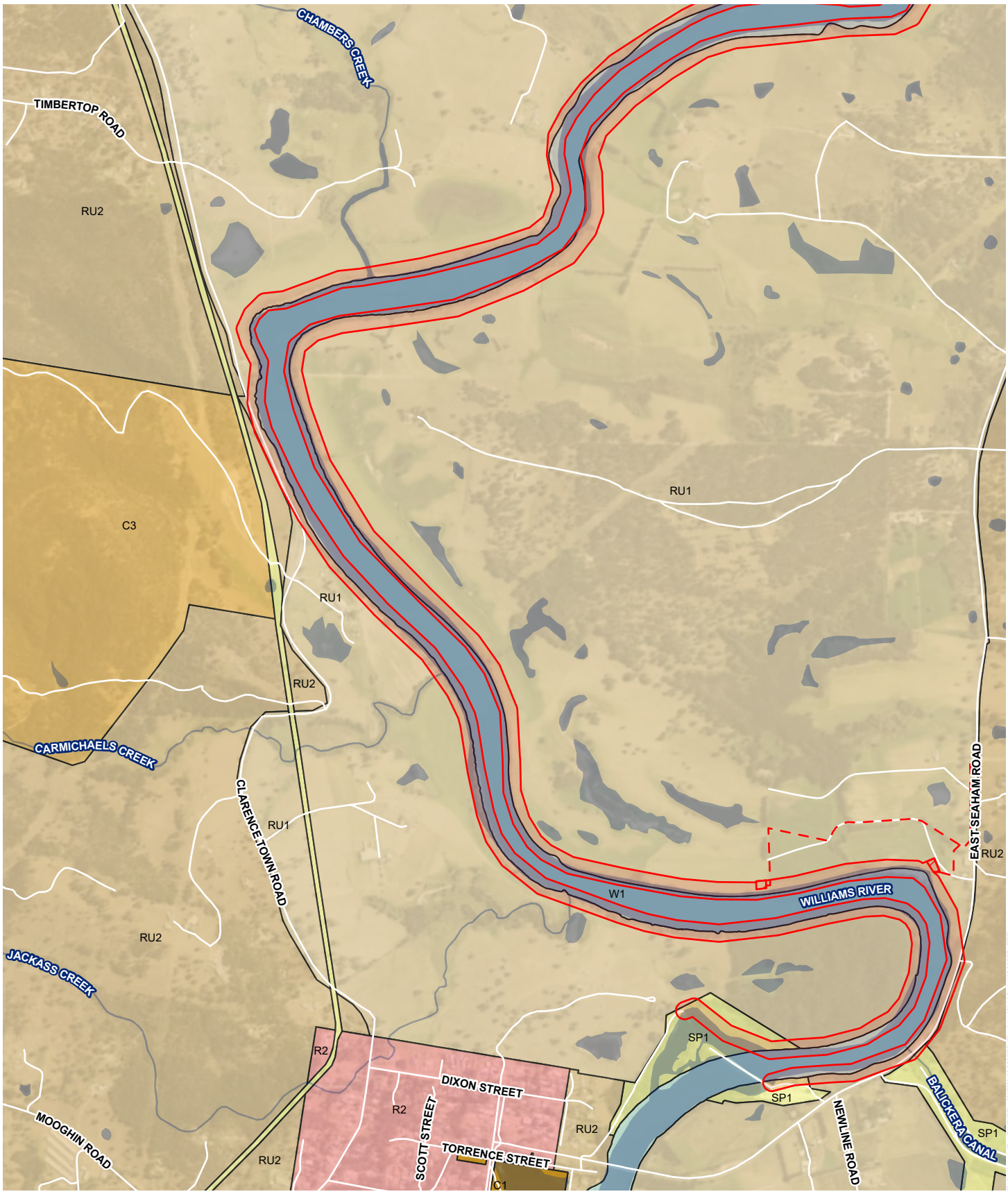
0 200 400 m

1:18,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Planning and Environment
Aerometrex 2023

Figure 4-1c Land zoning



Proposal area
Stockpile area
Stockpile haulage route

Land zoning
C1
C3
R2
RU1
RU2
SP1
W1

0 200 400 m
1:18,000 at A4
GDA2020 MGA Zone 56

Data sources

Jacobs 2023
Hunter Water Corporation 2023
Department of Customer Service 2023
Department of Planning and Environment
Aerometrex 2023

Figure 4-1d Land zoning

4.2 NSW legislation

4.2.1 Environmental Planning and Assessment Act 1979

The EP&A Act and its associated regulation, Environmental Planning and Assessment Regulation 2021 (EP&A Regulation 2021), provide the framework for assessing the environmental impacts of proposed developments in NSW.

