

Bullatale inlet regulator replacement

Addendum Review of Environmental Factors

July 2024





Acknowledgement of Country

The Department of Climate Change, Energy, the Environment and Water acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and we show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

Published by NSW Department of Climate Change, Energy, the Environment and Water dcceew.nsw.gov.au

Bullatale inlet regulator replacement – Addendum Review of Environmental Factors

First published: March 2025

Department reference number: DOC24/231430

More information

Prepared by 3Rivers on behalf of the NSW Department of Climate Change, Energy, the Environment, and Water

Copyright and disclaimer

© State of New South Wales through the Department of Climate Change, Energy, the Environment and Water 2024. Information contained in this publication is based on knowledge and understanding at the time of writing, July 2024, and is subject to change. For more information, please visit dcceew.nsw.gov.au/copyright

Document status – Bullatale inlet regulator replacement Addendum Review of Environmental Factors

Revision	Date	Prepared by	Reviewed by
1	17/05/2024	T. Sinclair, E.Cocks	M. Luger
2	30/05/2024	T. Sinclair, E.Cocks	M. Luger
3	20/06/2024	E. Cocks	T. Sinclair, M. Luger

This addendum review of environmental factors has been prepared based on a template developed by the New South Wales Department of Climate Change, Energy, the Environment and Water and the National Parks and Wildlife Service specifically for use in assessing the potential environmental impacts of works proposed as part of the Murray and Murrumbidgee Valley National Parks Sustainable Diversion Limit Adjustment Supply Measure Project. It combines key elements of the review of environmental factors templates of each respective organisation.

Declaration

This addendum Review of Environmental Factors (REF) has been prepared by 3Rivers, a joint venture between Jacobs Group (Australia) and GHD on behalf of NSW DCCEE. The Addendum REF has been prepared to assess the environmental impacts to satisfy the requirements of Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and considers the factors listed in clause 171 of the Environmental Planning & Assessment Regulation 2021 (EP&A Regulation).

The Addendum REF provides a true and fair assessment of the proposed modification for the Bullatale inlet regulator replacement Project in relation to its likely effects on the environment. It examines and takes into account to the fullest extent possible all matters affecting or likely to affect the environment as a result of the Project.

Based on the information provided in the Addendum REF, it is concluded that:

1. the proposed modification is not likely to have a significant impact on the environment, and further Environmental Impact Assessment is not required.
2. the proposed modification 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 or impact biodiversity values. A Species Impact Statement (SIS) is not required.
3. the proposed modification is not likely to significantly affect any Matters of National Environmental Significance, nor is the activity being carried out on or is it likely to impact Commonwealth land.

Based on the information presented in this Addendum REF, it is concluded that by adopting the Safeguards identified in this assessment, it is unlikely that the proposed modification would have significant adverse environmental impacts. Subject to the adoption of the measures to avoid, minimise or manage environmental impacts listed in this Addendum REF, the proposed modification is recommended for approval.

Author and qualifications	Thomas Sinclair (BSc, MSc) Elizabeth Cocks (LLB, BA)
Designation	Senior Environmental Planner – 3Rivers Environmental Planner - 3Rivers
Reviewer and qualifications	Julian Ardas (BSc, MURP)
Designation	Planning and Environment Manager
Organisation	NSW DCCEEW
Signature	
Date	15/07/2024

Certification

I, Julian Ardas, certify that I have reviewed this Addendum REF as a representative of the NSW Department of Climate Change, Energy, the Environment and Water and agree that, to the best of my knowledge, it accords with the EP&A Act, the EP&A Regulation and the Guidelines for Division 5.1 assessments (Department of Planning and Environment, 2022) made under clause 170 of the EP&A Regulation.

Signature:

Date:

National Parks and Wildlife Service

I, Tim O’Kelly, certify that I have reviewed this Addendum REF as a representative of the National Parks and Wildlife Service, and agree that, to the best of my knowledge, it accords with the EP&A Act, the EP&A Regulation and the Guidelines for Division 5.1 assessments (Department of Planning and Environment, 2022) made under clause 170 of the EP&A Regulation.

Signature:

Date:

Executive Summary

NSW DCCEEW proposes to replace the existing Bullatale inlet regulator located adjacent to the Murray River and surrounded by Murray Valley National Park in south-western NSW. It is proposed to remove the existing inlet regulator and install a replacement inlet regulator that includes a fishway, replace the existing pipes between the regulator and Bullatale supply channel with an open channel, and desilt the inlet channel between the Murray River and the upstream side of the replacement inlet regulator (the Project).

This Addendum Review of Environmental Factors details a proposed modification to the existing REF construction footprint to better accommodate temporary works and laydown during construction along with minor changes to the proposed design of the regulator and fishway. The proposed modification is consistent with existing objectives of the Project including smarter use of environmental water by modernising the existing ageing structure, and constructing a replacement regulator that is safer and more efficient to operate.

This modification would result in negligible changes to the proposed operation of replacement inlet regulator and fishway, with the structure to be owned, operated and maintained by Bullatale Creek Water Trust.

Key details of the proposed modification are provided in Table E- 1. A comprehensive description of the Project is provided in Chapter 2.

Table E- 1 Key details of the proposed modification

Description of proposed activity	The proposed modification would extend the existing REF construction footprint further into the Millewa Forest, in particular the area proposed for temporary works and laydown. This extension would enable safe access for construction vehicles and provide adequate space for general construction activities relating to the removal and replacement of the existing Bullatale inlet regulator. The proposed modification also includes updates to the proposed design of the regulator and fishway to improve fish passage and flow control.
Name of NPWS park or reserve	The Bullatale inlet regulator is partially located on a lot that is vested in the Minister for the Environment under Part 11 of the National Parks and Wildlife Act 1979 and Murray Valley National Park.
Location of activity (e.g., precinct name or nearby street)	The proposed modification would extend the existing REF construction footprint, which is located where Millewa River Road crosses Bullatale supply channel (also known as Lower Toupna Creek). The proposed modification would extend the footprint further into the Millewa Forest to the west and east of the Bullatale supply channel.

Street address (if available)	Not applicable.
Estimated commencement date	Early 2025, but subject to consultation with Bullatale Creek Water Trust and NPWS.
Estimated completion date	10 to 12 weeks after construction commences.

Contents

Certification.....	6
Executive Summary	7
1 Introduction.....	1
1.1 Project overview	1
1.2 Purpose of this document	5
2 Project need and justification	5
2.1 Project modification objectives.....	5
2.2 Existing infrastructure.....	6
2.3 Options and alternatives considered.....	8
2.4 Preferred option	9
3 Proposed modification.....	10
3.1 Proposed works	10
3.2 Construction methodology	13
3.3 Land access and acquisition	14
3.4 Operation	14
3.5 Capital investment value	15
4 Statutory context.....	15
4.1 Permissibility.....	15
4.2 Other NSW legislation	23
4.3 Commonwealth legislation	24
4.4 Summary of licences and approvals.....	25
5 Consultation.....	28
5.1 Community and stakeholder consultation.....	28
5.2 Transport and Infrastructure SEPP consultation.....	28
6 Environmental assessment	31
6.1 Terrestrial biodiversity	31
6.2 Aboriginal heritage	36
6.3 Other impacts	37
7 Environmental management	48
7.1 Construction environmental management.....	48
7.2 Operational environmental management	48
7.3 Summary of safeguards.....	48
8 Conclusion	69
8.1 Justification.....	69
8.2 Ecological sustainable development	69
8.3 Conclusion.....	71
9 References	72

10	Terms and abbreviations	74
	Appendix A Clause 171 Environmental Factors Checklist	76
	Appendix B Agency consultation	79
	Appendix C Bullatale inlet regulator replacement Existing REF and associated approval documents	80
	Appendix D Revised Biodiversity Assessment Report	81
	Appendix E Revised Aboriginal Cultural Heritage Assessment Report	82

List of Figures

Figure 1-1 Project location	3
Figure 2-1 Bullatale inlet channel, looking upstream from the existing inlet regulator towards the Murray River. The top of the inlet regulator is just visible above the waterline at the bottom of the photograph.....	7
Figure 2-2 Bullatale inlet channel, looking downstream across the existing inlet regulator and constructed embankment	8
Figure 3-1 Proposed modification - Bullatale Inlet Regulator construction footprint	11
Figure 3-2 Section view of Bullatale Supply Channel Inlet Regulator	12
Figure 6-1 Bullatale Supply Channel - Plant community types and ecological values	33

List of Tables

Table E- 1 Key details of the proposed modification.....	7
Table 4-1 Consistency of the proposed activity with the objects of the NPW Act	16
Table 4-2 Consistency of the proposed activity with the management principles for national parks in Section 30E of the NPW Act	19
Table 4-3 Other NSW legislation applicable to the proposed modification	23
Table 4-4 Commonwealth legislation relevant to the proposed modification.....	25
Table 4-5 summary of licences and approvals	26
Table 5-1 Transport and Infrastructure SEPP consultation	28
Table 6-1 PCT extent within the addendum construction footprint	34
Table 6-2 Weed species recorded in the revised study area	35
Table 6-3 Additional environmental safeguards for terrestrial ecology	35
Table 6-4 Assessment of other environmental impacts.....	38
Table 7-1 Consolidated list of safeguards.....	50
Table A- 1 Clause 171(2) factors.....	76

1 Introduction

1.1 Project overview

1.1.1 The proposed modification

The NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) proposes to replace the Bullatale inlet regulator (the ‘proposed activity’) located in Millewa Forest on the Murray River in central southern New South Wales.

The proposed activity is to be delivered as part of the broader Millewa Forest Supply Project, as one of several proposed water-savings projects being delivered under the Sustainable Diversion Limit Adjustment Mechanism (SDLAM) Program. The SDLAM Program is delivered through the *Murray-Darling Basin Plan 2012* and aims to achieve similar or improved environmental outcomes for rivers, wetlands and wildlife using less water as part of the *Murray-Darling Basin Plan 2012* by improving the supply, efficiency and delivery of water across the river system.

The flow regime through Millewa Forest has been heavily modified by the installation of an extensive network of waterway infrastructure including banks and regulators constructed from the 1930-1990s, largely designed to optimise floodplain forestry. This infrastructure, including the Bullatale inlet regulator, is outdated and in poor condition. As a result, it fails to meet contemporary safety standards, limits fish movement, and restricts the delivery of environmental flows into the forest.

3Rivers on behalf of NSW DCCEEW previously prepared a Review of Environmental Factors (REF) to assess the potential environmental impacts of the Project, which was approved by NSW DCCEEW as the determining authority in April 2024.

NSW DCCEEW now proposes to modify the Bullatale inlet regulator works (the Project) to extend the work area for the Project beyond the area assessed and approved for construction in the existing REF (the proposed modification). The modification is required as following approval of the existing REF, refinements to the proposed construction methodology have identified the need for additional ground disturbance and temporary works areas, to that described in the previously approved Bullatale inlet regulator replacement REF. The modification also includes minor design changes to the fishway, box culvert and regulator arrangements. These changes have occurred during the progression of the detailed design and are required to optimise the operational functionality of the proposed structure. See Section 1.1.1 of the existing REF for a detailed overview of the Project.

This addendum describes the changes to the Project, documents the likely impacts on the environment, and details measures to mitigate impacts that cannot be avoided.

1.1.2 Land tenure and project location

The replacement inlet regulator is proposed in the same location as the existing inlet regulator. The existing regulator is located in south-western NSW on the northern side of the Murray River. It is surrounded by Murray Valley National Park. As detailed in Section 2.1 of the existing REF, the Bullatale inlet regulator is located where Millewa River Road crosses the Bullatale supply channel (see Figure 1-1), about 140 metres north of the Murray River. Bullatale supply channel extends from the Murray River and flows in a generally northerly direction into private land north of the park and eventually to Bullatale Creek.

The site can only be accessed via the Murray Valley National Park. Section 2.1 of the existing REF identifies the possible access routes.

The Bullatale inlet regulator and supply channel do not form part of the Murray Valley National Park. They are located on Lot [redacted] DP [redacted], which is vested in the NSW Minister for Environment and Heritage under Part 11 of the *National Parks and Wildlife Act 1974* (NPW). The Lot is owned by the NSW National Parks and Wildlife Service (NPWS), but the Bullatale inlet regulator is owned, operated and maintained by Bullatale Creek Water Trust ('the Trust'). The Trust is a private water trust that is subject to Part 4 of the *Water Management Act 2000*. Section 1.1.2 of the existing REF provides further detail on the operation of the Trust.



Figure 1-1 Project location

1.1.3 Background information

The existing REF was prepared by 3Rivers on behalf NSW DCCEEW and approved in April 2024. The existing REF is provided in Appendix C. Following approval of the existing REF, it was identified that the construction footprint approved in the existing REF was not sufficient to allow construction of the Project to be carried out. Additional assessment and environmental approvals are therefore required to extend the proposed work area before construction can commence. Due to this refinement of the proposed construction footprint, addendum biodiversity and Aboriginal cultural heritage assessments have been undertaken which consider the extended proposed work area, and its impact to vegetation clearance and Aboriginal cultural heritage.

The existing REF provides the following description of the approved works:

“The proposed activity would involve removing the existing inlet regulator and installing a replacement inlet regulator that includes a fishway and desilting the inlet channel between the Murray River and the upstream end of the replacement inlet regulator. The replacement inlet regulator would comprise three...1.8-metre high box culvert structures [with a total structure width of 7.2 metres]...The structure would be built on the existing alignment of Millewa River Road to minimise impacts to vegetation.”

The proposed modification would result in minor amendments to the above description of the approved works. The proposed box culvert structures would now be 2.4-metre high with a total structure width of 8.4-metres. The invert level has also been lowered slightly from “99 m AHD” in the existing REF, to 98.8 m AHD to allow for improved fish passage along with several other minor design changes as detailed in Section 3.1.

The existing REF further notes that:

“A temporary construction phase laydown area with dimensions of about 16-metres by 35-metres is proposed in the cleared area above the buried pipelines.”

The proposed modification would extend this temporary construction phase laydown area and the overall construction footprint by an additional 15-metres by 25-metres to allow for safer and easier construction. This will mean the total addendum construction footprint is about 260 metres by 95 metres.

Approval of the works described in the existing REF was subject to a number of associated conditions and approvals placed on the Project across various documents. The proposed modification should be considered in reference to these associated approval documents, as provided in Appendix C:

- Review of Environmental Factors Determination Report – Bullatale inlet regulator replacement
- NPWS Conditions of Determination - Bullatale inlet regulator replacement
- NSW DCCEEW Conditions of Determination - Bullatale inlet regulator replacement
- Notification to Department of Primary Industries Fisheries (DPI (Fisheries)) for dredging/reclamation work (pursuant to section 199 of the Fisheries Management Act 1994 (FM Act))
- DPI (Fisheries) conditions placed on the existing REF under section 199 of the FM Act.

A summary of the proposed safeguards and existing REF conditions are provided in Section 0.

1.2 Purpose of this document

The purpose of this Addendum REF is to describe the proposed modification, document the likely impacts of the proposed modification on the environment, and detail measures to mitigate impacts that cannot be avoided. This Addendum REF is the key document which NSW DCCEEW would use to discharge its duty under section 5.5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), including taking into account those factors listed under clause 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) (refer to Appendix A).

The findings of this Addendum REF would be considered when assessing:

- Whether the proposed modification is likely to have a significant impact on the environment and therefore the requirement for an environmental impact statement to be prepared and approval sought from the Minister for Planning under division 5.2 of the EP&A Act.
- The significance of any impact on threatened species as defined by the *Biodiversity Conservation Act 2016* (BC Act) and *Fisheries Management Act 1994* (FM Act) (referred to in section 1.7 of the EP&A Act) and therefore the requirement for a species impact statement or a biodiversity development assessment report.
- The potential for the proposed modification to significantly impact on matters of national environmental significance or Commonwealth land and the requirement to make a referral to the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) for a decision by the Commonwealth Minister for the Environment and Water on whether assessment and approval is required under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

In the event of any discrepancy between Appendices C to D and this REF, this Addendum REF takes precedence.

2 Project need and justification

2.1 Project modification objectives

Section 2.1 of the existing REF identifies the objectives of the Project. The existing REF notes that the objective of the Proposal is to enable smarter use of available environmental water and improve associated environmental outcomes through modernising ageing infrastructure, namely the Bullatale Inlet Regulator.

The existing REF notes that the overall aim of the Proposal is to:

- *“Improve fish passage past the regulator*
- *Maintain or improve the reliability of supply for Bullatale Creek Water Trust*
- *Provide a structure that gives the site environmental water managers flexibility in how they can operate the structure to achieve environmental watering outcomes for Millewa Forest*

- *Ensure the replacement inlet regulator is a simple structure that complies with contemporary safety standards and has low operational and maintenance costs.”*

The objectives of the proposed modification are considered to be consistent with the objectives outlined in the existing REF. The proposed modification would also support the objectives of the Millewa Forest Supply Project and the broader SDLAM program, as described in Section 1.1.

