HASLIN

Flora and Fauna Management Plan

Eurobodalla Southern Water Supply Storage Project

Contents

Glossary/ Abbreviations

Term / Abbreviation	Definition / Expanded text
Application Number	SSD 7089
CEMP	Construction Environmental Management Plan
CEMS	Contractors Environmental Management System
Compliance audit	Verification of how implementation is proceeding with respect to a Construction Environmental Management Plan (CEMP) (which incorporates the relevant approval conditions)
Construction	The demolition and removal of buildings or works, the carrying out of works for the purpose of the development, including bulk earthworks, and erection of buildings and other infrastructure permitted by the Development Consent
Council	Eurobodalla Shire Council
Development	The development described in the Eurobodalla Southern Water Supply Storage Environmental Impact Statement
Development Consent	The Minister for Planning's approval SSD 7089 dated 17 October 2019
DPE	Department of Planning and Environment
DPE Environment and Heritage	Department of Planning and Environment, Environment and Heritage
EIS	The Environmental Impact Statement titled Eurobodalla Southern Water Supply Storage Environmental Impact Statement, prepared by SMEC dated 27/08/2018
EEC	Endangered Ecological Community
Ecologically sustainable development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992)
EPA	NSW Environment Protection Authority
EMS	Environmental Management System
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects
Environmental incident	An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment
EMM	Environmental Management Measure as outlined in the project EIS documentation

Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve
Environmental policy	Statement by an organisation of its intention and principles for environmental performance
Environmental target	Defined by AS/NZS ISO 14001:2015 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
EWMS	Environmental work method statement
Hold point	Is a verification point that prevents work from commencing prior to approval from Eurobodalla Shire Council
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not cause a non-compliance
Minister, the	Minister of the NSW Department of Planning and Environment (or delegate)
Non-conformance	Failure to conform to the requirements of Project system documentation including this CEMP or supporting documentation
Operation	The operation of the water storage and associated infrastructure upon completion of construction excluding pre-commissioning activities
PESCP	Progressive Erosion and Sediment Control Plan
PIRMP	Pollution Incident Response Management Plan
Principal, the	Eurobodalla Shire Council
POEO Act	*Protection of the Environment Operations Act 1997* (NSW)
Project, the	Eurobodalla Southern Water Supply Storage
REMM	Revised Environmental Management Measures identified in Appendix 2 of the Development Consent
ROL	Road occupancy licence
SAP	Sensitive Area Plan
SEAR's	Secretary's Environmental Assessment Requirements
Site	Part of Lot 3 DP438839 and Lot 2 DP1168581 and an unnamed lot bounded by Bullockys Hut Road and Big Rock Road, Bodalla
SPIR	Submission and Preferred Infrastructure Report
SSD	State Significant Development
TRIPs	Tuross River Intake Pump Station

Document Control and Records

Documentation and document control for this Plan, including issue of any amendments will be done generally in accordance with the contract. This Plan is maintained by Haslin Constructions (Haslin) and maintained throughout construction through regular reviews carried out on an initial 3 month of the project starting then on a biannually basis, or as changes require.

At all times an up-to-date copy of this plan shall be kept on site and made available to all employees and contractors involved in the project. Amendments that are made to this document are recorded on the register of amendments below and shall be approved by management staff. Superseded versions of this document shall be maintained for a period of 7 years to demonstrate record of environmental management and compliance.

This document shall be created and approved by the client. A controlled copy shall be supplied to all relevant parties, and distribution of controlled copies shall be recorded on the distribution register below (controlled hardcopy only). When changes are made to this document, parties listed below shall be provided with updates.