Hunter Water is the determining authority under Division 5.1 of the EP&A Act and is required to determine whether the proposal is likely to have a significant impact on the environment.

The description of the proposal and associated environmental impacts has been prepared with consideration of section 171 of the EP&A Regulation 2021 (summarised in **Appendix A**), the BC Act, the *Fisheries Management Act* (FM Act), and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). In doing so, the REF helps to fulfil the requirements of section 5.5 of the EP&A Act that Hunter Water examine and take into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the proposal.

The findings of the REF would be considered when assessing:

- Whether the proposal is likely to have a significant impact on the environment and therefore the necessity for an EIS to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act
- The significance of any impact on threatened species as defined by the BC Act and/or FM Act, in section 1.7 of the EP&A Act and therefore the requirement for a Species Impact Statement (SIS) or a Biodiversity Development Assessment Report (BDAR).

Potential environmental impacts associated with the proposal are discussed in **Chapter 6**.

4.2.2 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) is the primary piece of legislation regulating pollution control and waste disposal in NSW and is administered by the NSW Environmental Protection Authority (EPA). It provides an integrated system of licenses to set out protection of the environment policies and to adopt more innovative approaches to reduce pollution in the environment, having regard to the need to maintain ecologically sustainable development (ESD). Measures to address potential pollution as a result of the proposal have been recommended in this REF and are included in **Section 6.1**.

Where an activity is deemed a scheduled activity, an Environmental Protection Licence (EPL) is required. The proposal is not considered a scheduled development work or scheduled activity under the POEO Act and therefore does not require an EPL under this Act. However, under section 148 of the POEO Act, the EPA must be notified of any pollution incidents that cause or threaten material harm to the environment.

4.2.3 Contaminated Land Management Act 1997

Contaminated land is regulated in NSW by the *Contaminated Land Management Act 1997* and Contaminated Land Management Regulation 2013. Upon excavation, contaminated soils that are removed from a site as spoil may be classified as waste, the regulation and management of which is governed by the POEO Act and EPA Waste Classification Guidelines.

The proposal is not located within the vicinity of any registered contaminated sites. Contaminated land is discussed further in **Section 6.1**.

4.2.4 Biodiversity Conservation Act 2016

The BC Act lists out the legislative requirements needed to maintain a healthy, productive and resilient environment in NSW, consistent with the principle of ecologically sustainable development (ESD). If any of the listed threatened species or ecological communities under the BC Act would be significantly impacted by the proposal, the proponent may either apply the Biodiversity Offset Scheme or prepare a SIS.

The study area is not within any Areas of Outstanding Biodiversity Value. The proposal area is partially within mapped areas on the Biodiversity Values Map (DPE, 2022c). Some vegetation clearing would occur within these areas. The proposal would not result in a 'significant impact' on threatened entities and therefore the Biodiversity Offset Scheme is not triggered. As such, a Species Impact Statement (SIS) or a Biodiversity Development Assessment Report (BDAR) is not required.

Section 6.3 provides further discussion in relation to ecology.

4.2.5 Heritage Act 1977

The *Heritage Act 1977* (Heritage Act) aims to protect and conserve non-Aboriginal cultural heritage, including scheduled heritage items, sites and relics.

The Heritage Act makes provision for a place, building, work, relic, moveable object, precinct, or land to be listed on the State Heritage Register. If an item is the subject of an interim listing, or is listed on the State Heritage Register, a person must obtain approval under section 58 of the Heritage Act for works or activities that may impact on these items.

The proposal is not anticipated to have an impact on non-Aboriginal heritage items as discussed in **Section 6.7**.