The proposed modification is required to extend the existing REF construction footprint to enable safe construction access. The proposed modification also includes minor design changes which have occurred during the detailed design process to maximise the operational functionality of the proposed regulator. These changes would provide improved fish passage and greater flexibility to site environmental water managers. The proposed modification is therefore required to achieve the objectives of the Project (as described in Section 2.1 of the existing REF) and the broader objectives of the Millewa Forest Supply Project as part of the SDLAM program.

2.2 Existing infrastructure

Existing infrastructure relevant to the proposed modification is described in Section 2.2 of the existing REF. The description of existing infrastructure provided in the existing REF is considered to be consistent with current conditions.

The existing Bullatale inlet regulator controls flow from the Murray River into the Bullatale supply channel. The existing regulator comprises two parallel 0.7-metre diameter buried pipelines that are about 70 metres long and connect the inlet regulator to the Murray River (refer to Figure 2-1 and Figure 2-2).



Figure 2-1 Bullatale inlet channel, looking upstream from the existing inlet regulator towards the Murray River. The top of the inlet regulator is just visible above the waterline at the bottom of the photograph.



Figure 2-2 Bullatale inlet channel, looking downstream across the existing inlet regulator and constructed embankment

2.3 Options and alternatives considered

The following options were considered for the proposed modification:

- Option 1 – The ‘do nothing’ option. This option would involve carrying out the Project as described in the existing REF. No additional vegetation clearance would be permitted, and the Project design would need to be amended to be consistent with the study area and vegetation impacts identified in the existing REF and associated approval documents.
- Option 2 – The proposed modification. This option would involve extending the footprint approved for construction of the Project beyond the limits identified in the existing REF. This option would involve additional vegetation clearance and ground disturbance to that assessed and approved in the existing REF. This option would also involve minor design changes to the regulator including improvements to the fishway and regulator gates to allow for enhanced fish passage and control of flows through the regulator.

2.4 Preferred option

Option 2, carrying out the proposed modification, is the preferred option. The proposed modification would extend the existing REF construction footprint and improve the operational functionality of the proposed regulator, allowing the proposed works to be carried out in accordance with the latest design and enabling the Project objectives to be met. Should this option not be selected, the Project would be unable to proceed with the current design. It should also be noted that during development of the detailed design, Aboriginal heritage and ecological constraints have been considered and avoided where practicable to minimise impacts.

3 Proposed modification

3.1 Proposed works

NSW DCCEEW proposes to modify the scope of the Proposal to extend the existing REF construction footprint and accommodate minor design changes to the structure. The proposed modification would involve:

- Expanding the construction footprint approved in the existing REF to allow for safe and efficient construction of the proposed regulator
- Minor design changes to the proposed regulator to provide greater operational flexibility and optimise fish passage.

These changes will improve the constructability of the Project and better support the objectives of the existing REF by allowing for greater control of water flow and fish passage through the regulator.

3.1.1 Addendum construction footprint

The expanded addendum construction footprint would provide additional area for construction vehicle turning, access along the upstream banks to construct the temporary cofferdam, placement of temporary site office facilities and an extended area for general construction activities.

The proposed modification would slightly expand the construction footprint with an extension of about 15 metres by 25 metres required around the existing footprint. This would increase the overall construction footprint for the Project to approximately 260 metres by 95 metres, with a total Project construction footprint area of about 2.27 hectares (an additional area of about 1.85 hectares). This increase is required to safely allow for construction vehicle movements and general construction activities and is associated with an increase in vegetation clearance and ground disturbance. The addendum construction footprint would accommodate the proposed new infrastructure, existing infrastructure to be replaced, and adjoining areas for laydown and storage of plant and equipment, and stockpiles of materials and spoil.

The key activities relevant to the proposed expanded footprint are:

- Additional vegetation clearing and trimming within the addendum construction footprint to provide plant and vehicle access and create space for truck turning, loading and unloading of vehicles, storage of plant and equipment, and stockpiling of materials
- If required, additional minor earthworks to enable vehicles and plant to safely operate within the construction footprint.

Additional environmental impacts on native vegetation, particularly, hollow-bearing trees will be avoided where practicable, as per the safeguards in Section 6.1.3.

An overview of the proposed modification is provided in Figure 3-1.

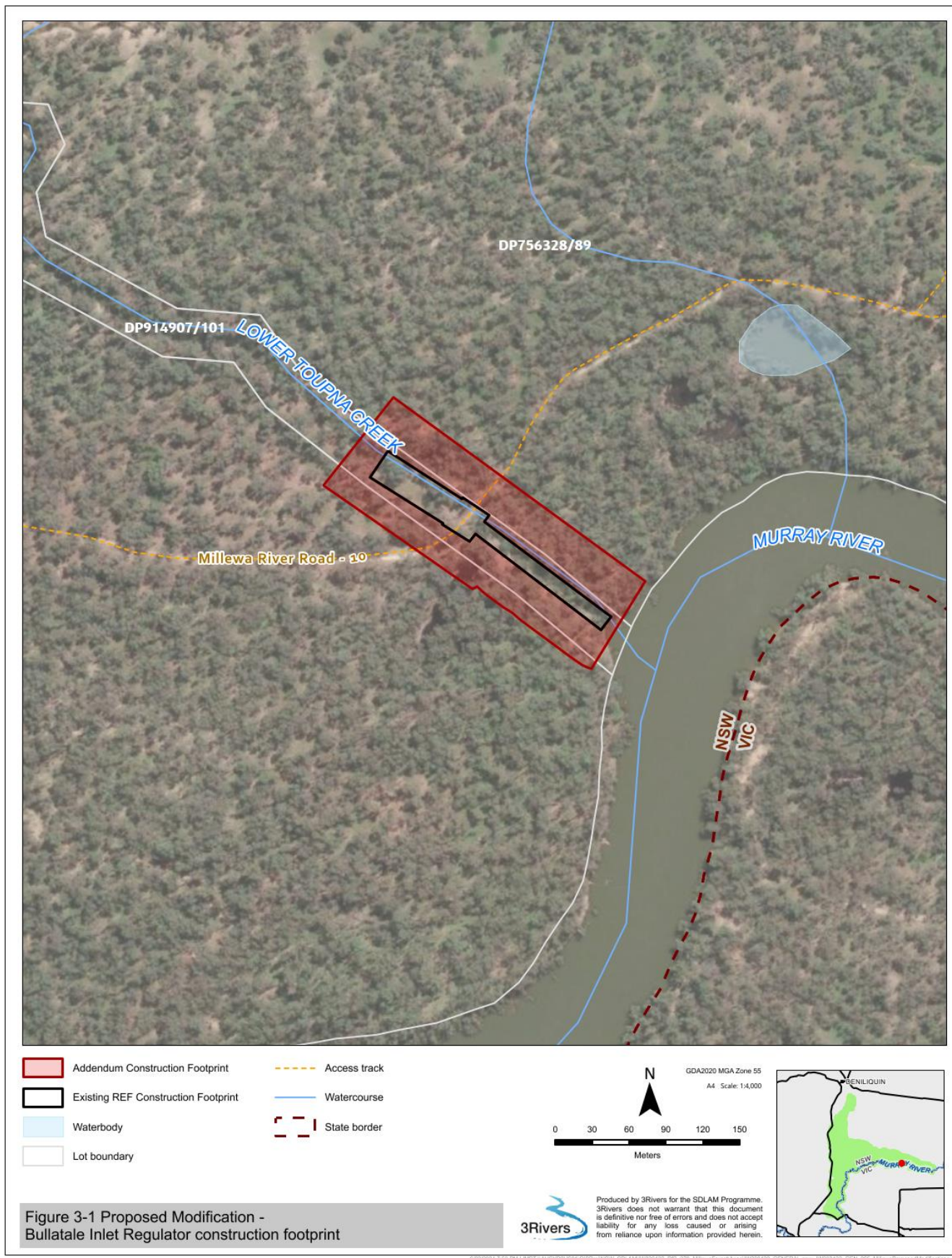


Figure 3-1 Proposed modification - Bullatale Inlet Regulator construction footprint

3.1.2 Detailed design development

Following the preparation of the existing REF, minor changes to the proposed design of the regulator have occurred as the detailed design has progressed. The proposed changes to the regulator are consistent with the objectives and requirements described in the existing REF at Section 3.2. The proposed design generates minimal additional environmental impacts and does not require mitigation measures beyond those already provided in the existing REF. The proposed design would provide minor improvements in the operational functionality of the structure. A section view of the proposed regulator design is provided in Figure 3-2 below.

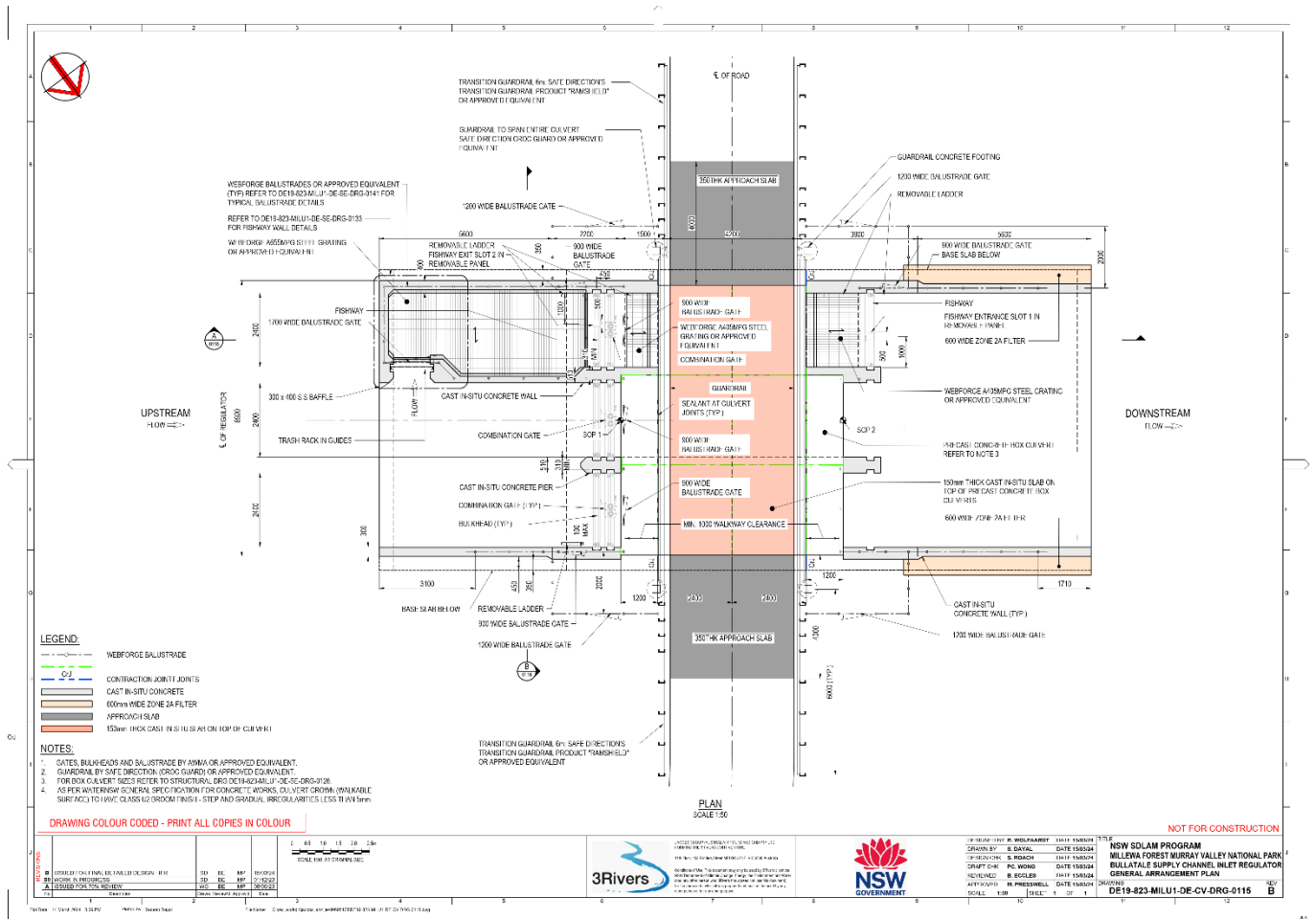


Figure 3-2 Section view of Bullatale Supply Channel Inlet Regulator

The design changes proposed as part of this Addendum REF are:

- Box culvert height and width increased from 1.8 m by 7.2 m to 2.4 m by 8.4 m:** The increased height will raise the roadway level closer to the existing track elevation and will reduce the frequency of overtopping of the roadway compared to the original culvert height. The increased width can benefit fish passage by increasing the natural light in the fishway and minimising flow velocity, thereby allowing fish to swim through more easily.
- Invert level of AHD lowered:** The invert level of 99 m AHD proposed in concept design has been slightly lowered to 98.8 m AHD to allow for improved fish passage.

- Use of three combination gates compared to a single combination gate and two penstock gates: Combination gates allow for increased operational flexibility to control flows and improved fish passage through the regulator gates. This change also eliminates the need for a raised walkway to operate a gate and allows for safer operation.
- Fishway amended to exit at 90 degrees to the creek flow and include a third slot: After further consultation with DPI Fisheries, the fishway upstream exit was amended to exit at 90 degrees to the creek flow. In the concept design the fishway exited to the creek and pointed directly upstream. The addition of a third fishway slot post-construction would lower the average flows through the regulator, thereby reducing the flow velocity. This would reduce the likelihood that fish will experience shear stress when moving through the fishway.
- Fishway amended to exit at 90 degrees to the creek flow: After further consultation with DPI Fisheries, the fishway upstream exit was amended to exit at 90 degrees to the creek flow to avoid debris build up. In the concept design the fishway exited to the creek and pointed directly upstream.

3.2 Construction methodology

3.2.1 Construction equipment

This proposed modification would not alter the construction equipment required as described in Section 3.4 of the existing REF. The equipment would include an Excavator, Bulldozer, Tipper truck, concrete agitator/pumping truck and Franna crane, with an on-site workforce of about six personnel required to carry out the construction works at Bullatale inlet regulator.

3.2.2 Construction timing and staging

The proposed modification would be carried out during construction of the Project as described in the existing REF. Section 3.7 of the existing REF states that:

“Construction of the proposed activity is scheduled to occur between October and December 2024, subject to the site being accessible and there being low water levels in the Murray River.

Construction of the proposed activity is not proposed to be staged. The access track maintenance works proposed between Millewa Road and the site would need to be completed before construction of the proposed activity can start.”

It is expected that construction of the Project, would commence in late 2024 and be completed by mid-2025, conditions permitting. As stated in the existing REF, unless otherwise approved by NSW DCCEW and NPWS through an out of hours application process, construction hours will be limited to:

- Monday to Friday: 7 am to 6 pm
- Saturday: 8 am to 5 pm
- No construction work on Sundays or public holidays.

3.2.3 Waste

As detailed in Section 6.1 of the existing REF, the reuse of clean won site material onsite would minimise disturbance of in-situ soil resources within the construction footprint and avoid the need for borrow pits. However, the Proposal is still expected to generate about 6,000 cubic metres of surplus spoil with no to negligible amounts of additional surplus spoil anticipated as a result of the proposed modification. As detailed in the existing REF, surplus spoil would be transported outside of Murray Valley National Park for either reuse (if classified as virgin excavated natural material or excavated natural material) or disposal at a suitably licenced waste facility.

3.2.4 Ancillary facilities

Access and ancillary facility arrangements are generally described in Section 3.4 of the existing REF.

As noted in the existing REF, a temporary work area with dimensions of about 16-metres by 35-metres is proposed in the cleared area above the buried pipelines. The proposed modification would expand this temporary work area, with a 15-metre by 25-metre extension applied around the existing construction footprint to provide adequate space for construction vehicle movements and general construction activities as shown in Figure 3-1.

3.3 Land access and acquisition

The proposed modification would not impact land access or acquisition. Land access would be carried out in accordance with the existing REF, in consultation with NPWS and the Bullatale Creek Water Trust.