Register of Amendments				
Date:	Version No.:	Description of Amendments:	Prepared by:	Approved by:
29/07/22	0	Draft	NF	AL
09/08/22	B	Draft. Responding to ESC comments	NF	AL
12/08/22	C	Draft. Minor adjustments	NF	AL
19/09/22	D	Responding to BCD comments	NF	AL
27/09/22	E	Minor adjustments	NF	AL
18/05/23	F	Additional Vegetation zones	KM	AL
01/08/2023	G	Additional Vegetation zone	KM	AL

Company Management Plan Authorisation			
	Name/Position	Date:	Signature
Prepared by:	Nicholas Francesconi Environmental Consultant	27/09/2022	
Reviewed by:	Andrew Lynam Environment Manager	27/09/2022	
Approved by:	Colin Woods Managing Director	27/09/2022	

Distribution Register			
Version No.	Date of Issue:	Name of Recipient:	Position/Organisation
0	29/07/22	Ross Bailey	Principals Authorised Person
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D	19/09/22	Ross Bailey	Principals Authorised Person
E	27/09/22	Ross Bailey	Principals Authorised Person
F	18/05/23	Ross Bailey	Principals Authorised Person
G	01/08/2023	Ross Bailey	Principals Authorised Person

1 Introduction

1.1 Context

This Flora and Fauna Management Plan (FFMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the Eurobodalla Southern Water Supply Storage (the Project).

This FFMP has been prepared to address the requirements of the Minister's Development Consent and the environmental management measures listed in the Eurobodalla Southern Water Supply Storage Environmental Impact Statement (EIS) and all applicable legislation.

1.2 The approved project

The Eurobodalla Southern Water Supply Storage (the Project) was granted Development Consent from the Department of Planning and Environment (DPE) on 17 October 2019. Development Consent is provided in Appendix A of the CEMP.

The Project consists of an off-stream water storage facility and associated ancillary facilities. Water would be extracted from the Tuross River, using a new river intake pump station, and transferred to the storage via the Storage Inlet Pipeline. As necessary, the storage volume would be supplemented by water extracted from an existing borefield adjacent the storage.

Key features of the Project include:

- a 3,000 megalitre storage capacity,
- a 370 metre long embankment, 39 metres in height and a crest width of 20 metres located on an unnamed tributary of the Tuross River,
- a spillway,
- permanent erosion control structures located downstream of the spillway,
- inlet works to convey and dissipate raw water transferred from the river intake pump station through a pipeline constructed along the left abutment to the proposed water storage facility,
- outlet works to allow transfer of water from the storage to the existing southern water treatment plant (WTP),
- instrumentation to monitor seepage, reservoir levels and water quality,
- a consequence category of "High C" for both flood and sunny day scenarios in accordance with the Australian National Committee on Large Dams (ANCOLD) Guidelines on the consequence categories of dams (2012),
- a thermal stratification control system,
- a boat ramp at the storage for maintenance and water quality monitoring, and
- safety and perimeter fencing at the storage.

Key features of the ancillary facilities include:

- new river intake pump station with a total river extraction capacity made up of a combination of flows from the river intake (up to 26 megalitres) and the borefield (up to six megalitres),
- installation of the following new pipelines including:
  - − a pipeline with a capacity of 26 megalitres per day to transfer raw water from the new river intake pump station to the storage inlet chute,
  - − a cross connection to the proposed water storage inlet pipeline with a capacity of six megalitres per day providing connection to supply water from the storage to the balance tank at the existing WTP,
  - − a pipeline connection from the existing borefield pipeline to the river intake pump station,

- a new storage access road that is about one kilometre in length and extends from Eurobodalla Road opposite the existing WTP to the embankment crest,
- basic right-turn and basic left-turn treatment at the intersection of the new storage access road and Eurobodalla Road would be provided,
- a new access road that would provide a route for vehicles to access the new river intake pump station, and
- power supply including the construction of new sub-stations located near the storage and the river intake pump station.

1.3 Scope of this plan

With the approval of the Secretary of Planning, construction of the project is being staged as follows:

- Stage 1: Tuross River Intake Pump Station clearing.
- Stage 2: Tuross River Intake Pump Station construction.
- Stage 3: Vegetation clearing and topsoil stripping of the access road, construction of the access road to the forestry boundary and construction of the inlet pipeline to the forestry boundary.
- Stage 4: Partial clearing of the entire storage site.
- Stage 5: All other works.

Works in Stage 1, Stage 2 and Stage 4 are complete. Stage 3 works are partially complete and will continue to be delivered under the applicable CEMP. The scope of works covered by this plan does not involve any works within the Tuross River, however for completeness/context it is referred to throughout this FFMP. This Plan only applies to Stage 5 of the approved project, being the construction of all remaining works on site including the removal of the remaining vegetation within clearing boundary, as well as grubbing works and removal of any remaining habitat trees identified during the pre-clearing inspections. The scope of works is detailed in Figure 1-1 and the clearing boundary is detailed in Figure 2-1 and Figure 6-1.