4.2.6 National Parks and Wildlife Act 1974

The NPW Act governs the establishment, preservation and management of national parks, historic sites and certain other areas, and Aboriginal relics. Items of Aboriginal cultural heritage (Aboriginal objects) or Aboriginal places (declared under section 84) are protected and regulated under the NPW Act. Aboriginal objects are protected under section 86 of the Act. Under section 90(1) of the NPW Act, the Chief Executive may issue an Aboriginal heritage impact permit (AHIP) for an activity which would harm an Aboriginal object.

An assessment of the potential impacts on Aboriginal cultural heritage is provided in **Appendix D** and summarised in **Section 6.6**.

Revegetation and stabilisation works would occur in areas considered disturbed by the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Department of Environment, Climate Change & Water [DECCW] 2010; hereafter the Due Diligence Code). The one Aboriginal site located within the proposal area would not be impacted by the proposal. As such, it is considered that there is a low likelihood that the proposal would result in harm to Aboriginal objects, and therefore does not trigger the requirement for an AHIP.

4.2.7 Rural Fires Act 1997

Under section 63 of the *Rural Fires Act 1997*, public authorities must take all practicable steps to prevent the occurrence and spread of bush fires on or from land vested in or under its control or

management. The proposal is located within bushfire prone land. Bushfire risk is discussed in **Section 6.3**.

4.2.8 Biosecurity Act 2015

The *Biosecurity Act 2015* (Biosecurity Act) covers all biosecurity risks, including pest animals, plant diseases and noxious weeds. The Act provides the regulatory controls and powers to manage noxious weeds in NSW and introduces the legally enforceable concept of a General Biosecurity Duty. This means that a person dealing with plant matter must take measures to prevent, minimise or eliminate the biosecurity risk (as far as reasonably practicable).

The proposal area is located within the Hunter Local Land Services (LLS) region of NSW. The *Draft Hunter Regional Strategic Weed Management Plan (2023-2027)* (Hunter LLS, 2022) provides the framework for weed management within the Hunter region.

Under Part 3 of the Biosecurity Act, all landholders or land managers have a 'General Biosecurity Duty' to prevent, eliminate or minimise the biosecurity risk posed or likely to be posed by Priority Weeds and are required to follow the regional and non-regional duties allocated to each Priority Weed.

4.2.9 Water Management Act 2000

The *Water Management Act 2000* (WM Act) provides that certain types of development and activities that have the potential to impact on a water resource are controlled activities which require approval from the Department of Planning and Environment – Water (DPE-Water).

The proposal falls into the definition of controlled activity as defined by the WM Act as it involves removal of vegetation from land and the deposition of material on land. Most of the proposal is also located on waterfront land as defined by the WM Act.

Hunter Water, as a public authority, is exempt from a Section 91E(1) controlled activity approval under Section 41 of the *Water Management (General) Regulation 2018*. Management of potential impacts to water quality are discussed further in **Section 6.2**.

Dewatering and groundwater extraction is not anticipated to be required for the proposal.

4.2.10 Waste Avoidance and Resource Recovery Act 2011

The *Waste Avoidance and Resource Recovery Act 2011* (WARR Act) aims to encourage the efficient use of resources and minimisation of waste generation through the minimisation of resources use, promotion of resource recovery and avoidance of disposal of wastes.

As detailed in **Section 6.11**, the proposal would be constructed and operated in accordance with the principles of the waste hierarchy in order to promote the objectives of the WARR Act.

4.2.11 Roads Act 1993

Under Section 138 of the *Roads Act 1993*, the consent of the road authority is required for work on a public road. The proposal area traverses East Seaham Road and Clarence Town Road, however bank stabilisation works are not located within a road corridor and are not anticipated to involve the closure of any public roads. Therefore, no approvals would be required under the Roads Act.

4.2.12 Fisheries Management Act 1994

The FM Act includes provisions to list threatened species of fish and marine vegetation, including endangered populations, ecological communities and key threatening processes. If the proposal is likely to significantly impact on the threatened species, populations or ecological communities, then a SIS is required.

Seaham Weir Pool and surrounding waterways are identified as Key Fish Habitat (KFH) as defined by the FM Act. Based on consultation with DPI – Fisheries, a permit to obstruct fish passage under Part 7 of the FM Act is not considered to be required as the proposal would not obstruct fish passage or alter flows.