3.4 Operation

The proposed modification would have minimal impact on the operation of the proposed regulator. As detailed in Section 3.1.2 above, the proposed modification includes minor revisions to the regulator design to optimise the operational flexibility, safe operation and potential environmental benefits of the structure during operation. These changes include:

- Box culvert height and width increased from 1.8 m by 7.2 m to 2.4 m by 8.4 m: The increased height will raise the roadway level closer to the existing track elevation and will reduce the frequency of overtopping of the roadway compared to the original culvert height. The increased width will allow more natural light between the fishway slot and the culvert roof slab. It will also reduce flow velocity through the fishway which can injure native fish species. These changes can potentially improve safe fish passage.
- Invert level of AHD lowered: The invert level of 99 m AHD proposed in concept design has been slightly lowered to 98.8 m AHD to improve fish passage and provide greater operational flexibility by allowing the regulator to pass flows during low flow conditions. This will allow

flows an additional 6 days per month in the ‘shoulder season’ of August, March and April. The lowered invert level would lower the commence to flow to 3,600 megalitres per day (decreased from 4,000 megalitres per day in the existing REF). As discussed in the existing REF, the proposed replacement inlet regulator would be operated in a similar manner to the existing inlet regulator. There will be negligible changes to water quality and frequency of flows unless the operating conditions change.

- Use of three combination gates compared to a single combination gate and two penstock gates: Combination gates allow for simpler operation and increased operational flexibility to control flows. The combination gates also allow for improved fish passage through the regulator when operated in over-shot mode due to the decreased pressure changes and shear stress, especially for larvae and small-bodied fish (Baumgartner et al., 2013). This change also eliminates the need for a raised walkway to operate a gate and allows for safer operation.
- Fishway amended to exit at 90 degrees to the creek flow and include a third slot: After further consultation with DPI Fisheries, the fishway upstream exit was amended to exit at 90 degrees to the creek flow. In the concept design the fishway exited to the creek and pointed directly upstream. This change will reduce ongoing maintenance for the asset operator and improve the operation of the fishway by minimising debris build up at the upstream exit. The addition of a third fishway slot post-construction would support safe fish passage by reducing flow velocity. This would slightly reduce the average flows through the regulator, and downstream to the Bullatale Creek Water Trust.

Overall, no substantive changes are anticipated to the proposed operation of the regulator in comparison to the existing REF. Following construction completion, the Project would be operated in accordance with the provisions of the existing REF.

3.5 Capital investment value

As detailed in the existing REF, a preliminary estimate of the cost to construct the Project has been prepared by 3Rivers and is about \$2.4 million excluding GST (3Rivers, 2023). The proposed modification would have a negligible impact on this cost.

4 Statutory context

4.1 Permissibility

State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP) facilitates the effective delivery of infrastructure across NSW.

As detailed in the existing REF, the Project is a water reticulation system for the purposes of the Transport and Infrastructure SEPP. Water reticulation systems are defined in the Standard Instrument – Principal Local Environmental Plan as including a place used for the transport of water

including canals. Clause 2.159(1) of the Transport and Infrastructure SEPP allows development for the purpose of water reticulation systems to be carried out without consent on any land. The proposed modification is therefore considered to be development permitted without consent under clause 2.159 of the Transport and Infrastructure SEPP and may be assessed under Division 5.1 of the EP&A Act.

4.1.1 National Parks and Wildlife Act 1974

The proposed activity is mostly located on Lot[redacted] DP [redacted], which is vested in the Minister for the Environment administering the NPW Act. Vesting of the land occurred on 1 July 2010 in accordance with section 7 of the *National Park Estate (Riverina Red Gum Reservations) Act 2010*.

Section 149(4)(a) of the NPW Act allows the Minister for the Environment administering the NPW Act to grant a lease of, or a licence with respect to, lands acquired or occupied under section 146 (1) of the Act. Section 151C (1) allows such a lease or licence to be granted subject to conditions. NSW DCCEEW is consulting with NPWS regarding the granting of a construction lease under section 149(4)(a) of the NPW Act for the Project including the proposed modification.

The remainder of the proposed activity is located on Lot[redacted] DP [redacted], which is Murray Valley National Park. Clause 2.73(1)(a) of the TISEPP allows development for any purpose to be carried out without consent on land reserved under the NPW Act if the development is for a use authorised under the NPW Act or acquired under Part 11 of the NPW Act.

The potential for the proposed activity to be authorised under the NPW Act has been considered with respect to:

- the objects of the NPW Act
- the plan(s) of management (or equivalent management plan) for the land on which the proposed activity would be carried out
- the lease, license and easement provisions under Part 12 of the NPW Act
- The regulations of use of parks under Part 2 of the National Parks and Wildlife Regulation 2019 (NPW Regulation).

4.1.1.1 Objects of the NPW Act

The proposed activity is considered to be consistent with the objects of the NPW Act. Table 4-1 identifies how the proposed activity is consistent with the objects of the Act.

Table 4-1 Consistency of the proposed activity with the objects of the NPW Act

Object of the NPW Act (Section 2A of the NPW Act)		Consistency of the proposed activity with the objects
(1)	The objects of this Act are as follows —	
	(a) the conservation of nature, including, but not limited to, the conservation of —	The proposed activity would expand the construction footprint to allow the replacement

Object of the NPW Act (Section 2A of the NPW Act)			Consistency of the proposed activity with the objects
	(i)	habitat, ecosystems and ecosystem processes, and	of the Bullatale inlet regulator which is at risk of failure due to poor condition. This regulator is currently operated to pass water into Bullatale supply channel for extraction downstream and to potentially support environmental watering. The proposed activity would ensure the regulator can be constructed. The proposed activity also includes design changes to the regulator that promote fish passage between the Murray River and Bullatale supply channel. Refer to Section 6.1 of this addendum and Sections 6.4 and 6.5 of the existing REF for detailed descriptions of the potential impact of the proposed activity on terrestrial and aquatic biodiversity.
	(ii)	Biological diversity at the community, species and genetic levels, and	
	(iii)	Landforms of significance, including geological features and processes, and	
	(iv)	Landscapes and natural features of significance including wilderness and wild rivers,	
(b)	the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to—		The proposed activity would not impact places, objects and features of significance to Aboriginal people, as detailed in Section 6.2. As noted in Section 6.7 of the existing REF, the existing regulator has no heritage significance and no other items of historic heritage have been identified.
	(i)	places, objects and features of significance to Aboriginal people, and	
	(ii)	places of social value to the people of NSW, and	
	(iii)	places of historic, architectural or scientific significance,	
(c)	Fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation,		As discussed under object 1(a) above, the proposed activity would ensure that the Bullatale inlet replacement regulator can be constructed. This would better manage flows into Millewa Forest as well as fish passage. Therefore, the proposed activity would enable the public to continue to enjoy the natural and cultural heritage of Millewa Forest. If the proposed activity did not occur, there would be an increased risk of the existing regulator failing, which would limit flows and over time,

Object of the NPW Act (Section 2A of the NPW Act)		Consistency of the proposed activity with the objects
		result in degradation of the natural environment. This would diminish the public's enjoyment of Millewa Forest.
	(d) providing for the management of land reserved under this Act in accordance with the management principles applicable for each type of reservation.	This proposal would allow for the construction of the replacement regulator which would be safer and more efficient to operate than the existing regulator. This has the potential to provide the Trust with more flexibility for environmental watering of Millewa Forest in accordance with the <i>Barmah-Millewa Forest Environmental Water Management Plan</i> (Murray-Darling Basin Authority, 2012) and the current The Living Murray annual watering plan. Alignment of the proposed activity with the management principles for national parks is provided in Table 4-2.
(2)	The objects of this Act are to be achieved by applying the principles of ecologically sustainable development.	The proposal would allow for the construction of the Bullatale inlet replacement regulator. Table 10-1 in the existing REF details how the Project aligns with each of the four principles of sustainable development identified in section 193 of the EP&A Regulation.

4.1.1.2 Murray Valley Statement of Management Intent

Murray Valley National Park and Regional Park are managed in accordance with the *Statement of Management Intent: Murray Valley National Park and Murray Valley Regional Park* (Murray Valley SoMI) (NPWS, 2014). Section 6 of the Murray Valley SoMI states that a plan of management will set out the ongoing management objectives for the parks. Currently, no specific management objectives have been defined for Murray Valley National Park or Murray Valley Regional Park. The NPWS's (2021) *Managing Parks Prior to a Plan of Management Policy* states that parks and reserves without a plan of management are to be managed in a manner consistent with the intent of the NPW Act and the precautionary principle.

The proposed activity allows for the construction of the Bullatale inlet replacement regulator. It also provides design changes that will improve fish passage between the Murray River and Bullatale supply channel and potentially support environmental watering in the future. The proposal is considered to be consistent with the management principles for national parks in section 30E of the NPW Act, refer to Table 4-2.

Section 6 of the Murray Valley SoMI requires all management activities to be preceded by the preparation of an environmental assessment or heritage assessment where this is a requirement of

NPWS policy or legislation. In accordance with this requirement the proposed activity is the subject of this REF and the REF has been informed by an Aboriginal cultural heritage assessment report (refer to Attachment D).

Table 4-2 Consistency of the proposed activity with the management principles for national parks in Section 30E of the NPW Act

Management principle		Consistency of the proposed activity with the management principle
30E	National parks	
(1)	The purpose of reserving land as a national park is to identify, protect and conserve areas containing outstanding or representative ecosystems, natural or cultural features or landscapes or phenomena that provide opportunities for public appreciation and inspiration and sustainable visitor or tourist use and enjoyment so as to enable those areas to be managed in accordance with subsection (2).	The proposed activity would allow for the construction of a replacement regulator that allows greater flows downstream of the Bullatale supply channel and improve fish passage. This would support the protection and conservation of ecosystems, natural features and landscapes at Millewa Forest by improving operational flexibility and allowing the Trust to more accurately manage flows. The proposed activity would have a minimal impact on visitor and tourist use and enjoyment of Murray Valley National Park. There would be some additional temporary visual impacts associated with expanding the construction footprint (refer to Section 6.3). These impacts would be minor with implementation of the safeguards in Table 7-1.
(2)	A national park is to be managed in accordance with the following principles—	
(a)	the conservation of biodiversity, the maintenance of ecosystem function, the protection of geological and geomorphological features and natural phenomena and the maintenance of natural landscapes,	The proposed activity would allow for the construction of a replacement regulator that allows greater flows downstream of the Bullatale supply channel and improve fish passage. This would support the conservation of biodiversity and maintenance of ecosystem function by improving fish movement and allowing flows in low flow conditions. If the proposed activity did not occur, there would be an increased risk of the existing regulator failing, which would restrict fish movement and reduce inflows to the supply channel. Over time this could result in degradation of the biodiversity and ecosystems of the channel and surrounds.

Management principle			Consistency of the proposed activity with the management principle
			The proposed activity would not impact geological and geomorphological features of Millewa Forest (refer to Section 6.3 of the existing REF).
	(b)	the conservation of places, objects, features and landscapes of cultural value,	The proposed activity would not impact places, objects features and landscapes of cultural value, as detailed in Section 6.2 of this Addendum REF and Section 6.7 of the existing REF.
	(c)	the protection of the ecological integrity of one or more ecosystems for present and future generations,	The proposed activity would support the protection of the ecological integrity of ecosystems at Millewa Forest by allowing for the construction of the Bullatale inlet replacement regulator. The replacement regulator would increase inflows to the supply channel and potentially support environmental watering in the future. If the proposed activity did not occur, there would be an increased risk of the existing regulator failing, which could restrict flows from the Murray River to the supply channel. Over time this could result in degradation of the ecological integrity of the ecosystems channel and surrounds.
	(d)	the promotion of public appreciation and understanding of the national park's natural and cultural values,	The proposed activity would not impact NPWS's ability to promote public appreciation and understanding of Murray Valley National Park's natural and cultural values.
	(e)	provision for sustainable visitor or tourist use and enjoyment that is compatible with the conservation of the national park's natural and cultural values,	The proposed activity would have a minimal impact on visitor and tourist use and enjoyment of Murray Valley National Park. There would be some additional temporary visual impacts associated with expanding the construction footprint (refer to Section 6.3). These impacts would be minor with implementation of the safeguards in Table 7-1.
	(f)	provision for the sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to the conservation of the national	The existing inlet regulator would be replaced due to its poor condition and outdated design. As noted in Section 6.7 of the existing REF, the existing regulator has no heritage significance and no other items of historic heritage have been identified.

Management principle			Consistency of the proposed activity with the management principle
		park's natural and cultural values,	
	(fa)	provision for the carrying out of development in any part of a special area (within the meaning of the <i>Hunter Water Act 1991</i>) in the national park that is permitted under section 185A having regard to the conservation of the national park's natural and cultural values,	The proposed activity is not within a special area.
	(g)	provision for appropriate research and monitoring	The proposed activity would not impact the provision of research and monitoring at Murray Valley National Park.

4.1.1.3 Leases, licences and easements under the NPW Act

Section 149(4)(a) of the NPW Act allows the Minister for the Environment administering the NPW Act to grant a lease of, or a licence with respect to, lands acquired or occupied under section 146 (1) of the Act. Section 151C (1) allows such a lease or licence to be granted subject to conditions. NSW DCCEEW is consulting with NPWS regarding the granting of a lease or licence under section 149(4)(a) of the NPW Act for the Project. The proposed activity would be incorporated in this lease or licence.

4.1.1.4 Protection of Aboriginal objects and Aboriginal places

Part 6 of the NPW Act provides for the protection of Aboriginal objects and Aboriginal places. Sections 86 and 87 of the Act makes it an offence to harm or desecrate Aboriginal objects and Aboriginal places unless the harm or desecration was authorised by an Aboriginal heritage impact permit or due diligence was exercised to determine whether the subject act would harm an Aboriginal object and it was reasonably determined that no Aboriginal object would be harmed. Section 90 of the Act details the requirements for applying for and granting of Aboriginal heritage impact permits.

An Aboriginal cultural heritage assessment report has been prepared in accordance with the *Code of Practice for the Investigation of Aboriginal Objects in NSW* (DECCW 2011) to inform this REF and is provided in Appendix D and summarised in Section 6.2. The assessment determined that the proposed activity would not alter any existing Aboriginal cultural heritage or values and, therefore, an Aboriginal heritage impact permit is not required.

4.1.1.5 Assets of intergenerational significance

Part 12A of the NPW Act provides for the declaration of land reserved or acquired for reservation to be an environmental or cultural asset of intergenerational significance and makes it an offence to damage, harm or disturb such assets unless it was carried out in accordance with a conservation action plan, an Aboriginal cultural practice, a planning approval under the EP&A Act or an authorised action under the *Rural Fires Act 1997*.

The proposed activity is not located on a declared asset of intergenerational significance site. The Koala (*Phascolarctos cinereus*) is a threatened species asset of intergenerational significance, and it has potential habitat in the construction footprint (refer to Section 6.1). However, Murray Valley National Park and Regional Park are not included in the reserves where the conservation action plan for the Koala applies.

4.1.2 National Parks and Wildlife Regulation 2019

The NPW Regulation regulates the use of national parks and land acquired by the Minister under Part 11 of the NPW Act, which, along with other land types, are collectively referred to as ‘parks’ in the regulation. Construction of the Project including the proposed modification will require a consent from NPWS. The construction works will need to be carried out in accordance with the conditions of the consent.

4.1.3 Environmental Planning and Assessment Act 1979

This Addendum REF has been prepared in accordance with Part 5 Division 5.1 of the EP&A Act. It examines and takes into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed modification, in accordance with section 5.5 of the EP&A Act.

Clause 171(1) of the EP&A Regulation requires that a determining authority must take into account the environmental factors specified in the environmental factors guidelines that apply to the activity. Accordingly, this Addendum REF has taken into account the environmental factors specified in the *Guidelines for Division 5.1 Assessments* (Department of Planning and Environment, 2022).

4.1.4 Murray Local Environmental Plan 2011

As detailed in Section 4.1.6 of the existing REF, the Project and proposed modification would be located within the Murray River Council local government area on land subject to the Murray Local Environmental Plan (LEP) 2011. The proposed activity would be located on land zoned C1 – National Parks and Nature Reserves under the LEP.

The proposed activity including the proposed modification is permitted without consent subject to the LEP as it has been deemed authorised under the NPW Act.

The proposed activity is located within the flood planning area identified in clause 5.21 of the LEP. As detailed in section 4.1.6 of the existing REF, the Project would be consistent with clause 5.21(2) of the LEP. As the proposed modification comprises an increase to the existing REF construction footprint, it would also be consistent with clause 5.21(2) of the LEP.

4.2 Other NSW legislation

Other NSW legislation applicable to the proposed modification is discussed in Table 4-3.