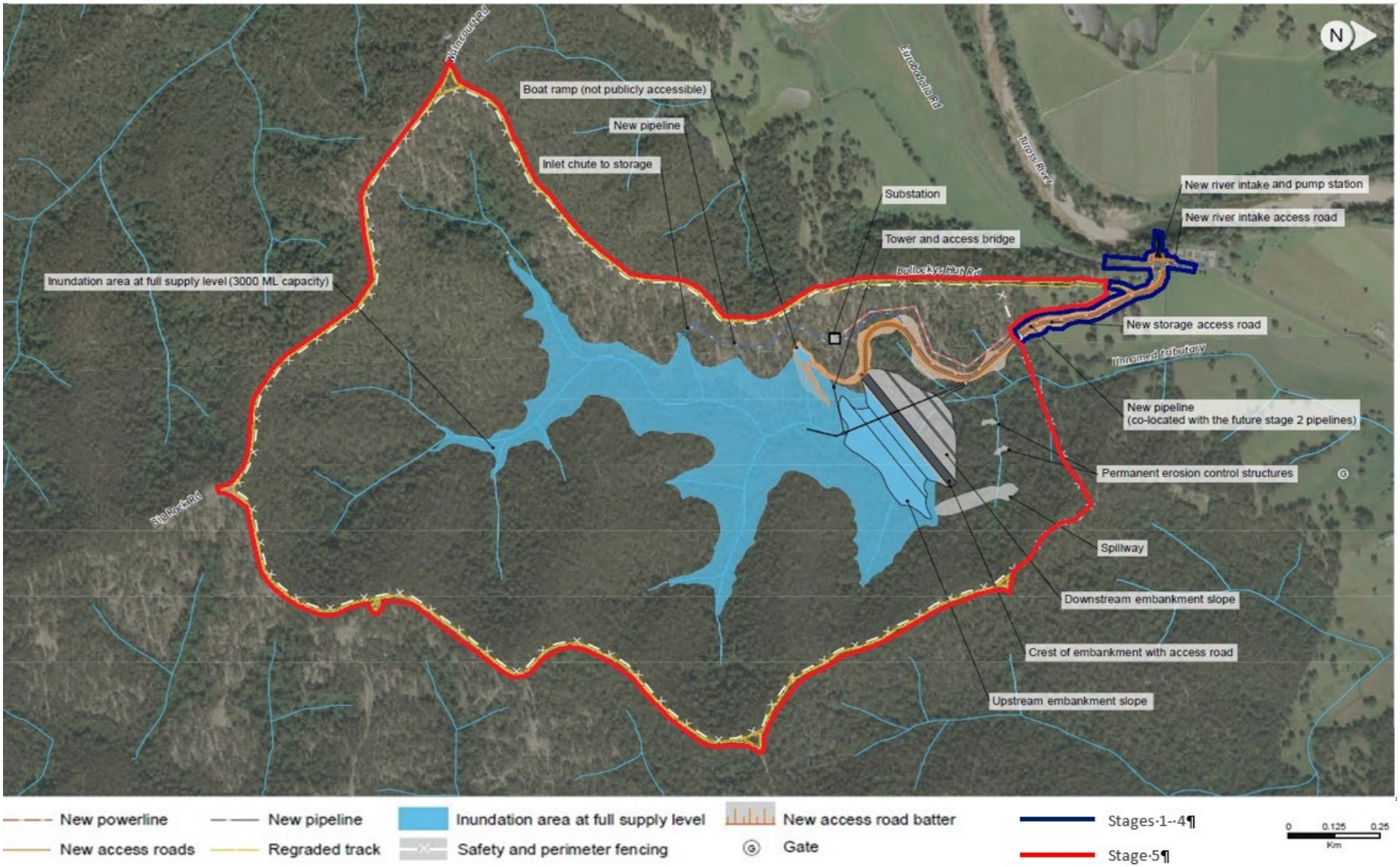


Figure 1-1 Project overview and scope of works covered by this plan

2 Purpose and objectives

2.1 Purpose

The purpose of this Flora and Fauna Management Plan (FFMP) is to describe how construction of the Eurobodalla Southern Water Supply Storage project impacts on the flora and fauna contained within and surrounding the construction boundary and how these impacts will be minimised and managed.