The following activities as part of the proposal would be considered dredging or reclamation on water land as defined by Section 198A of the FM Act:

- Placing and securing rock and/or timber fillets within the river would be considered reclamation on water land
- Riverbank reprofiling at three sites to reduce bank slope would be considered dredging
- Installing off-river stock watering points at four sites, which involves trenching to install a pipe from the riverbank to the watering point, would be considered dredging.

Under Section 199(1) of the FM Act, Hunter Water must, before it carries out or authorises the carrying out of dredging work or reclamation work:

- Give the Minister written notice of the proposed work, and
- Consider any matters concerning the proposed work that are raised by the Minister within 21 days after the giving of the notice (or such other period as is agreed between the Minister and the public authority).

Further discussion relating to water quality and KFH is provided in **Section 6.2** and **Section 6.3** respectively.

4.2.13 Hunter Water Act 1991

The *Hunter Water Act 1991* (HW Act) establishes the legal framework for the operation of Hunter Water and the requirement for licences for Hunter Water operations. The HW Act also allows for the opening of roads and certain powers of entry as a state-owned corporation in order to operate, maintain and upgrade relevant assets and associated infrastructure.

Seaham Weir Pool is part of the gazetted Williams River Catchment Special Area and is subject to the Hunter Water Regulation 2015 under the Hunter Water Act 1991. Hunter Water has jurisdiction in the boating exclusion zone of Williams River immediately upstream of the weir structure.

4.2.14 Crown Land Management Act 2016

The *Crown Land Management Act 2016* (CLM Act) aims to provide for the ownership, use and management of the Crown Land of New South Wales. A licence is an authority granted by Crown Lands giving permission to occupy and use Crown land for a specified purpose. A licence does not provide exclusive use or possession of the land.

The Williams River and several sections of the riverbank are mapped as Crown land. Most works associated with the proposal are proposed on Crown land. A General Licence is currently being sought from Crown Lands for the bank stabilisation works proposed on Crown Land. Category 1 – 3

vegetation works would be carried out under the existing Hunter Water Notice of Entry and would not require a General Licence.

Crown land is discussed further in **Section 6.10** and consultation with NSW Crown Lands is discussed in **Chapter 5**.

4.3 Commonwealth legislation

4.3.1 Environmental Protection and Biodiversity Conservation Act 1999

Under the EPBC Act, a referral is required to the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) for proposed actions that have the potential to significantly impact on matters of national environmental significance (MNES) or the environment of Commonwealth land. The EPBC Act lists the MNES that are to be considered when determining whether an activity is a controlled action which requires referral to the Commonwealth Minister for the Environment.

The likelihood of an impact from the proposal on any MNES matters, as listed under the EPBC Act, is discussed in **Section 6.3** and **Appendix C**. The proposal would not have a significant impact on MNES or the environment of Commonwealth land. Accordingly, the proposal has not been referred to DCCEEW.

4.3.2 Native Title Act 1993

The *Native Title Act 1993* provides a framework for the determination of native title claims within Australia, and for negotiations and decision making regarding the use and management of native title lands and waters. Exclusive rights to land are only available on certain unallocated or vacant Crown lands. The proposal would not affect land subject to a native title.

4.4 Licenses and approvals

Hunter Water is required to determine the proposal under Division 5.1 of the EP&A Act. A review of relevant legislation has been undertaken in preparation of this REF.

The following licences and notifications would be required for the proposal:

- General Licence under the CLM Act for bank stabilisation works on Crown Land
- Notification under Section 199(1) of the FM Act for proposed reclamation works.

5 Stakeholder and community consultation

5.1 Government agency and other stakeholder consultation

5.1.1 T&ISEPP consultation

Part 2.2, Division 1 of the T&ISEPP prescribes consultation to be undertaken by a public authority prior to the commencement of certain activities. A review of the T&ISEPP consultation requirements for the proposal is provided in **Table 5-1**. Where consultation has been undertaken, the details of this have been provided in **Section 5.1.2**.