Table 4-3 Other NSW legislation applicable to the proposed modification

Legislation	Relevance to the proposed modification
Heritage Act 1977	The <i>Heritage Act 1977</i> aims to ensure that the heritage of NSW is adequately identified and conserved. The Act provides protection to items, such as places, buildings, works, relics, moveable objects, precincts or land that have been identified, assessed and listed on the State Heritage Register. Section 60 of the Act requires approval from the Heritage Council of NSW for certain works to items that are listed on the State Heritage Register. The proposed activity including the proposed modification would not impact any items listed on the State Heritage Register.
Biodiversity Conservation Act 2016 (BC Act)	The BC Act provides for listing of threatened species, populations and ecological communities as well as critical habitat and key threatening processes. An assessment of the expected impacts of the proposed modification on biodiversity is provided in Section 6.1. The proposed modification is not expected to have a significant impact on threatened species, populations and ecological communities, critical habitat, or key threatening processes listed under the BC Act. The proposed modification would not trigger the Biodiversity Offset Scheme, and a species impact statement or a biodiversity development assessment report is not required.
Water Management Act 2000 (WM Act)	Section 91E of the WM Act sets out provisions relevant to undertaking controlled activities (certain activities carried out on waterfront land, such as erecting structures, removing and depositing material and activities which affect water flow). Section 91E outlines that carrying out a controlled activity in, on or under waterfront land without a controlled activity approval is an offence that is subject to the Tier 2 penalty. However, clause 38 of the Water Management (General) Regulation 2011 specifies that a public authority is exempt from section 91E (1) of the WM Act in relation to all controlled activities that it carries out in, on or under waterfront land. Nonetheless, the following Controlled activity guidelines have been considered in the project development and environmental assessment: Guidelines for instream works on waterfront land (DPE, 2022a), Guidelines for watercourse crossings on waterfront land (DPE, 2022b) and Guidelines for riparian corridors on waterfront land (DPE, 2022c). As NSW DCCEEW is a public authority and is the proponent for the proposed modification, a controlled activity approval under section 91E of the WM Act is not required. Section 89 of the WM Act requires a water use approval for the use of water for a particular purpose at a particular location. A water use approval would be required to extract water for use during the construction phase of the Project including the proposed modification. Section 90 of the WM Act requires an approval to undertake a water management work, which includes construction and use of water supply works. The definition of a water supply work includes any work that has, or could have, the effect of impounding water in a water source. As detailed in Section 4.5 of the existing REF, a water management works approval

Legislation	Relevance to the proposed modification
	under section 90 of the WM Act would be required to modify and operate the proposed replacement inlet regulator, and interim arrangements during construction.
National Parks and Wildlife Act 1974 (NPW Act)	The NPW Act includes provisions to protect Aboriginal objects and places, making it an offence to harm or desecrate such objects or places (section 86) unless authorised by an Aboriginal heritage impact permit (section 87).
Fisheries Management Act 1994 (FM Act)	The FM Act provides for the conservation, protection and management of fisheries, aquatic systems and habitats in NSW. Section 218(5) of the FM Act requires that a public authority that proposes to construct, alter or modify a reservoir (including a floodgate) on a waterway must notify the Minister for Agriculture administering the FM Act of the proposed action, and, if the Minister so requests, include as part of the works a suitable fishway or fish by-pass. NSW DCCEEW notified the DPI (Fisheries) of the Project and a fishway was included in the concept design for the Bullatale inlet replacement regulator (see Section 3.2 of the existing REF). NSW DCCEEW has further engaged with the DPI (Fisheries) to inform the detailed design of the fishways. Additionally, the following DPI (Fisheries) guidelines have been considered in the project development and environmental assessment: • Fisheries NSW Policy and Guidelines for Fish Habitat Conservation and Management (2013 update) (DPI (Fisheries), 2013) • Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge, 2003) • Policy and Guidelines for Fish Friendly Waterway Crossings (DPI (Fisheries), undated)
Protection of the Environment Operations Act 1997 (POEO Act)	The POEO Act provides for the issuance of an environment protection licence for scheduled activities (being activities listed in Schedule 1 of the POEO Act), and generally the control of water, air and noise pollution and the management of wastes. The proposed modification is not considered a scheduled activity under the POEO Act. Under the POEO Act, the construction contractor and NSW DCCEEW are obliged to notify the NSW Environment Protection Authority if a pollution incident occurs that causes or threatens material harm to the environment.

4.3 Commonwealth legislation

Commonwealth legislation applicable to the proposed modification is discussed in Table 4-4.

Table 4-4 Commonwealth legislation relevant to the proposed modification

Legislation	Relevance to the proposed modification
<i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	The EPBC Act prescribes the Commonwealth’s role in environmental assessment, biodiversity conservation and the management of protected areas and species, populations and communities and heritage items. The approval of the Commonwealth Minister for the Environment and Water is required for an action which has, would have, or is likely to have, a significant impact on ‘matters of national environmental significance’. Any potential to significantly impact on these matters is likely to require a referral to the Commonwealth DCCEEW, for a decision as to whether it is a controlled action requiring approval under the EPBC Act. The impact of the Bullatale inlet regulator replacement Project on matters of national environmental significance is discussed in Section 7 of the existing REF. The proposed modification is considered consistent with the assessment provided in the existing REF and is therefore not expected to impact on matters of national environmental significance.
<i>Native Title Act 1993 (NT Act)</i>	Native title is the recognition that Aboriginal and Torres Strait Islander people have rights and interests to land and waters according to their traditional law and customs as set out in Australian Law. Native title is governed by the NT Act. An indigenous land use agreement, established under the NT Act, is a voluntary agreement between native title parties and other people or bodies about the use and management of areas of land and/or waters. It can be made over areas where native title has been determined to exist in at least part of the area, where a native title claim has been made or no native title claim has been made. A search of the National Native Title Tribunal registers carried out on 16 January 2024 did not reveal any current native title applications, determinations or indigenous land use agreements relevant to the proposed modification.

4.4 Summary of licences and approvals

NSW DCCEEW is the proponent and determining authority for the proposed modification. This Addendum REF fulfils NSW DCCEEW’s obligations under section 5.5 of the EP&A Act, including to examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment as a result of the proposed modification.

A summary of the licences and approvals required for the proposed modification is provided in Table 4-5 below.

Table 4-5 summary of licences and approvals

Legislation	Approval / permit / notification	Responsibility
FM Act	A notification under section 199 of the FM Act for the Project has previously been issued to DPI (Fisheries), and conditions provided as construction of the proposed regulator including instream earthworks are defined as dredging and reclamation under the FM Act. Under section 199 of the FM Act and existing REF conditions provided, DPI (Fisheries) must be notified of changes in the construction footprint and other works that have not been captured by the existing REF.	NSW DCCEEW
	Proposals which would result in temporary or permanent barriers to fish passage must be discussed with DPI Fisheries to determine whether any further assessment or approval or formal notification is required under the FM Act. The existing REF identified potential temporary barriers to fish passage during construction through the use of upstream coffer dams. The proposed modification would not impact on potential obstructions to fish passage. A permit to temporarily block fish passage during construction may be required, depending on the outcomes of consultation with DPI Fisheries. Temporary or permanent blockage of fish passage by a public authority requires a notification to DPI Fisheries under section 219 of the FM Act. This proposal does not impact the temporary blockage to fish passage. Therefore, any permits previously issued for the existing REF satisfy this requirement.	NSW DCCEEW
	During construction, in the unlikely event of fish being trapped in the proposed construction footprint, fish would be released into adjacent waters upstream of the proposed construction footprint. Translocating fish to other waterways presents a risk of spreading disease and non-target species and would require a permit under section 37 of the FM Act. This proposal does not impact the likelihood of translocating fish. Therefore, any permits previously issued for the existing REF apply.	NSW DCCEEW
NPW Act	An approval from NPWS has been granted to construct and operate the Project as detailed in the existing REF. NSW DCCEEW will seek an additional consent for construction from NPWS to carry out the proposed modification.	NSW DCCEEW
WM Act	As detailed in the existing REF, the following approvals would be obtained prior to construction starting: • A water use approval under section 89 of the WM Act if it is proposed to extract water for use during the construction phase of the Project • A water management works approval under section 90 of the WM Act to modify and operate the proposed replacement inlet regulator, and interim arrangements during construction.	NSW DCCEEW

4.4.1 REF publishing

The existing REF will be published on NSW DCCEEW's website as it required an approval or permit identified in clause 171(4) of the EP&A Regulation, namely a permit under section 219 of the FM Act to block fish passage during construction. This Addendum REF will also be published on NSW DCCEEW's website. The published Addendum REF will conform with the Web Content Accessibility Guidelines (WCAG) 2.0 Level AA.

5 Consultation

5.1 Community and stakeholder consultation

Consultation carried out for the Project is described in Section 4 and Section 5 of the existing REF.

Since the determination of the existing REF, NSW DCCEEW has undertaken further consultation with NPWS, the Bullatale Creek Water Trust and DPI Fisheries regarding the detailed design and operation of the proposed regulator.

NSW DCCEEW will continue to consult with NPWS, the Bullatale Creek Water Trust and other relevant stakeholders during design and construction including notification in writing at least two weeks before construction work begins as detailed in the existing REF.

5.2 Transport and Infrastructure SEPP consultation

Part 2.2, Division 1 of the Transport and Infrastructure SEPP contains provisions for consultation with public authorities prior to the commencement of certain types of development. Section 5.1 of the existing REF outlines the consultation to date. Further consultation is required as part of the proposed modification. Table 5-1 lists the consultation requirements under the Transport and Infrastructure SEPP and identifies whether they apply to the proposed activity.

Table 5-1 Transport and Infrastructure SEPP consultation

Is consultation required under the Transport and Infrastructure SEPP?	Yes	No
Will the proposed activity have a substantial impact on stormwater management services provided by a council? If 'yes', notification to Council is required.	☐	☒
Is the proposed activity likely to generate traffic to an extent that will strain the capacity of the road system in a local government area? If 'yes', notification to Council is required.	☐	☒
Will the proposed activity involve connection to, and a substantial impact on the capacity of, any part of a sewerage system owned by a council? If 'yes', notification to Council is required.	☐	☒
Will the proposed activity involve connection to, and use of a substantial volume of water from, any part of a water supply system owned by a council? If 'yes', notification to Council is required.	☐	☒
Will the proposed activity involve the installation of a temporary structure on, or the enclosing of, a public place that is under a council's management or control that is likely to cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential? If 'yes', notification to Council is required.	☐	☒

Is consultation required under the Transport and Infrastructure SEPP?	Yes	No
Will the proposed activity involve excavation that is not minor or inconsequential of the surface of, or a footpath adjacent to, a road for which a council is the roads authority under the <i>Roads Act 1993</i> (if the public authority that is carrying out the development, or on whose behalf it is being carried out, is not responsible for the maintenance of the road or footpath)? If 'yes', notification to Council is required.	☐	☒
Is the proposed activity likely to affect the heritage significance of a local heritage item, or of a heritage conservation area, that is not also a State heritage item, in a way that is more than minor or inconsequential? If 'yes', notification to Council is required.	☐	☒
Is the proposed activity located on flood liable land? If so, will the works change flooding patterns to more than a minor extent? If 'yes', notification to Council is required.	☐	☒
Is the proposed activity land that is within a coastal vulnerability area and is inconsistent with a certified coastal management program that applies to that land? If 'yes', notification to Council is required.	☐	☒
Is the proposed activity located on flood liable land and permissible without development consent under the following provision of Part 2.3 of the Transport and Infrastructure SEPP: (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). * This section does not apply in relation to the carrying out of minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance. If 'yes', consultation with the State Emergency Service is required.	☐	☒
Is the proposed activity located adjacent to a national park, nature reserve or other area reserved under the <i>National Parks and Wildlife Act 1974</i> , or on land acquired under that Act? If 'yes', consultation with NPWS is required.	☒	☐
Is the proposed activity located on land in Zone E1 National Parks and Nature Reserves? If 'yes', consultation with the National Parks is required.	☒	☐
Does the proposed activity include a fixed or floating structure in or over navigable waters? If 'yes', notification to Transport for NSW is required.	☐	☒
Will the proposed activity increase the amount of artificial light in the night sky within the dark sky region as identified on the dark sky region map? If 'yes', notification to the Director of the Observatory is required.	☐	☒

Is consultation required under the Transport and Infrastructure SEPP?	Yes	No
Is the proposed activity located on defence communications facility buffer land within the meaning of clause 5.15 of the Standard Instrument? If 'yes', notification to the Secretary of the Commonwealth Department of Defence is required.	☐	☒
Is the proposed activity within a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017? If 'yes', notification to Subsidence Advisory is required.	☐	☒
Is the proposed activity traffic-generating development as listed in Schedule 3 of the SEPP? If 'yes', notification to Traffic for NSW is required.	☐	☒

It is noted that clause 2.17(1)(a) provides an exemption to consultation in that NSW DCCEEW as the proponent must notify NPWS as a public authority from whom an approval is required in order for the activity (as development) to be carried out lawfully. As discussed in Section 4.1.1, approval to carry out the proposed activity is required from NPWS under the NPW Act and, therefore, the requirement to consult with NPWS under clause 2.15(2)(b) of the TISEPP does not apply.

The NPWS West Branch Regional Advisory Committee has been consulted through their participation in technical advisory group and stakeholder advisory group meetings and other consultation activities associated with the Project. NPWS has been closely involved with all aspects of the planning, design, consultation and impact-mitigation of the Project since its inception.

NSW DCCEEW has notified NPWS of the proposed modification through a letter sent in 2024 (see Appendix B).

NSW DCCEEW provided NPWS a draft copy of this Addendum REF for their comment and has taken into consideration comments provided by NPWS.

NSW DCCEEW will continue to liaise with NPWS as the proposed activity progresses.

6 Environmental assessment

6.1 Terrestrial biodiversity

The vegetation impacts assessed in the existing REF and associated biodiversity assessment are not sufficient to allow for the construction of the current design, and further ground disturbance is required. The Addendum Biodiversity Assessment Report has therefore assessed the revised extent of vegetation removal required for the Project, including the proposed modification. The following sections provide a summary of the assessment provided in Appendix D. The assessment is supported by field surveys of the:

- Original construction footprint undertaken in March 2022 (see Section 6.4.1.1 of the existing REF)
- Revised study area (10-metre buffer around the addendum construction footprint) conducted in March 2024 (see Figure 6-1 below).

The field survey carried out in 2022 to support approval of the existing REF identified the vegetation type and condition relevant to the existing REF, including the presence of PCTs. Where suitable, vegetation mapping produced for the existing REF has been reviewed and applied to the additional assessment provided in Appendix D and this Addendum REF. A 40-metre buffer was applied around the original construction footprint and used as the study area for the 2024 field survey and Addendum biodiversity assessment. The revised study area has been used to assess potential impacts within the addendum construction footprint. It also includes a 10-metre buffer around the addendum construction footprint to consider any indirect impacts on the surrounding areas.

6.1.1 Existing environment

As discussed in Section 6.4.1 of the existing REF, the condition of the Barmah-Millewa Forest ecosystem is in decline due to the historical degradation of the Millewa wetland system (Ecological Associates and SKM, 2011). Millewa Forest has been heavily modified to accommodate River Red Gum timber harvesting and grazing (Harrington and Hale, 2011). Many of the waterways are regulated and large areas of the ecosystem are now dominated by River Red Gums. The altered water regimes have significantly impacted water-dependant flora and fauna, particularly colonial nesting waterbirds (Leslie, 2001), native fish (King et al., 2009) and frog species (Howard et al., 2021). There is also increased pressure from introduced plant and animal species in the system. The Bullatale supply channel and adjoining area is subject to existing disturbance due to the historical timber harvesting of the surrounding forest and due to the construction and operation of the existing regulator and access track. Despite this decline in ecological condition, Millewa Forest remains a vital ecological refuge for a number of threatened flora and fauna species and is recognised for its significant international contribution to biodiversity as a Ramsar-listed wetland.

Native vegetation and flora species

There are no areas of outstanding biodiversity value within or adjoining the revised study area. The field surveys confirmed the presence of following native vegetation within the revised study area:

- *River Red Gum sedge-dominated very tall open forest in frequently flooded forest wetland along major rivers and floodplains in south-western NSW* (Plant Community Type (PCT 2)), noting that much of this has been classed as low condition vegetation and is not listed as a Threatened ecological community (TEC) under the *EPBC Act* or the *BC Act*
- Regrowth River Red Gum (*Eucalyptus camaldulensis*) and Silver Wattle (*Acacia dealbata*)
- Occurrences of *Bolboschoenus sp.* and Common Reed (*Phragmites australis*)

Dense patches of weeds were also observed, in particular adjoining the existing access track and inlet regulator. No threatened flora species were detected during the 2022 and 2024 field surveys, and no threatened flora species are considered likely to occur within the revised study area.

Impacts on native vegetation and hollow-bearing trees in the addendum construction footprint will be avoided where practicable (see Section 6.1.3).