2.2 Objectives

The objective of the FFMP is to ensure that all avoidance, mitigation and management measures relevant to the protection of native flora and fauna including threatened species and endangered ecological communities referred to in:

- The Environmental Impact Statement (EIS) prepared for Eurobodalla Southern Water Supply Storage (the Project).
- Submission Report for the Eurobodalla Southern Water Supply Storage Project.
- Addendum Submissions Report for the Eurobodalla Southern Water Supply Storage Project.
- Revised Management and Mitigation Measures.
- Conditions of Development Consent SSD 7089 (the Project) granted on 17 October 2019.

2.3 Targets

The following targets have been established for the management of impacts to flora and fauna during the project:

- Ensure full compliance with the relevant legislative requirements, the EIS, and conditions of the Development Consent.
- No disturbance to flora and fauna outside the proposed construction footprint associated access tracks, safety and perimeter fencing, and site compounds (Figure 2-1 and Figure 6-1).
- No increase in distribution of weeds currently existing within the project areas.
- No new weeds introduced to the project areas.
- No transfer of plant diseases or pathogens to or from the project work areas.
- Effective rehabilitation / revegetation that meets its ecological and landscaping objectives.
- All fauna species encountered during construction are handled humanely and relocated in accordance with industry standards.
- No pollution or siltation of aquatic ecosystems, wetlands, endangered ecological communities or threatened species habitat.
- Minimise barriers to fauna and fish movement.