Table 5-1 T&ISEPP consultation requirements

Section	Is consultation with Council required under sections 2.10-2.12 and 2.14 of T&ISEPP?	Yes/No
2.10(1)(a)	Is the proposal likely to have a substantial impact on stormwater management services which are provided by council?	No
2.10(1)(b)	Is the proposal likely to generate traffic to an extent that will strain the capacity of the existing road system in a LGA?	No
2.10(1)I	Will the proposal involve connection to a council owned sewerage system?	No
2.10(1)(d)	Will the proposal involve connection to a council owned water supply system?	No
2.10(1)(e)	Will the proposal involve the installation of a temporary structure on, or the enclosing of, a public place which is under local council management or control? If so, will this cause more than a minor or inconsequential disruption to pedestrian or vehicular flow?	No
2.10(1)(f)	Will the proposal involve more than minor or inconsequential excavation of a road or adjacent footpath for which council is the roads authority and responsible for maintenance?	No
2.11	Is the proposal likely to have a more than minor or inconsequential impact on a local heritage item (that is not also a State heritage item) or a heritage conservation area?	Yes – the proposal traverses local heritage items. Consultation with Dungog Shire Council is required
2.12	Is the proposal located on flood liable land? If so, will the works change flood patterns to more than a minor extent?	No – the proposal traverses flood liable land, however the proposal is not anticipated to alter flood patterns to more than a minor extent
2.14	Is the proposal within the coastal vulnerability area and is inconsistent with a certified coastal management program applying to that land? Note: See interactive map here: https://www.planning.nsw.gov.au/policy-and-legislation/coastal-management. Note the coastal vulnerability area has not yet been mapped. A certified coastal zone management plan is taken to be a certified coastal management program.	No
Section	**Is consultation with a public authority other than Council required under sections 2.13, 2.15 and 2.16 of T&ISEPP?**	**Yes/No**

Section	Is consultation with Council required under sections 2.10-2.12 and 2.14 of T&ISEPP?	Yes/No
2.13(2)	Is the proposal located on flood liable land and permissible without development consent under the following provision of Part 2.3 of the T&ISEPP?: (a) Division 1 (Air transport facilities) (b) Division 2 (Correctional centres and correctional complexes) (c) Division 6 (Emergency services facilities and bush fire hazard reduction) (d) Division 10 (Health services facilities) (e) Division 14 (Public administration buildings and buildings of the Crown) (f) Division 15 (Railways) (g) Division 16 (Research and monitoring stations) (h) Division 17 (Roads and traffic) (i) Division 20 (Stormwater management systems).	No – the proposal traverses flood liable land but the activity does not fall under Part 2.3 of the T&ISEPP
2.15(2)(a)	Is the proposal adjacent to a national park or nature reserve, or other area reserved under the *National Parks and Wildlife Act 1974*, or on land acquired under that Act?	No
2.15(2)(b)	Is the proposal on land in Zone C1 National Parks and Nature Reserves or in a land use zone equivalent to that zone?	No
2.15(2)(c)	Does the proposal consist of a fixed or floating structure in or over navigable waters?	Yes – Fixed structures include rock and/or timber fillets. No floating structures are proposed. Consultation with TfNSW is required
2.15(2)(d)	Will the proposal increase the amount of artificial light in the night sky and that is on land within the dark sky region map?	No
2.15(2)(e)	Will the proposal be located on defence communications facility buffer land within the meaning of clause 5.15 of the Standard Instrument?	No
2.15(2)(f)	Is the proposal on land in a mine subsidence district within the meaning of the Coal *Mine Subsidence Compensation Act 2017*?	No
2.16	Is the proposal located on bush fire prone land and for the purpose of health services facilities, correctional centres, or residential accommodation?	No – the proposal traverses bush fire prone land but not for the applicable purposes.

5.1.2 Agency consultation

Inter Agency Working Group

The Williams River Erosion Management Inter Agency Working Group (the Group) was established to support the development of the EMP and oversee its implementation. The Group comprises the following agencies:

- Hunter Water
- Transport for NSW
- Hunter Local Land Services

- Port Stephens Council
- Dungog Shire Council.

The Group's primary activities include:

- Meeting regularly to coordinate and monitor implementation of actions within the EMP
- Discussing and resolving EMP implementation issues and opportunities that emerge
- Sharing information with the community and key stakeholders about how the actions within the EMP are progressing
- Listening to community and stakeholder feedback during the EMPs implementation and addressing concerns or issues where feasible.