As discussed in Section 6.4.1.5 of the existing REF, the Atlas of Groundwater Dependent Ecosystems (Bureau of Meteorology, 2022) identifies a portion of the construction footprint as containing groundwater dependent terrestrial vegetation. PCT 2 is potentially representative of terrestrial groundwater dependent ecosystems, however this PCT is considered unlikely to be entirely dependent on groundwater. The key ecological values across the revised study area are shown in Figure 6-1 over page.

Threatened ecological communities

No threatened ecological communities under the *EPBC Act* and the *BC Act* are considered likely to occur within the revised study area. No threatened ecological communities were detected during the 2022 and 2024 field surveys.

Threatened fauna species

As per Table 6-4 of the existing REF, eight threatened fauna species listed under the *EPBC Act* and *BC Act* were assessed as having either a moderate or high likelihood of occurrence within the original construction footprint. No additional threatened fauna species were identified to have a moderate or higher potential to occur within the revised study area, with no threatened fauna species detected during the 2024 field surveys. A number of bird species would be expected to use vegetation within the revised study area for nesting and roosting and to forage on flowering trees, while bat species, such as the Yellow-bellied Sheath-tail-bat, may roost in the area's hollow bearing trees. Importantly, there were no culverts present within the revised study area suitable for bat species.

Twelve migratory bird species are predicted to occur in the locality based on the Commonwealth DCCEEW's *EPBC Act* Protected Matters Search Tool and NSW Bionet Atlas database (EESG, 2022). As per Section 6.4.1.8 of the existing REF, these species are considered to have low to unlikely potential to occur due to a lack of suitable habitat in the revised study area. No migratory species were detected during the field surveys.

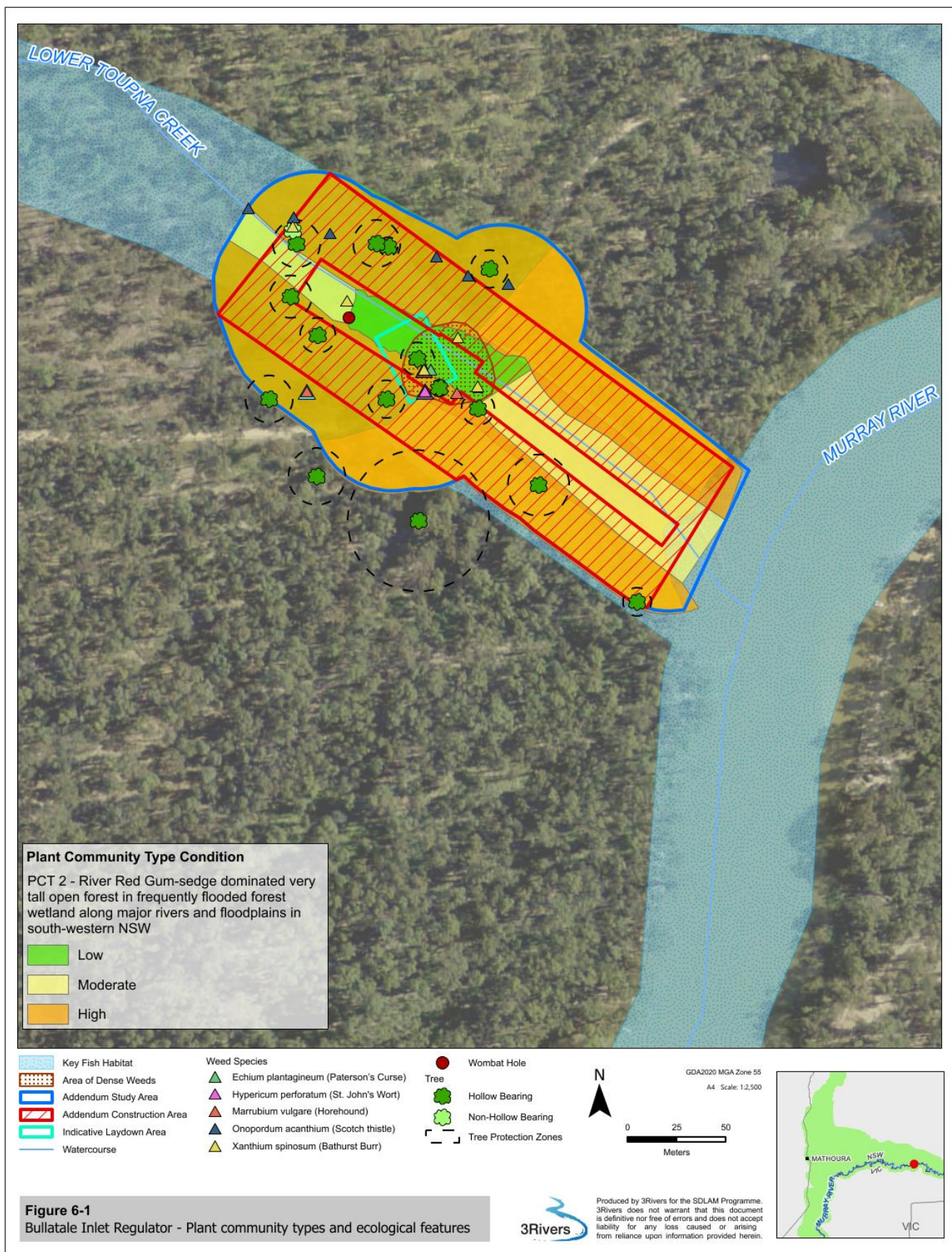


Figure 6-1 Bullatale Supply Channel - Plant community types and ecological values

Non-native vegetation and flora species

No Weeds of National Significance were identified within the revised study area during the field surveys. Bathurst Burr (*Xanthium spinosum*) and St. John’s Wort (*Hypericum perforatum*) were recorded in the revised study area and are consistent with previous findings under the existing REF. Two additional species of weeds were also identified as weeds of concern, *Marrubium vulgare* (Horehound), and *Echium plantagineum* (Paterson’s Curse) (LLS, 2023). Bathurst Burr, St. John’s Wort and Horehound are listed as weeds of concern in the Riverina Regional Strategic Weed Management Plan (Riverina Local Land Services, 2017). Bathurst Burr is also listed as a Priority Weed under the *Biosecurity Act 2015* for the Riverina region and as a High Threat Weed within the Biodiversity Assessment Method Calculator.

6.1.2 Impacts

Impacts associated with the original construction footprint are addressed in Section 6.4.2 of the existing REF. Additional impacts associated with this proposed modification are identified below.

6.1.2.1 Loss of vegetation and habitat

There is considerable scope to avoid and minimise vegetation removal within the addendum construction footprint. The Addendum Biodiversity Assessment Report assumes a conservative worst-case scenario, where vegetation removal within the addendum construction footprint cannot be avoided or mitigated. As a conservative worst-case scenario, the proposed modification would directly impact upon up to 1.85 hectares of additional vegetation and up to nine (9) additional hollow bearing trees. However, vegetation removal within the addendum construction footprint would be avoided as much as practicable through refinements to the site layouts and footprint during the detailed design process, with mature and hollow-bearing trees prioritised for retention.

The maximum extent of possible vegetation removal under the modification is summarised in Table 6-1 below. These calculations reflect a conservative worst-case scenario where vegetation is not avoided.

Table 6-1 PCT extent within the addendum construction footprint

PCT and condition	Impacts to addendum construction area (ha)
PCT 2 – Low	0.21
PCT 2 – Moderate	0.5
PCT 2 – High	1.56
Total	2.27

6.1.2.2 Proliferation of weed species

Proliferation of weed species is likely to occur as vegetation is removed and soil disturbed and stockpiled during earthworks. Section 6.4.2.1.7 of the existing REF provides methods for controlling the risk of weed establishment for St. John’s Wort and Bathurst Burr. See Table 6-2 for the suggested control methods for Horehound and Paterson’s Curse.

Table 6-2 Weed species recorded in the revised study area

Species	Control methods
Horehound (<i>Marrubium vulgare</i>)	- Chemical and biological controls are available for horehound. - Dense infestations can be controlled through cultivation, where appropriate. - Herbicide control, applying when plants are actively growing, usually in spring and autumn. Directions specified on the labels and material safety data sheets must be adhered to.
Paterson's Curse (<i>Echium plantagineum</i>)	- Hand removal and cutting have been suggested for the control of single plants and small patches. - Mowing has been recommended, especially in combination with other control measures. - Many chemicals have been found to be effective in controlling Paterson's Curse. Multiple applications of herbicide may be required to control repeated germinations. Directions specified on the labels and material safety data sheets must be adhered to.

6.1.3 Safeguards

Safeguards to minimise the impacts of the proposed modification on terrestrial ecology are provided in Table 6-3. The safeguards in the existing REF will be applied to the biodiversity values in the addendum construction footprint as detailed in Section 0. The existing REF provided a constrained construction footprint located in areas that were heavily disturbed. This addendum proposes to expand the construction footprint across a larger area that includes valuable vegetation. As such, additional safeguards have been developed to apply specifically to the addendum construction footprint and minimise further impacts on vegetation, particularly, hollow-bearing trees. A consolidated list of safeguards for the Project is provided in Table 7-1.

Table 6-3 Additional environmental safeguards for terrestrial ecology

Impact	Safeguard	Responsibility	Timing
Impact to native plants and animals including threatened species	The Contractor will prepare a pre-clearing plan to identify areas that will be cleared for construction. This will be submitted to NPWS and DCCEEW for approval. Clearing will be conducted in stages to ensure land is clear on an as needed basis.	Contractor	Construction
	All identified hollow-bearing trees within the addendum construction footprint will be prioritised for retainment with all potential impacts (including pruning and lopping of branches) to be avoided where practicable. Pruning and/or lopping of branches will be preferred to removal where possible.	Contractor	Construction

Impact	Safeguard	Responsibility	Timing
	Vegetation clearing is to be undertaken to the minimum extent necessary, with brush cutting of low-lying vegetation to be undertaken in preference to complete removal and pruning or removal of selected branches to be undertaken in preference to whole tree removal.	Contractor	Construction
	Restrict the use of hardstand areas. Where this is not possible, remove hardstands once construction is complete and rehabilitate the area in accordance with the site rehabilitation plan in the CEMP.	Contractor	Construction

6.2 Aboriginal heritage

An Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared for the existing REF. The study area in the existing REF is no longer sufficient to allow construction of the Project to be carried out. As such, the need for an ACHAR addendum was identified to assess the proposed addendum construction footprint. An addendum ACHAR has been prepared and is provided in Appendix E (Austral Archaeology, 2024).

A summary of the addendum ACHAR findings is included below.

6.2.1 Existing environment

The proposed activity is located within the traditional lands of the Yorta Yorta and Bangerang Aboriginal groups (Tindale, 1974). As described in Section 6.6.1.2 of the existing REF, the Murray River catchment has an extensive history of human habitation. There are a number of Aboriginal sites within the Central Murray Region, including archaeologically sensitive landforms, scarred trees and burials. These are further described in Section 6.6.1.3 of the existing REF.

The Heritage NSW Aboriginal Heritage Information Management System (AHIMS) database identified 36 previously recorded sites within a 20-kilometre by 20-kilometre extension of the Project. Section 6.6.1.4 of the existing REF describes the general location of these sites. None of the AHIMS sites were located within the expanded or original construction footprint of the Project, with the nearest AHIMS site approximately 1.8 kilometres away. No additional sites have been identified as part of the addendum ACHA.

Archaeological investigations

Archaeological surveys were conducted by qualified archaeologists who were accompanied by Registered Aboriginal Parties for the:

- existing REF construction footprint in June 2022
- addendum construction footprint in March 2024

Neither survey identified any Aboriginal cultural heritage within the addendum or existing construction footprints, and it was determined that there was low archaeological potential based on

the significant ground disturbance that occurred for the development of the existing inlet regulator and the supply channel.

As noted in Section 6.6.1.6 of the existing REF, the construction and operational footprints are considered to have low value (aesthetic significance, educational and historic) due to previous disturbance.

6.2.2 Impacts

No impacts to identified Aboriginal cultural heritage items are anticipated from the proposed modification or proposed activity overall. The proposed modification would not alter any existing Aboriginal cultural heritage or values due to the existing disturbance of the original landscape during previous works within the construction footprint. As discussed in the existing REF, the proposed replacement inlet regulator would be operated in a similar manner to the existing inlet regulator. Under these arrangements, downstream flows are limited, preventing the inundation of existing Aboriginal cultural heritage items.

6.2.3 Safeguards

Safeguards to minimise the impacts of the proposed modification on Aboriginal cultural heritage are provided in Section 6.6 of the existing REF. A consolidated list of safeguards for the Project is provided in Table 7-1.

6.3 Other impacts

The existing environment of other environment factors, in addition to an assessment of the expected impact of the proposed modification on these factors, is described in Table 6-4. It is considered that no additional environmental safeguards to those outlined in the existing REF and associated approval documents are required for the factors listed in Table 6-4 as a result of the proposed modification.

Table 6-4 Assessment of other environmental impacts

Environmental factor	Existing environment	Impacts of the proposed modification	Safeguards
Topography, geology and soils	A description of the existing environment relevant to the proposed modification, including a description of topography, geology and soils, is provided in Section 6.1 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction The likely impacts of the proposed modification on topography, geology and soils are expected to be consistent with those outlined and assessed in the existing REF. While the proposed modification may require a larger amount of earthworks than identified in the existing REF, this is not considered to represent more than a minor additional impact on topography, geology and soils. Operation No impacts to topography, geology and soils are anticipated from the proposed modification during operation. Operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	No additional safeguards proposed as a result of the proposed modification.
Surface water and drainage	A description of the existing environment relevant to the proposed modification, including a description of surface water and drainage, is provided in Section 6.2 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction The likely impacts of the proposed modification on surface water and drainage are expected to be consistent with those outlined and assessed in the existing REF. The proposed modification generally involves extending the REF construction footprint and additional vegetation clearance when compared with the existing REF. Additional vegetation clearance required for the proposed modification may have a minor impact on surface water drainage at the proposed construction	No additional safeguards proposed as a result of the proposed modification.

Environmental factor	Existing environment	Impacts of the proposed modification	Safeguards
		footprint. This could potentially increase run-off into the supply channel. However, with the implementation of drainage control measures as described in Table 7-1, the proposed modification is not considered to represent an increased impact on surface water run-off when compared with the existing REF. No additional impacts on surface water and drainage are expected as a result of the proposed modification. Operation The lower invert level (99.0 m AHD to 98.8 m AHD) would decrease the regulator's commence to flow to just 3,600 megalitres per day in the Murray River (decreased from 4,000 megalitres per day in the existing REF). This decrease under the proposed modification is likely to improve fish passage and provide greater operational flexibility by allowing the regulator to pass flows during low flow conditions. However, as the proposed regulator would be operated in a similar manner to the existing regulator, negligible changes to flow regimes in the channel are anticipated during operation. Operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	
Groundwater	A description of the existing environment relevant to the proposed modification, including a description of groundwater, is provided in Section 6.3 of the existing REF. The description provided in the existing REF is	Construction The likely impacts of the proposed modification on groundwater are expected to be consistent with those outlined and assessed in the existing REF.	No additional safeguards proposed as a result of the proposed modification.

Environmental factor	Existing environment	Impacts of the proposed modification	Safeguards
	considered to be consistent with current conditions.	The proposed modification generally involves extending the REF construction footprint and additional vegetation clearance when compared with the existing REF. No additional impacts on groundwater are expected as a result of the proposed modification. Operation No impacts to groundwater are anticipated from the proposed modification during operation. Operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	
Aquatic biodiversity	A description of the existing environment relevant to the proposed modification, including a description of aquatic biodiversity, is provided in Section 6.5 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction The proposed modification may result in a negligible, localised increase in erosion and surface runoff along with potential impacts to aquatic habitat due to additional vegetation clearing and ground disturbance. Additional minor impacts to aquatic biodiversity due to the proposed modification would be temporary and incremental to those assessed in the existing REF. Operation The proposed modification would potentially result in additional benefits to the aquatic ecosystem within Bullatale supply channel, with minimal adverse impacts to aquatic habitat values. It is expected that changes to the fishway and invert level would provide marginally longer flow duration in low flow conditions.	No additional safeguards proposed as a result of the proposed modification.

Environmental factor	Existing environment	Impacts of the proposed modification	Safeguards
		The use of combination gates (when operated in over-shot mode) across the structure and revised culvert design would improve fish passage in and out of Millewa Forest by reducing shear stress and pressure changes through the gates and improving natural light through the fishway. This improvement in fish passage and additional flow, could increase carp and aquatic weed dispersal and therefore, may indirectly impact native aquatic species within the waterway. However, since there are no proposed changes to the operating regime of the replacement structure when built, minimal changes to aquatic pest and weed species within the channel are anticipated. Overall, operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	
Air quality	A description of the existing environment relevant to the proposed modification, including a description of air quality, is provided in Section 6.8 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction The proposed modification may result in a negligible, localised increase in machinery emissions and the generation of dust during vegetation removal. These impacts are expected to be consistent with those outlined and assessed in the existing REF. No further assessment of air quality impacts is considered to be required as a result of the proposed modification. Operation	No additional safeguards proposed as a result of the proposed modification.