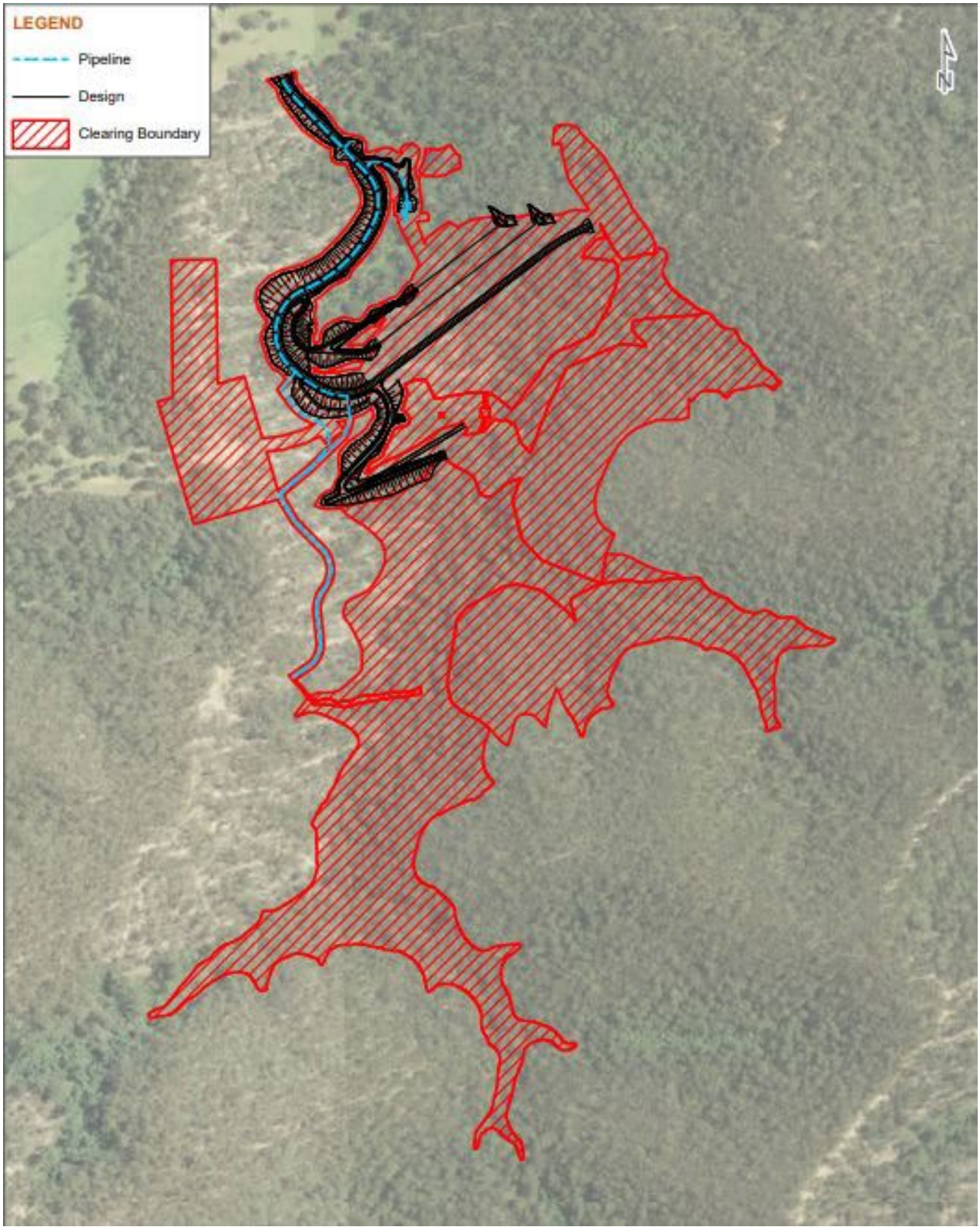


Figure 2-1 Clearing boundary and proposed pipeline design layout

3 Environmental requirements

3.1 Relevant legislation and guidelines

3.1.1 Legislation and regulatory requirements

All legislation relevant to this FFMP is included in Appendix A1 of the CEMP.

3.1.2 Guidelines

The main guidelines, specifications and policy documents relevant to this Plan include:

- Department of Primary Industries 'Policy and Guidelines for Fish Habitat Conservation and Management (DPI 2013).
- Fairfull, S. and Witheridge, G. (2003) Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings. NSW Fisheries, Cronulla, 16 pp.
- Fishnote – Policy and Guidelines for Fish Friendly Waterway Crossings – November 2003.
- DECCW. 2008. Hygiene protocol for the control of disease in frogs.
- Australian Standard AS 4373 Pruning of Amenity Trees.
- Australian Standard 4970 – 2009 Protection of Trees.
- Best Practice Management Guidelines for *Phytophthora cinnamomi* within the Sydney Metropolitan Catchment Management Authority Area (Botanic Gardens Trust 2008).
- New South Wales Weed Control Handbook (DPI 2018).
- NSW Biodiversity Offsets Policy for Major Projects (OEH 2014).

3.2 Development Consent Conditions

The Development Consent conditions relevant to this Plan are listed Table 3-1 below. A cross reference is also included to indicate where the condition is addressed in this Plan or other project management documents.

Table 3-1 Minister's Development Consent conditions of relevant to the FFMP

Condition No.	Condition Requirements	Document Reference
B2	No more than 54.61 ha of native vegetation is to be cleared.	Section 5.1.1
B3	Prior to clearing of native vegetation, the Applicant must prepare a Construction Flora and Fauna Management Plan (CFFMP) in consultation with DPI Fisheries and to the satisfaction of the Planning Secretary.	This Plan
B4	The CFFMP must form part of the CEMP required by Condition C2 and, in addition to the general management plan requirements listed in Condition C1, the CFFMP must include the following:	This Plan (Appendix B2 of CEMP)
	(a) measures to ensure biodiversity values not intended to be impacted are delineated by mapping of 'no-go areas' and the installation of on-site measures such as temporary exclusion fencing prior to clearing;	Section 6.1.3
	(b) measures to minimise the risk of introducing weed species via construction vehicles, plant and equipment and control of pest and weed species existing at the site;	Section 6.1.2 Appendix A – Weeds and pathogens management plan
	(c) method of vegetation removal and measures to minimise impacts outside the storage site construction boundary and within the perimeter of the access road boundary as a result of the equipment used for clearing and general access for heavy vehicles and construction plant and equipment;	Section 6.1.8
	(d) options to reuse cleared vegetation, in preference to burning, such as relocation of hollow logs for habitat and mulch for use in areas to be revegetated within the site and use elsewhere within the local area;	Section 6.1.7