Within the Group, consultation is required with Dungog Shire Council as the proposal traverses the archaeological site 'Marshall and Lowe "Deptford" shipyard" (I150) under the Dungog LEP. Consultation would also be undertaken with Transport for NSW as the proposal involves a fixed structure in navigable waters. Hunter Water issued letters to Dungog Shire Council and Transport for NSW on 15 September 2023 regarding the proposal (refer to **Appendix F**). A response had not been received from Dungog Shire Council at the time of writing.

Transport for NSW responded on 6 October 2023 with no objection to the proposal, providing the following comments:

- Barge movements should be managed where practicable to minimise impacts on recreational vessels and public use facilities
- Project advisory signage should be placed at local public boat ramp facilities
- In any case where the scope of works would likely restrict navigation or potentially increase the risk to vessel safety, notification must be made to Transport for NSW – Maritime at least 28 days prior to the activity commencing.

The REF is considered to be consistent with these requirements.

Department of Primary Industries – Fisheries

As discussed in **Section 4.2.12**, the proposal involves reclamation works within water land. Under Section 199(1) of the FM Act, Hunter Water must, before it carries out or authorises the carrying out of dredging work or reclamation work within water land, give the Minister written notice of the proposed work. Any matters raised by the Minister within 21 days of the notice would be considered.

Hunter Water issued a letter outlining the proposal to DPI – Fisheries on 15 September 2023 (refer to **Appendix F**).

DPI – Fisheries responded on 4 October 2023 with general comments highlighting that the REF should consider impacts to key fish habitat listed in Section 3.3 of the *Policy and Guidelines for Fish Habitat Conservation and Management* (DPI – Fisheries, 2013). The REF is considered generally consistent with the requirements in Section 3.3 of the policy and the policy was also considered during preparation of the REF mitigation measures. DPI – Fisheries also requested that the REF and CEMP be submitted for comment 21 days prior to works commencing.

NSW Crown Land

The Williams River and sections of the riverbank within the proposal area is mapped as Crown waterways. As discussed in **Section 4.2.14**, Hunter Water will continue to consult with Crown Land

regarding a General Licence for stabilisation works on Crown Land prior to commencement of works. This licence would cover bank stabilisation activities proposed to occur on Crown land. It is understood that Category 2 and 3 works would be undertaken with a notice of entry and would not require a General Licence.

5.2 Community consultation

There are about 130 landholders adjacent to Seaham Weir Pool that are located within the proposal area. Of those landholders, about 65 landholders have stabilisation works proposed along the riverbanks of their properties. To date, Hunter Water has consulted with all affected landholders. The consultation involved:

- Developing consultation plans
- One-on-one site meetings with landholders on whose land stabilisation works are proposed (limited to landholders where Hunter Water has contact details)
- Capturing all correspondence in Consultation Manager

Further consultation including obtaining formal property access would occur with each landholder prior to construction.

The construction methodology has been designed to avoid impacting the wake boarding and water skiing zones during peak season. Therefore, stabilisation works within these areas would occur between May and October although the timing of stabilisation works may be refined depending on the needs and limitations of each area. It is understood that Transport for NSW would be responsible for notifying the recreational water users.

During construction, consultation would occur with the community as part of the Construction Community Liaison Plan (CCLP) and in accordance with Hunter Water procedures for notifying out of hours works (OOHW) and road closures or traffic management. The CCLP would likely include:

- A letter notifying adjoining landholders and neighbours at the start of works
- A letter notifying adjoining landholders, directly/indirectly impacted neighbours about change of work, night works, project delays
- Door knocking, meetings, phone calls, emails for directly impacted neighbours as required.

Section 171(4) of the EP&A Regulation 2021 requires that an REF must be published on the determining authority's website or the NSW Planning Portal if:

- The project has a capital investment value of $5 million
- The project requires an approval or permit under:
  - Sections 144, 201, 205 or 219 of the FM Act
  - Section 57 of the Heritage Act
  - Section 90 of the NPW Act
  - Sections 47-49 of the POEO Act
  - It is in the public interest to publish the REF.

This REF would be published on the Hunter Water website as the proposal would exceed the capital investment value of $5 million.