Environmental factor	Existing environment	Impacts of the proposed modification	Safeguards
		No impacts to air quality are anticipated from the proposed modification during operation. Operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	
Waste, contamination and hazardous materials	A description of the existing environment relevant to the proposed modification, including a description of waste contamination and hazardous materials, is provided in Section 6.14 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction The likely impacts of the proposed modification on waste are expected to be consistent with those outlined and assessed in the existing REF. Apart from the requirement to remove (or otherwise relocate) additional vegetative material produced through vegetation clearing and potential for minor additional earthworks, the proposed modification would not increase the amount waste, contamination or hazardous materials produced or exposed to that assessed in the existing REF. Waste would be disposed of at a suitably licensed facility during and following construction. Operation No impacts to waste and contamination are anticipated from the proposed modification during operation. Operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	No additional safeguards proposed as a result of the proposed modification.
Historic heritage	A description of the existing environment relevant to the proposed modification, including a description of historic heritage, is provided in Section 6.7 of the existing REF.	The likely impacts of the proposed modification on historic heritage are expected to be consistent with those outlined and assessed in the existing REF.	No additional safeguards proposed as a result of the proposed modification.

Environmental factor	Existing environment	Impacts of the proposed modification	Safeguards
	The description provided in the existing REF is considered to be consistent with current conditions.	No previously identified items of historic heritage significance are located near the proposed modification. The proposed modification is therefore not expected to impact on any items of historic heritage significance.	
Noise and vibration	A description of the existing environment relevant to the proposed modification, including a description of noise and vibration, is provided in Section 6.9 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction The proposed modification may result in a negligible, localised increase in noise and vibration from machinery during vegetation removal when compared with the assessment provided in the existing REF. While the need for additional vegetation removal and minor earthworks may extend the duration of noise and vibration impacts, the overall level of impact is expected to be consistent with that outlined and assessed in the existing REF. No further assessment of noise and vibration impacts is considered to be required as a result of the proposed modification. Operation No impacts to noise and vibration are anticipated from the proposed modification during operation. Operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	No additional safeguards proposed as a result of the proposed modification.
Traffic and access	A description of the existing environment relevant to the proposed modification, including a description of traffic and access, is provided in Section 6.10 of the existing REF. The description provided in the existing REF is	Construction The likely impacts of the proposed modification on traffic and access are expected to be consistent with those outlined and assessed in the existing REF.	No additional safeguards proposed as a result of the proposed modification.

Environmental factor	Existing environment	Impacts of the proposed modification	Safeguards
	considered to be consistent with current conditions.	The proposed modification would be carried out in accordance with the traffic and access provisions of the existing REF. Operation No impacts to traffic and access are anticipated from the proposed modification during operation. Operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	
Visual amenity	A description of the existing environment relevant to the proposed modification, including a description of visual amenity, is provided in Section 6.11 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction The proposed modification may result in a minor, localised impact on visual amenity at the site through the removal of additional vegetation to that identified in the existing REF. However, there would be negligible public visibility of the construction work site during the construction phase because Millewa River Road would be temporarily closed to through traffic at this location. The proposed modification is therefore considered to be consistent with the existing REF assessment. Operation Minimal impacts to visual amenity are anticipated from the proposed modification during operation. Impacts associated with additional vegetation removal would be mitigated by remediation and rehabilitation initiatives. Operation of the Proposal would be in accordance with	No additional safeguards proposed as a result of the proposed modification.

Environmental factor	Existing environment	Impacts of the proposed modification	Safeguards
		the assessment provided and approved conditions of the existing REF.	
Hazard	A description of the existing environment relevant to the proposed modification, including a description of potential hazards, is provided in Section 6.12 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction Hazards arising from the proposed modification are expected to be consistent with those outlined in the existing REF. The proposed modification would not increase hazardous conditions or result in a reduction in safety when compared with the assessment provided in the existing REF. Operation The proposed modification would not increase hazardous conditions or result in a reduction in safety during operation. The revised gate arrangement is anticipated to improve safety for asset owners and operators during opening and closing of gates. Operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	No additional safeguards proposed as a result of the proposed modification.
Socio-economic	A description of the existing environment relevant to the proposed modification, including a description of socio-economic factors, is provided in Section 6.13 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction The likely impacts of the proposed modification on socio-economic factors are expected to be consistent with those outlined and assessed in the existing REF. The proposed modification is not expected to impact on socio-economic factors.	No additional safeguards proposed as a result of the proposed modification.

Environmental factor	Existing environment	Impacts of the proposed modification	Safeguards
		Operation No impacts to socio-economic factors are anticipated from the proposed modification during operation. Operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	
Land use	A description of the existing land use is provided in Section 3.1 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction The proposed modification is not expected to impact on existing land use. Construction will be concentrated at the site of the existing Bullatale inlet regulator. Construction plant and vehicles will access the site using existing roads and access tracks in Murray Valley National Park. Construction activities will not impact on recreational users of Murray Valley National Park. Operation The proposed modification would not alter or impact on the existing land use.	No additional safeguards proposed as a result of the proposed modification.
Cumulative	A description of the existing environment relevant to the proposed modification, including a description of cumulative impacts, is provided in Section 6.15 of the existing REF. The description provided in the existing REF is considered to be consistent with current conditions.	Construction The likelihood of the proposed modification to result in cumulative impacts is considered to be consistent with the assessment provided in the existing REF. The proposed modification involves extending the REF construction footprint and additional vegetation clearance when compared with the existing REF and is	No additional safeguards proposed as a result of the proposed modification.

Environmental factor	Existing environment	Impacts of the proposed modification	Safeguards
		not expected to have a cumulative impact on or be cumulatively impacted by other developments. Operation No cumulative impacts are anticipated from the proposed modification during operation. Operation of the Proposal would be in accordance with the assessment provided and approved conditions of the existing REF.	

7 Environmental management

7.1 Construction environmental management

A construction environmental management plan (CEMP) is to be prepared by the successful construction contractor for the Bullatale inlet regulator replacement Project prior to commencement. The CEMP will detail effective, site-specific Safeguards (based on the existing REF and this Addendum REF) to monitor and control environmental impacts throughout the construction phase of the Project and to ensure compliance with all legislation approval requirements.

7.2 Operational environmental management

The proposed modification would result in minor changes to the operational functionality of the proposed regulator. However, following construction completion, the Project would be operated in accordance with the provisions of the existing REF and as per existing operational rules and permits. A suite of operational management documents including an overarching operational management framework and site-specific operational and maintenance manuals are currently being developed for the Project in consultation with key stakeholders including WaterNSW and NPWS, however, is not available at the time of preparing this Addendum REF.

7.3 Summary of safeguards

Site-specific safeguards have been developed in consultation with NPWS and NSW DCCEE and in reference to the NSW Government's environmental management guidelines *EMS-WG-TEM-04-10 - environmental management measures*.

Environmental safeguards identified in the existing REF are reproduced in Table 7-1. Additions or revisions to these safeguards, or new safeguards as a result of the proposed modification are identified in **bold, underlined** text. The relevant final NPWS conditions of consent for the existing REF have also been included and are identified in underlined text. Environmental safeguards identified in the existing REF which are either considered to be redundant or no longer applicable to the Project are identified in ~~strike through~~ text. As a result, Table 7-1 represents the final consolidated list of safeguards for the Project.

The agency consultation conditions and existing REF determining conditions are also provided in Appendix B and Appendix C respectively. These conditions have been replicated in this section to provide a consolidated set of safeguards and conditions relevant to the Project and proposed modification at this time. It is anticipated that this list will be updated to reflect any further NPWS and DPI Fisheries requirements.

Table 7-1 Consolidated list of safeguards

Environmental aspect	Safeguards	Responsibility	Timing
Terrestrial biodiversity			
Impact to surrounding vegetation	The approved construction footprint will be accurately and clearly marked out by a surveyor using flagging tape and signage prior to the start of works. The signage will prohibit any access or construction work outside the construction footprints. The biodiversity management plan will specify the type of flagging and signage required to delineate the approved construction footprint.	Contractor	Prior to construction
	The vegetation clearing boundary will be accurately and clearly marked out using flagging tape prior to the start of works. The clearing boundary must not extend outside the approved construction footprint. The biodiversity management plan will specify the type of flagging required to delineate the clearing boundary. If there are opportunities to not clear the entire approved construction footprint, preference should be given to avoiding clearing of areas containing established trees (including hollow-bearing trees) and good quality native vegetation and instead concentrate clearing to areas of the footprint that is subject to previous disturbance. To assist in this process, the biodiversity management plan will include figures of the approved construction footprint showing the locations of hollow-bearing trees, vegetation communities; important flora and fauna habitat areas; and locations where threatened species, populations or ecological communities have been recorded.	Contractor	Prior to construction
	Materials, plant, equipment, work vehicles and stockpiles will be stored, parked or placed as applicable within the clearing boundary or on existing access tracks at or leading to the work site that are temporarily closed to traffic and as a result are available for the sole use of the contractor.	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
	Where feasible, materials, plant, equipment, work vehicles and stockpiles will be stored, parked or placed as applicable away from the driplines of trees that are outside the clearing boundaries or that are within the clearing boundaries but proposed for retention.	Contractor	Construction
	If any damage occurs to vegetation outside the approved construction footprint it is to be reported and managed as an environmental incident in accordance with the environmental incident management procedure contained in the CEMP. NSW DCCEEW and NPWS will be notified so that appropriate remediation strategies can be developed and implemented.	Contractor, NSW DCCEEW	Construction
	Construction personnel will be informed of the environmentally sensitive aspects of the construction footprint, including being shown plans of directly impacted and adjoining areas that identify vegetation communities; important flora and fauna habitat areas; and locations where threatened species, populations or ecological communities have been recorded.	Contractor	Construction
Impact to native plants and animals including threatened species	<u>All identified hollow-bearing trees within the addendum construction footprint will be prioritised for retainment with potential impacts including pruning and loping of branches to be avoided where practicable.</u>	Contractor	Construction
	<u>Vegetation clearing is to be undertaken to the minimum extent necessary, with brush cutting of low-lying vegetation to be undertaken in preference to complete removal and pruning or removal of selected branches to be undertaken in preference to whole tree removal.</u>	Contractor	Construction
	<u>Restrict the use of hardstand areas. Where this is not possible, remove hardstands once construction is complete and rehabilitate the area in accordance with the site rehabilitation plan in the CEMP.</u>	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
	<u>The Contractor will prepare a pre-clearing plan to identify areas that will be cleared for construction. This will be submitted to NPWS and DCCEEW for approval. Clearing will be conducted in stages to ensure land is clear on an as needed basis.</u> A pre-clearing inspection will be undertaken 48 hours prior to any native vegetation clearing by a suitably qualified ecologist and the Contractor's Environmental Manager (or delegate). The pre-clearing inspection will include, as a minimum: • A check of the physical demarcation of the clearing boundary and construction footprint • Identification of trees that are just outside the marked clearing boundary that require protection to avoid unintended damage during the clearing and subsequent construction works • Identification of hollow bearing trees that need to be removed in accordance with the hollow-bearing tree removal procedure • Identification of other habitat features that need to be relocated outside the clearing boundary • Identification of any threatened flora and fauna • Implementation of the erosion and sediment control plan for the worksite, including erosion control structures. The completion of the pre-clearing inspection will form a hold point requiring sign-off from NSW DCCEEW.	Contractor	Construction
	Trees within the construction footprint that do not require felling will be protected during the construction phase in accordance with Australian Standard 4970-2009 <i>Protection of Trees on Development Sites</i>.	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
	If hollow-bearing trees require removal the following procedure will be followed: • Non-hollow bearing trees and vegetation surrounding a hollow-bearing tree will be removed first. Trees should be felled into the construction footprint to avoid damaging adjacent <u>or retained</u> vegetation • Leave the hollow-bearing tree standing for at least one night after other clearing to allow any fauna using the hollows to leave • <u>An NPWS ranger or suitably qualified ecologist is to supervise the felling process of the hollow-bearing trees</u> • Before felling a hollow-bearing tree, tap along the trunk using an excavator or loader to scare fauna from the hollows. Repeat several times. • After felling a hollow-bearing tree check its hollows and surrounds to ensure no fauna have become trapped or injured. Any fauna found should be safely located to nearby habitat by the attending <u>NPWS ranger ecologist. A local wildlife rescue group must be contacted for assistance if injured animals are found</u> • If a hollow-bearing tree is removed in stages, the non-hollow-bearing branches should be removed before the hollow-bearing branches are removed. In consultation with NPWS, felled hollow-bearing trees should be cut into sections and the sections with hollows prioritised for placement into the surrounding forest to provide additional potential habitat for ground dwelling fauna such as reptiles and small mammals.	Contractor	Construction
	The biodiversity management plan will include a procedure for dealing with the presence of native fauna species within the construction footprint during the construction works. The procedure will require construction work at the site of the find to immediately cease and the subject animal allowed to leave the construction footprint without being harassed. If an animal needs to be relocated to outside the construction footprint, the contractor is to notify NSW DCCEEW and they will in turn notify NPWS to agree on appropriate mitigation measures (including relocation measures). The contractor will only restart work at the subject site when authorised by NSW DCCEEW.	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
	Construction and worker vehicles and machinery will be checked at the start and end of each workday to ensure fauna are not entrapped. <u>Deep excavations left open at night must be left with ramps or openings such that any fauna entering has a means of escape. Excavations must be checked each morning for any trapped animals.</u>	Contractor	Construction
	Construction during the Superb Parrot breeding period (September to January) will be avoided if possible. If this cannot be achieved, this species will be considered during pre-clearing surveys to ensure that no impacts will occur.	Contractor	Construction
	The following mitigation measures will be implemented to ensure any resident wombats are removed prior to construction: • Inspect the burrow for activity/occupation (monitor and inspect burrows for at least three days and rake entrances to allow for identification of fresh tracks) • Coordinate removal and/or relocation efforts with NPWS to provide on-site assistance in safely deterring wombats from the burrow and finding them a new home, checking the wombat for any signs of 'mange' (a deadly disease if untreated in wombats) and/or in the event of injury to any animals • An ecologist will be present to assist with the relocation of any resident wombats if requested by NPWS Once the burrow is determined to be empty, collapse the entrance to prevent re-burrowing.	Contractor	Construction
Impacts to habitat features	Relocation of habitat features (e.g., fallen timber, hollow logs) from within the clearing boundary will occur in accordance with an approved project-specific procedure to be included in the biodiversity management plan.	Contractor	Construction
Impacts from introduction and spread of weeds	Weed management will be undertaken in consultation with NPWS in areas affected by construction prior to any clearing works in accordance with the <i>Biosecurity Act 2015</i> to ensure weeds are not spread to the surrounding environment; including during transport of waste off-site to a licenced waste disposal facility.	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
	All weeds, propagules, other plant parts and/or excavated topsoil material that is likely to be infested with weed propagules will be treated on site or bagged, removed from site, and disposed of at a suitably licensed waste facility. If pesticide use is proposed it must occur in accordance with NPWS's requirements including the <i>Pesticide Use Notification Plan</i> (NPWS, 2022).	Contractor	Construction
Impacts from introduction and spread of plant pathogens	All vehicles and machinery engaged in earthworks and vegetation clearance activities will follow the Myrtle Rust hygiene protocol for vehicles and heavy machinery in Table 5 of the <i>Hygiene Guidelines</i> (Department of Planning, Industry and Environment, 2020).	Contractor	Construction
Wildlife impacts from vehicle strike	Drivers must stay vigilant for fauna during machinery operation and vehicle movements.	Contractor	Construction
<u>Unexpected biodiversity values</u>	If, during the course of undertaking the activity, there is evidence of the presence of threatened species or ecological communities, that were not identified or assessed in the REF but will be impacted by the activity, NSW DCCEE must: • <u>cease all work likely to affect the threatened species or ecological community</u> • <u>inform the NPWS Manager, Riverina Area Manager or their delegate and/or the local NSW DPI Fisheries office for threatened fish or aquatic ecological community matters. Notification must be made as soon as practicable by phone, electronically or in writing</u> • <u>not recommence works likely to affect the threatened species or ecological community until receiving written advice from NPWS and/or DPI Fisheries to do so.</u>	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
<u>Notification of harm</u>	NPWS will be notified of incidents causing or threatening material harm to the environment as soon as practicable after the NSW DCCEEW or its employees become aware of the incident. Notifications must be made by telephoning the Environment Line on 131 555. Contact with the NPWS Manager, Riverina Area or their delegate must be made to seek direction on any further procedures to arrest harm. Written details of the incident must be provided within 7 days of the date on which the incident occurred.	Contractor	Construction

Aboriginal Heritage

Unexpected finds	Unexpected Aboriginal cultural heritage finds will be managed in accordance with NPWS's <i>Unexpected Finds Protocol - Aboriginal Cultural Heritage</i>. Key steps are summarised below. Aboriginal objects If an Aboriginal object is discovered during construction, all works in this location must stop and no further harm must occur to the area. The find must be left in place and protected from any further harm. Notify the NSW DCCEEW Project Manager of the find, who in turn will notify NPWS, and the Environment Line (13 15 55) and arrange for a qualified archaeologist and representatives of the registered Aboriginal parties to inspect the find. If they confirm that the find is an Aboriginal object, the item will be recorded on AHIMS, agreement reached on its management, and an application made for an Aboriginal heritage impact permit. Aboriginal human/ancestral skeletal remains If Aboriginal human/ancestral skeletal remains are discovered, all work in the vicinity of the remains must stop. Notify the NSW DCCEEW Project Manager of the find, who in turn will notify NSW Police if the material is determined to be of human origin and less than 100 years old, or NPWS Aboriginal Partnerships and Heritage Unit, and Heritage NSW if the remains are believed to be Aboriginal. If in doubt or required by NSW Police, NSW DCCEEW will obtain specialist advice from a forensic anthropologist or bioarchaeologist to confirm that the bones are human, their age and whether they are Aboriginal or not. The remains must be left in place and protected from further harm or damage or unauthorised access until further advice states otherwise.	Contractor/NSW DCCEEW	Construction
-------------------------	--	-----------------------	--------------

Environmental aspect	Safeguards	Responsibility	Timing
	If the remains are confirmed to be Aboriginal, NSW DCCEEW will notify the registered Aboriginal parties. Aboriginal ancestral remains will be recorded in a culturally appropriate manner in collaboration with Heritage NSW and the registered Aboriginal parties. Work will not recommence at the location until authorised in writing by Heritage NSW if the remains are considered by the NSW Police and Heritage NSW to be Aboriginal.		