Condition No.	Condition Requirements	Document Reference
	(e) measures to minimise the impacts on fauna within the site including the installation of nest boxes prior to clearing, relocation of fauna to adjacent habitat, staged clearing and timing of clearing outside breeding seasons; and	Section 6.1.8 Appendix C - Nest box and connectivity management plan
	(f) details on rehabilitation and revegetation including: i. use of locally indigenous plant species including collection of seed prior to clearing for this purpose ii. for construction areas outside the full supply level including the construction compounds, on-site quarry areas, the storage site wall and the new storage access road batters iii. for the construction area at the existing water treatment plant (WTP) including for the bed and banks of the Tuross River affected by the temporary cofferdam	Section 7
B5	Prior to removing/clearing any vegetation or any demolition, pre-clearing surveys and inspections for threatened species must be undertaken. The surveys and inspections, and any subsequent relocation of species and associated management measures, must be undertaken under the guidance of a suitably qualified and experienced ecologist.	Section 6.1.6
B6	The Applicant must:	
	(a) not commence any clearing work until the CFFMP is approved by the Planning Secretary; and	Section 5.1.1
	(b) implement the most recent version of the CFFMP approved by the Planning Secretary for the duration of works.	This document

3.3 Environmental Management Measures

Relevant EMM listed in the EIS are listed in Table 3-2 below. This includes reference to required outcomes, the timing of when the commitment applies, relevant documents or sections of the environmental assessment influencing the outcome and implementation.

Table 3-2 Environmental management measures relevant to this FFMP

Ref #	Commitment	Timing	FFMP Reference
3.1	A Flora and Fauna Management Plan will be prepared and implemented as part of the CEMP. It will include, but not be limited to: • plans showing areas to be cleared and areas to be protected, including exclusion zones, protected habitat features and revegetation areas • pre-clearing survey requirements • procedures for unexpected threatened species finds and fauna handling • procedures addressing relevant matters specified in the Policy and guidelines for fish habitat conservation and management (DPI Fisheries, 2013).	Pre-construction	This plan
3.2	Measures to further avoid and minimise the construction footprint and native vegetation or habitat removal will be investigated during detailed design and implemented where practicable and feasible.	Pre-construction During construction	
3.4	As part of the Flora and Fauna Management Plan, a management plan will be produced to establish pre-construction and construction mitigation measures to minimise the impacts on River plains EEC.	Pre-construction	This plan. Appendix B
3.5	Monitoring water quality during construction will be evaluated for potential impacts to threatened species and EEC, and corrective measures applied in consultation with Council.	During construction	Construction Soil and Water Management Plan
3.6	Pre-clearing surveys are to ensure exclusion zones (at the construction footprint boundary) are established prior to vegetation clearing.	During construction	This plan Section 6.1.3 Appendix D

Ref #	Commitment	Timing	FFMP Reference
3.7	The Flora and Fauna Management Plan will include a Weed and Pathogens Management plan which will include, but not be limited to: • weed management controls for construction and post-construction (if required) • protocols to prevent introduction or spread of *Phytophthora cinnamomi* • protocol to manage vehicle cleaning in accordance to reduce the potential for spread of noxious weeds, plant pathogens or animal diseases into retained forested habitats.	Pre-construction	This plan Appendix A
3.8	The Flora and Fauna Management Plan is to describe a process for: • pre-clearing surveys • supervision of vegetation clearing by a suitably qualified fauna ecologist/spotter • fauna handling including the capture of any injured fauna or fauna that does not naturally relocate, and identifying suitable services for the treatment of injured fauna, for example a local vet or local wildlife carer • identifying opportunities for further minimisation of native vegetation removal when developing construction methodologies, in order to retain the maximum amount of habitat for native fauna possible.	Pre-construction	This plan Section 6.1.6 Section 6.1.8
3.9	The Flora and Fauna Management Plan will: • identify hollow-bearing trees for retention and establish exclusion zones which will be mapped and clearly marked out on site prior to construction commencing • outline a staged approach to habitat removal of hollow-bearing trees and other established/ prominent trees that cannot be retained • include a nest box strategy would be implemented prior to vegetation removal.	Pre-construction	This plan Section 6.1.8
3.10	Ensure that fish passage is not blocked during construction. If blockage cannot be avoided, gain a permit from Fisheries prior to undertaking any activities that will cause blockage.	Pre-construction	The works required under this FFMP will not result in any permanent obstruction of fish passage