Topography, geology and soils

Erosion and sediment	An erosion and sediment control plan will be prepared as part of the contractor's CEMP. Site specific erosion and sediment control measures will be designed, implemented and maintained in accordance with relevant sections of <i>Managing Urban Stormwater: Soil and Construction Volume 1</i> (Landcom, 2004) (the Blue Book). The erosion and sediment control plan will provide details of the cofferdams to be installed upstream and downstream of instream work sites and the strategies that will be implemented to stabilise soils during the construction phase.	Contractor	Construction
	<u>Works will not be undertaken in wet weather if the proposed track surfaces and sites are going to be damaged by vehicles, equipment or works. Any areas, or roads or trail damaged or disturbed in such a way that it may lead to soil erosion must be stabilised immediately and remediation undertaken within 7 days. All repairs, remediation or rehabilitation must be to a standard satisfactory to the NPWS Manager, Riverina Area or their delegate. Visual monitoring and dust supressing measures are to be implemented, as required.</u>	Contractor	Construction

Surface water and drainage

Environmental aspect	Safeguards	Responsibility	Timing
Impact of construction activities and mobilising sediment	Erosion and sediment control measures will be implemented to stabilise ground surfaces disturbed during the construction phase and will include but not be limited to: • Sediment fences along the clearing boundary • Stockpiling materials on site for the shortest time feasible • Contouring disturbed areas of the supply channel's bed and banks to reinstate natural contours or otherwise in accordance with the design drawings • Covers on truck loads when transporting loose material • Covers on (or watering of) stockpiles. Where feasible, these control measures will be in place before any vegetation clearing or earthwork starts and will remain in place throughout the construction phase until the site rehabilitation plan has been fully implemented.	Contractor	Detailed design Construction
Instream works	The construction soil and water management plan will include contingency measures in the event of high flows in the Murray River during the construction works.	Contractor	Construction
	Control measures to manage potential pollution or sedimentation impacts from instream works will include but not be limited to: • Cofferdams to create dry sites for instream works • Undertake work when flows in the inlet channel are low/dry for a suitable duration to complete work • Develop contingencies for unexpected moderate to high flows in the Murray River during instream works. Control measures will be in place prior to commencement of any instream works.	Contractor	Detailed design Construction

Environmental aspect	Safeguards	Responsibility	Timing
Spills and leaks	An emergency spill response procedure will be prepared in accordance with NSW DCCEE's incident management protocols to minimise the impact of accidental spillages of fuels, chemicals and fluids during construction. Hazardous materials such as oils, chemicals and refuelling activities will occur in bunded areas and as far from the inlet channel and Bullatale supply channel as feasible.	Contractor	Detailed design Construction
Concrete works	Bunded receptacles for concrete waste including concrete slurries and washout water will be provided at the work site to capture, contain and appropriately dispose of any concrete waste at a suitably licenced waste facility. These will be located as far from the inlet channel and Bullatale supply channel as feasible Concrete elements of the replacement inlet regulator will be prefabricated, where practicable.	Contractor	Detailed design Construction
Dewatering site within temporary dry works areas	The construction soil and water management plan will outline procedures (as per the Blue Book) and water quality standards (ANZG, 2018) to be achieved prior to discharging water to the supply channel.	Contractor	Detailed design Construction
Water quality monitoring	Visual monitoring of local water quality e.g., turbidity, hydrocarbon spills/slicks will be carried out daily during construction to identify any potential spills or deficient erosion and sediment controls. Should a change in water quality appear evident samples will be collected and analysed.	Contractor	Construction
Hydrology and groundwater			

Environmental aspect	Safeguards	Responsibility	Timing
Cessation of flow downstream of the inlet regulator during construction	If Bullatale Creek Water Trust requires water during the construction phase while cofferdams are in place that block flow into the inlet channel that would otherwise have reached the existing inlet regulator an equivalent flow in the supply channel would be created using a bypass pump. A fish screen will be fitted to the inlet during bypass pumping. Flow would discharge into a bunded area to avoid scouring of the channel bed and capture any coarse sediment in the flow. The bunded area will be sized so that water spills from the bunded area back into the creek at low velocity.	Contractor	Construction
Groundwater ingress into the work site during construction	- Any groundwater that enters excavations within the work site will be tested and, if suitable, pumped into Bullatale supply channel or otherwise pumped into a treatment pond and treated before being discharged into the supply channel. - If a treatment pond is proposed it must be located within the construction footprint and its location, size and proposed use must be documented in the construction soil and water management plan. - The construction soil and water management plan will include water quality criteria for any water to be discharged into the supply channel.	Contractor	Construction
Overtopping of the banks of Bullatale supply channel during operation	Subject to suitable flows in the Murray River, and based on NSW DCCEE's hydrology analysis, the position of the gates of the replacement inlet regulator will be trialled during commissioning of the replacement inlet regulator to establish a gate position that produces a flow less than the bank full capacity of Bullatale supply channel and that will enable Bullatale Creek Water Trust to extract their entitlement over an optimal range of Murray River flow rates.	NSW DCCEE in conjunction with Bullatale Creek Water Trust	Commissioning
Aquatic biodiversity			
Interactions with fauna	A pre-construction survey will be undertaken in areas that will be enclosed by cofferdams.	Contractor	Prior to construction

Environmental aspect	Safeguards	Responsibility	Timing
during construction	A fish screen will be installed on pumps to prevent entrainment of fish into pumps during dewatering.	Contractor	Construction
	The biodiversity management plan will include a procedure for dealing with the presence of native fauna species within the construction footprint during the construction works. The procedure will require construction work at the site of the find to immediately cease and the subject animal allowed to leave the construction footprint without being harassed. Where assistance is required to relocate an animal, the contractor is to notify NSW DCCEEW and they will in turn notify NPWS to agree on appropriate mitigation measures (including relocation measures). The contractor will only restart work at the subject site when authorised by NSW DCCEEW.	Contractor	Prior to construction
Removal of snags, riparian and instream vegetation	Large woody debris and snags and native aquatic vegetation will be relocated (where possible outside the breeding season of spring and summer) from instream work sites (including at cofferdams if required) to a suitable downstream location in Bullatale supply channel in consultation with a qualified ecologist, NPWS and NSW DCCEEW.	NSW DCCEEW, Contractor	Construction
	Rehabilitation of disturbed areas of riparian and instream vegetation will be undertaken as soon as practicable, progressively and in accordance with a site rehabilitation plan prepared as part of the CEMP and in consultation with NPWS. Where possible, woody debris, snags and native instream vegetation that was relocated downstream to make way for the instream work site will be used in the rehabilitation works.	Contractor	Construction
	Rehabilitation in the construction footprint will involve replacing and stabilising topsoil and re-planting native trees and plants.	Contractor	Construction
Sediment build-up in the fishway	Inspections and maintenance of the fishway will be carried out on a regular basis to ensure that fish passage is not obstructed.	Bullatale Creek Water Trust	Operation

Environmental aspect	Safeguards	Responsibility	Timing
Use of fishway during operation and surrounding habitat	Existing aquatic species monitoring at Millewa Forest as part of The Living Murray initiative will document impacts/benefits on the aquatic ecosystem due to the replacement inlet regulator.	NPWS, in liaison with Arthur Rylah Institute for Environmental Research	Operation
Invasive species	An ongoing management response should be adopted to mitigate movement and proliferation of invasive aquatic species in the floodplain environments.	NPWS	Operation
Noise and vibration			
Construction noise and vibration	Provide community information regarding potential impacts from increases in heavy traffic during construction, including potential noise impacts.	NSW DCCEEW	Construction
	Public access should be excluded from the construction zone, including associated laydown and stockpile areas.	Contractor	Construction
	Unless otherwise approved by NSW DCCEEW through an out of hours application process, construction hours will be limited to: - Monday to Friday: 7 am to 6 pm - Saturday: 8 am to 5 pm No construction work on Sundays or public holidays. <u>Work may only occur on public holidays or Sunday with prior written approval of NPWS Manager, Riverina Area.</u>	Contractor	Construction
	All site personnel are to be made aware of noise issues and mitigation measures through induction processes.	Contractor	Construction
	All machinery shall be well maintained and in good working order. All vehicles and equipment will be fitted with silencing devices, where applicable.	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
Traffic and access			
Construction traffic	A construction traffic management plan will be prepared as part of the CEMP. The plan will include: • A driver code of conduct • Confirmation of haulage routes and access locations • Measures to maintain access and capacity to existing roads where possible • Traffic control measures including signage at appropriate locations to notify road users of increased traffic volumes and construction vehicles • Management of oversized vehicles A response plan for any construction-related traffic incidents.	Contractor	Construction
	Consultation with NPWS and Murray River Council will be undertaken to minimise the impacts to the surrounding road network during construction including temporary access tracks or road closures. Any agreed traffic management measures will be incorporated into the construction traffic management plan.	Contractor	Construction
	<u>Prior to the commencement of the activity, the contractor is to erect signs on the public access roads and trails used for the activity, notifying the public of the activity. The signs are to be approved by the NPWS Riverina Area Manager prior to placement. Signs must be visible and clearly specify:</u> • <u>activity, reasons for undertaking the activity and duration of the activity</u> • <u>the hours of operation</u> • <u>a contractor based contact (telephone, email or website) for public inquiries.</u>	Contractor	Construction
	<u>Vehicles and machinery must only use the track/s described in the existing REF. New access tracks or reopening of old tracks must not occur without NPWS approval.</u>	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
	The contractor must take reasonable steps to restrict public access during the construction period. Where access restrictions are in place ensure temporary barriers and signage has been erected by the contractor around the work area prior to commencement.	Contractor	Construction
Visual			
Visibility of construction elements	During construction, all equipment, materials and temporary facilities, such as site offices and portable toilets, will be located within the designated construction footprint for the works.	Contractor	Construction
	The construction work site will be clearly demarcated and maintained in an orderly manner.	Contractor	Construction
	All construction equipment will be removed from the park as soon as it is not required, including any material and refuse related to the works.	Contractor	Construction
Revegetation	A site rehabilitation plan will be prepared as part of the CEMP. The site rehabilitation plan will detail how the work sites will be stabilised and revegetated once the new infrastructure is built. A draft site rehabilitation plan will be provided to NPWS for comment and any comments provided will be addressed in the final version of the plan. Rehabilitation of the construction footprint including revegetation will be carried out as soon as practicable, <u>and at most 5 years from the date of the NPWS's determination.</u>	NSW DCCEEW, Contractor	Construction
Hazards			

Environmental aspect	Safeguards	Responsibility	Timing
Bushfire risk during construction	The contractor will check the fire danger rating conditions with RFS at the Bush Fire Information line – 1800 NSW RFS (1800 679 737) or the NSW Fires Near Me website (https://www.rfs.nsw.gov.au/fire-information/fires-near-me), or the NSW Hazards Near me app. For days with a high fire danger rating or greater the contractor is to seek advice from the NPWS Manager, Riverina Area or delegate. No works are to occur during days of catastrophic fire danger or if the park has been closed. The following controls will be implemented to mitigate potential for fires and increased bush fire risk during construction: • No stockpiling or burning of waste vegetation to occur onsite • Daily weather checks will be undertaken during the pre-start meeting to note for potential fire danger • Any notices erected, displayed or issued by NPWS regulating the use of fire in the park will be complied with • Hot works and machinery which may result in sparking or ignition must not be used on a Total Fire Ban Day without an exemption from the NSW Rural Fire Service • Fuel and other similar flammable materials, such as gas cylinders and paint, will be stored in appropriate fire-resistant storage containers/ <u>bunded areas and as far from the inlet channel and Bullatale supply channel as feasible.</u> • Appropriate firefighting equipment (e.g., water pump, extinguisher and hand tools) should be available on site along with trained staff • <u>Firefighting foams or gels are not to be used in firefighting operations in landscapes below 10 metres above mean sea level or within 50 metres of the edge of a creek, swamp or freshwater lake.</u> • Stationary plant will be parked in cleared areas No smoking on site in accordance with section 19 of the NPW Regulation.	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
	All works will be undertaken in accordance with the operational guidelines under the <i>Murray Valley National and Regional Parks (Millewa, Moira and Gulpa Islands Precincts) Fire Management Strategy</i> which includes provisions pertaining to operation of earthmoving equipment and visitor management.	Contractor	Construction
Emergency response	Emergency contacts and response procedures will form part of the CEMP and site inductions.	Contractor	Construction

Waste, contamination and hazardous materials

Spoil generation	Where feasible, suitable excavated spoil material will be reused onsite as backfill and/or for construction of cofferdams.	Contractor	Construction
Asbestos	<u>If any asbestos containing material is identified during the works, works are to stop immediately with all access to the construction site restricted. NPWS Manager, Riverina Area is to be notified and the Contractor's unexpected finds protocol to be followed.</u>	Contractor	Construction
Beneficial re-use onsite	Cleared vegetation suitable for use in the rehabilitation works (e.g., fallen logs that could provide habitat) will be retained on site for later reuse in accordance with the site rehabilitation plan. Other cleared vegetation will be mulched and either disposed off-site at a suitably licenced waste facility or, if requested by and agreed with NPWS, made available for NPWS to reuse within Murray Valley National Park and Regional Park.	Contractor	Construction
	Earth removed that is surplus to the requirements of the site where it was excavated and which can be classified as virgin excavated natural material or excavated natural material could be used for other works proposed in Millewa Forest as part of the Millewa Forest Supply Project, or otherwise disposed off-site at an appropriately licenced waste facility.	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
Hazardous materials	All hazardous materials will be stored in accordance with existing or agreed NPWS procedures.	Contractor	Construction
Accidental spill	All contractors and staff will be appropriately trained through a site induction and toolbox talks to prevent, minimise and manage accidental spills.	Contractor	Construction
	Machinery will be inspected daily to ensure no oil, fuel or lubricants are leaking from the machinery. Machines will be maintained as per manufacturers specifications.	Contractor	Construction
	To avoid release to the environment, all hazardous materials (fuels, lubricants, herbicides, etc.) will be disposed of off-site in accordance with Environment Protection Authority guidelines.	Contractor	Construction
	Spill response procedures will follow existing or agreed NPWS procedures.	Contractor	Construction
	Mobile spill kits fully stocked with adequate spill prevention and absorbent materials (including absorbent pads, granular absorbent and disposal bags) will be maintained onsite and on construction vehicles carting hazardous materials.	Contractor	Construction
	Refuelling of all vehicles and mobile equipment will occur at least 20 metres away from any drainage lines or waterways.	Contractor	Construction
Soil contamination	If suspected soil contamination is encountered, the suspect materials should be segregated and placed in a designated bunded stockpile covered in plastic sheeting to prevent rainfall infiltration and/or soil migration during windy conditions.	Contractor	Construction
	<u>Any imported material must be Virgin Excavated Natural Material (VENM) certified and a source approved by NPWS.</u>	Contractor	Construction

Environmental aspect	Safeguards	Responsibility	Timing
Generation of construction waste	All waste material generated will be handled and disposed of carefully to minimise the risk of pollution.	Contractor	Construction
	All construction and demolition materials able to be recycled shall be separated and recycled at approved facilities or reused onsite.	Contractor	Construction
	All demolition material and waste materials will be removed from the site in a timely manner and disposed of at a suitability-licenced waste disposal facility.	Contractor	Construction
	Records of waste classification and disposal dockets will be maintained.	Contractor	Construction
	<u>Waste generated at the site from the activity must be managed in accordance with the <i>Protection of the Environment (Waste) Regulation 2014</i>. All toilet waste must be removed from site.</u>	Contractor	Construction
Material usage	Preferential use of fabricated and precast materials will be integrated into the detailed design to minimise onsite construction waste and optimise material usage.	NSW DCCEEW	Detailed Design

Cumulative impacts

Cumulative impacts	Construction of the various components of the Millewa Forest Supply Project would be coordinated by NSW DCCEEW to minimise any potential cumulative impacts.	NSW DCCEEW	Construction
--------------------	--	------------	--------------

8 Conclusion

8.1 Justification

A modification to the approved Bullatale inlet regulator replacement Project is required to accommodate minor design changes and extend the proposed construction footprint to enable construction of the Project to be carried out. The proposed modification will allow the objectives of the Bullatale inlet regulator replacement Project as described in Section 2.1 of the existing REF to be achieved.

The proposed modification would result in minor additional impacts to the environment to those approved in the existing REF. Most notably, the proposed modification would require the removal of up to around 1.85 hectares of additional native vegetation (increased from 0.42 hectares, with a total of up to 2.27 hectares of native vegetation removal required overall for the Project) as described in Chapter 6 of this Addendum REF.

The proposed modification is considered justified as it is required to achieve the objectives of the Bullatale inlet regulator replacement Project and would have only a minor additional impact on the environment when compared with the existing REF.

8.2 Ecological sustainable development

Ecologically sustainable development is development that improves the total quality of life, both now and in the future. Achieving ecologically sustainable development is guided by four main principles. The principles, and how the proposed modification relates to them, are discussed below.

8.2.1 The precautionary principle

The precautionary principle deals with reconciling scientific uncertainty about environmental impacts with certainty in decision-making. It provides that where there is a threat of serious or irreversible environmental damage, the absence of full scientific certainty should not be used as a reason to postpone measures to prevent environmental degradation.

This Addendum REF has assessed the potential environmental impacts of the proposed modification and identified additional environmental safeguards to control these impacts. The proposed modification is not considered to present a threat of serious or irreversible environmental damage. Scientific uncertainty would not postpone the implementation of any safeguards identified in this Addendum REF.

8.2.2 Inter-generational equity

Social equity is concerned with the distribution of economic, social and environmental costs and benefits. Inter-generational equity introduces a temporal element with a focus on minimising the distribution of costs to future generations.

The proposed modification is not expected to adversely impact on the health, diversity or productivity of the environment for future generations. The Bullatale inlet regulator replacement Project (and consequently the proposed modification) and broader Millewa Forest Supply Project aim to improve the ecosystem health of Millewa Forest and is therefore considered to represent a positive impact on intergenerational equity by maintaining ecosystem health for future generations.

8.2.3 Conservation of biological diversity and ecological integrity

The conservation of biological diversity and ecological integrity provides that the diversity of genes, species, populations and communities, as well as the ecosystems and habitats to which they belong, must be maintained and improved to ensure their survival.

An assessment of the existing ecological conditions of the addendum construction footprint has been carried out to identify and manage any potential impact of the proposed modification on local biodiversity and ecological integrity. The potential impacts of the proposed modification on biodiversity would be limited to the construction phase and would involve the additional removal of up to around 2.4 hectares of native vegetation and up to ten (10) hollow bearing trees. Potential impacts to hollow-bearing trees within the addendum construction footprint will be avoided where possible.

The proposed modification is not considered to represent a significant impact on a threatened or migratory species listed under the EPBC Act, or any threatened species listed under the BC Act. The minor design changes would also provide additional environmental benefits during operation through improved fish passage via the lowered invert level and enhanced control of environmental flows through the structure via the additional combination gates.

In the long term, the proposed modification and overall Project is expected to improve the ecological integrity of Millewa Forest and surrounding biodiversity by supporting the objectives of the Bullatale inlet regulator replacement Project.

8.2.4 Improved valuation and pricing of environmental resources

The principle of internalising environmental costs into decision making requires consideration of all environmental resources which may be affected by the carrying out of a project, including air, water, land and living things.

This Addendum REF has examined the potential environmental impacts of the proposed modification (including on air, water, land and living things) and identified safeguards where there is the potential for adverse impacts. The implementation of safeguards to protect environmental resources is considered to represent the internalisation of environmental costs by NSW DCCEW as a result of the proposed modification.

8.3 Conclusion

Currently, construction of the Bullatale inlet regulator replacement Project is constrained by an existing REF construction footprint that is too small to construct the proposed infrastructure as designed. The proposed modification would extend the proposed construction footprint. The proposed modification would also capture minor design changes required to optimise the performance of the structure during operation.

The proposed modification meets the objectives of the Bullatale inlet regulator replacement Project by allowing the works described in the existing REF to be carried out with the current design and construction methodology. The proposed addendum construction footprint would result in an increase in the amount of vegetation clearance and ground disturbance carried out for the Project. Environmental safeguards provided in this Addendum REF would ameliorate or minimise these expected impacts. The proposed minor design changes would provide a range of benefits during operation including improved fish passage, safer operation and greater control of environmental flows.

This Addendum REF has examined and considered all relevant location, state and commonwealth legislation and policies, and all matters affecting and likely to affect the environment as a result of the proposed modification.

This Addendum REF has been prepared in accordance with section 5.5 of the EP&A Act. It has concluded that the proposed modification is unlikely to have a significant impact on the environment, therefore an environmental impact statement under section 5.7 of the EP&A Act is not required. This Addendum REF has considered whether there is likely to be a significant impact on State listed threatened species, ecological communities and their habitats and concluded that a significant impact is not likely.

In addition, the proposed modification is unlikely to have a significant impact on matters of national environmental significance or Commonwealth land within the meaning of the EPBC Act, therefore a referral to the Commonwealth DCCEEW is not required.

9 References

ANZG (2018), Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia, 2018, Available at www.waterquality.gov.au/anz-guidelines

Austral Archaeology (2024), Bullatale Inlet Regulator Millewa New South Wales Addendum Aboriginal Cultural Heritage Assessment, 2024

Baumgartner, L., McPherson, B., Doyle, J., Cory, F., Cinotti N. and Hutchison J. (2013). Quantifying and mitigating the impacts of weirs on downstream passage of native fish in the Murray-Darling Basin. Published client report for NSW Department of Primary Industries

Bureau of Meteorology (2022). Atlas of Groundwater Dependent Ecosystems. Available at: <http://www.bom.gov.au/water/groundwater/gde/map.shtml> .DECCW (2010). *Aboriginal Cultural Heritage Consultation Requirements for Proponents*, April 2010

Department of Planning and Environment (DPE) (2022a), Guidelines for instream works on waterfront land.

https://www.dpie.nsw.gov.au/_data/assets/pdf_file/0005/386204/licensing_approvals_controlled_activities_instream_works.pdf

DPE (2022b) Guidelines for watercourse crossings on waterfront land.

https://water.dpie.nsw.gov.au/_data/assets/pdf_file/0010/386209/licensing_approvals_controlled_activities_watercourse_crossings.pdf

DPE (2022c) Guidelines for riparian corridors on waterfront land.

https://water.dpie.nsw.gov.au/_data/assets/pdf_file/0008/386207/licensing_approvals_controlled_activities_riparian_corridors.pdf

Ecological Associates and SKM (2011). *Environmental Water Delivery: Yarrawonga to Tocumwal and Barmah-Millewa*. Prepared for Department of Sustainability, Environment, Water, Population and Communities.

EESG (2022). BioNet Atlas of NSW Wildlife. Available: <http://www.bionet.nsw.gov.au/>

Harrington, B. and Hale, J. (2011), Ecological Character Description for the NSW Central Murray Forests Ramsar site. Report to the Department of Sustainability, Environment, Water, Population and Communities, Canberra, 2011

Howard, K., Durkin, L., Beesley, L., Gwinn D. and Ward, K. (2021). The Living Murray - Turtle and Frog Condition Monitoring in Barmah-Millewa Forest, Report for the 2020-21 survey season. Published client report for DELWP, Victoria, 2021

King, A.J., Ramsey, D., Baumgartner, L., Humphries, P., Jones, M., Koehn, J., Lyon, J., Mallen-Cooper., M., Meredith, S., Vilizzi, L., Ye, Q and Zampatti, B. (2009), *Environmental requirements for managing successful fish recruitment in the Murray River Valley – Review of existing knowledge*, Department of Sustainability and Environment, Victoria, Australia, 2009

Landcom (2004), Managing Urban Stormwater: Soils and Construction, Volume 1, March 2004, <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Water/Water-quality/managing-urban-stormwater-soils-construction-volume-1-fourth-edition.pdf>

Leslie, D. J. (2001), *Effect of river management on colonially-nesting waterbirds in the Barmah–Millewa forest, south-eastern Australia. Regulated Rivers, Research & Management, January 2001*

Local Land Services (LLS), 2023. Riverina Regional Strategic Weed Management Plan 2023-2027. Available: https://www.lls.nsw.gov.au/_data/assets/pdf_file/0007/722446/Riverina-Regional-Strategic-Weed-Management-Plan-2023-2027.pdf.

National Parks & Wildlife Services (NPWS) (2012), The Murray Valley National and Regional Parks (Millewa, Moira and Gulpa Islands Precincts) Fire Management Strategy, Office of Environment and Heritage, 2012

NPWS (2014), Statement of Management Intent: Murray Valley National Park and Murray Valley Regional Park. NSW Office of Environment and Heritage, National Parks and Wildlife Service, Sydney, June 2014, <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected-areas/Parks-statement-of-management-intent/murray-valley-national-park-regional-park-statement-of-management-intent-140205.pdf>

NPWS (2021), Managing Parks Prior to a Plan of Management Policy. National Parks and Wildlife Service, December 2021, <https://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-policies/managing-parks-prior-to-a-plan-of-management#:~:text=This%20policy%20provides%20guidelines%20for,after%20the%20park%20is%20reserved.>

NPWS (2022), Pesticide Use Notification Plan. Environment and Heritage Group of the Department of Planning and Environment, Parramatta, April 2022, <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Pests-and-weeds/pesticide-use-notification-plan-220222.pdf>

Riverina Local Land Services (2017), Riverina Regional Strategic Weed Management Plan 2017-2022. Riverina Local Land Services, Wagga Wagga, June 2017, https://www.lls.nsw.gov.au/_data/assets/pdf_file/0007/722446/RIVERINA_RSWMP-26-June_RLLS_FINAL.pdf

Tindale, N. B. (1974). Aboriginal Tribes of Australia - Their Terrain, Environmental Controls, Distribution, Limits, and Proper Names, Canberra: Australian National University Press

10 Terms and abbreviations

Term	Description
AHD	Australian height datum
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Aboriginal Heritage Information Management System
BC Act	<i>Biodiversity Conservation Act 2016</i>
Biodiversity and Conservation SEPP	State Environmental Planning Policy (Biodiversity and Conservation) 2021
CEMP	Construction environmental management plan
Commonwealth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2021</i>
FM Act	<i>Fisheries Management Act 1994</i>
Murray Valley SoMI	<i>Statement of Management Intent: Murray Valley National Park and Murray Valley Regional Park (NPWS, 2014)</i>
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
OEH	Office of Environment and Heritage
PCT	Plant community type
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
The Project	The Bullatale inlet regulator replacement project
Proposed modification	Modifications to the Bullatale inlet regulator replacement project
Addendum REF	Addendum Review of environmental factors
SDL	Sustainable diversion limit

SDLAM	NSW Sustainable Diversion Limit Adjustment Mechanism Program
SEPP	State environmental planning policy
Site environmental water managers	Stakeholders with an interest in and/or responsibility to carry out environmental watering of Millewa Forest are: • NPWS, as the icon site manager for The Living Murray • The Biodiversity and Conservation Division of the Environment and Heritage Group of the Department of Climate Change, Energy, the Environment and Water, which manages the Barmah-Millewa water account • The Commonwealth Environmental Water Office and the Murray-Darling Basin Authority, which hold the water entitlement for The Living Murray. While all these stakeholders are involved in the management of environmental watering of Millewa Forest, for practical reasons NPWS has assumed day-to-day responsibility for carrying out environmental watering of the forest. For simplicity, environmental watering of the forest is discussed in this REF as the responsibility of ‘the site environmental water manager.’
Transport and Infrastructure SEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
WM Act	<i>Water Management Act 2000</i>

Appendix A Clause 171

Environmental Factors Checklist

The following factors listed in clause 171(2) of the EP&A Regulation, have been considered in assessing the likely impacts of the Proposed Activity on the environment. These are provided in the table below.

Table A- 1 Clause 171(2) factors

Environmental Factor	Impact	Details / Where addressed in REF
(a) the environmental impact on the community	yes	Minor. The proposed modification would have only a minor environmental impact on the community, limited to an increased requirement for vegetation clearing, ground disturbance, and impacts of items of Aboriginal cultural heritage significance.
(b) the transformation of the locality	no	Nil. The proposed modification would not transform the locality.
(c) the environmental impact on the ecosystems of the locality	yes	Minor. The proposed modification would require the removal of up to 2.4 hectares of native vegetation. Despite the requirement for vegetation removal, the proposed modification is expected have no more than a minor impact on the ecosystems of the locality, as described in Section 6.1.2 of this Addendum REF.
(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality	no	Nil. The proposed modification would not reduce the aesthetic, recreation, scientific or other environmental quality or value of the locality.

Environmental Factor	Impact	Details / Where addressed in REF
(e) the effects on any locality, place or building that has — (i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or (ii) other special value for present or future generations	no	Nil. The proposed modification would not impact on a place that has archaeological, cultural, historical and social significance.
(f) the impact on the habitat of protected animals, within the meaning of the <i>Biodiversity Conservation Act 2016</i>	yes	Minor. The proposed modification would require the removal of up to 2.4 hectares of native vegetation. Despite the requirement for vegetation removal, the proposed modification is expected have no more than a minor impact on threatened flora and fauna, as described in Section 6.1.2 of this Addendum REF.
(g) the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air	no	The proposed modification would not endanger a species of animal, plant or other form of life.
(h) long-term effects on the environment	yes	The proposed modification is expected to have a long-term positive effect on the environment of Millewa Forest by enabling the removal of existing constraints to water and improving fish passage through the forest and downstream Bullatale Creek.
(i) degradation of the quality of the environment	no	The proposed modification would not degrade the quality of the environment of Millewa Forest. The proposed modification is expected to improve the quality of the environment by enabling the removal of existing constraints to water and improving fish passage through the forest and downstream Bullatale Creek.
(j) risk to the safety of the environment	no	The proposed modification would not risk the safety of the environment.
(k) reduction in the range of beneficial uses of the environment	no	The proposed modification would not reduce the range of beneficial uses of the environment.

Environmental Factor	Impact	Details / Where addressed in REF
(l) pollution of the environment	no	The proposed modification would not pollute the environment.
(m) environmental problems associated with the disposal of waste	no	The proposed modification would not result in any environmental problems associated with the disposal of waste.
(n) increased demands on natural or other resources that are, or are likely to become, in short supply	no	The proposed modification would not increase demands on natural or other resources that are, or likely to become, in short supply.
(o) the cumulative environmental effect with other existing or likely future activities	no	The proposed modification would not have a cumulative effect with other existing or likely future activities.
(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions	no	The proposed modification would not impact on coastal processes or coastal hazards.
(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1	n/a	The proposed modification would not impact local strategic planning statements, regional strategic plans or district strategic plans.
(r) other relevant environmental factors.	n/a	The expected impacts of the proposed modification on environmental factors are described and assessment in Chapter 6 of this Addendum REF.

Appendix B Agency consultation

Appendix C Bullatale inlet regulator replacement Existing REF and associated approval documents

Appendix D Revised Biodiversity Assessment Report

Appendix E Revised Aboriginal Cultural Heritage Assessment Report