Ref #	Commitment	Timing	FFMP Reference
3.12	Temporary in stream structures will be constructed in accordance with the NSW DPI policy guideline and will: ○ avoid spanning the full width of the waterway channel ○ be inserted during low-flow periods with management plans being submitted to NSW DPI detailing how high flow events will be managed • dewatering of temporary in-stream structures should follow the following guidelines: ○ NSW DPI is to be notified seven days prior to any dewatering activities in order to organise potential fish rescue activities. A separate s.37 permit may be required from NSW DPI to relocate fish ○ water is to be pumped a minimum of 30 m away from the waterway and should preferentially not re-enter the waterway. If water is to re-enter the waterway, ANZECC water quality guidelines need to be adhered to with the proponent being required to submit a detailed water quality monitoring program.	During construction	The works required under this FFMP will not result in any permanent obstruction of fish passage
3.13	Should any large woody debris be required to be removed the following management guidelines would be followed in accordance with the removal of large woody debris from NSW rivers and streams Prime Fact 11 (DPI 2005b): • lopping (trimming) should be considered as a first option; • instream realignment should be considered as the next option; • if realignment is unfeasible, relocation within the river channel is preferable to removal; • removal should be considered as a last resort; and • removal/relocation of snags would be undertaken so as to cause the least disturbance to the bed or nearby sensitive aquatic habitat. An aquatic ecologist shall be present on site when working with snags that require lopping, realignment, relocation and/or removal.	During construction	The works required under this FFMP will not result in any permanent obstruction of fish passage

4 Existing Environment

The following sections summarise flora and fauna within and adjacent to the project area including species, communities and habitats that occurred on site before earlier stages of the project commenced. The key reference document being Chapter 8 as well as Appendix E, F and G of the Environmental Impact Statement (EIS).

The project boundary and relevant ecological data is shown on the sensitive area maps included in Appendix A8 of the CEMP.

4.1 Environmental aspects

4.1.1 Vegetation communities

The area within the clearing boundary supports three vegetation types (Figure 4.1);

- Wet sclerophyll forest.
- Forested wetland.
- Dry rainforest.

Wet sclerophyll forest originally covered 27.81 hectares on site, however much of this has been cleared by Forestry in Stage 4 of the project as can be seen in Figure 4-2. The community occurs on the slopes between the valley floor and the ridgeline associated with Bullockys Hut Road. Commonly occurring canopy species include *Corymbia maculata* (Spotted Gum) and *Eucalyptus globoidea* (White Stringybark), with *E. longifolia* (Woollybutt), *E. agglomerata* (Blueleaved Stringybark), *E. muelleriana* (Yellow Stringybark), *E. tricarpa* (Mugga Ironbark) and *E. pilularis* (Blackbutt) occurring less frequently.

The forested wetland originally covered 6.20 hectares on site. The community occurs across the valley floor of the site. Some areas of this community have been cleared by Forestry in Stage 4 of the project. A slither of this community that follows the main gully that runs north/south through the centre of site was left in-situ by Forestry due to challenging access. Characteristic canopy species of this vegetation type includes *E. elata* (River Peppermint), *E. botryoides-saligna* intergrade, *E. baueriana* (Blue Box), *Angophora floribunda* (Rough-barked Apple) and the occasional *E. cypellocarpa* (Monkey Gum). This vegetation conforms to the endangered ecological community – under the Biodiversity Conservation Act – River Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South-East Corner Bioregions.

The dry rainforest originally covered 9.57 hectares on site. This community is restricted to the deeper gullies towards the south of the Storage Site and the majority has been left unaffected by Forestry clearing in the Stage 4 . The dry rainforest was comprised primarily of *Backhousia myrtifolia* (Grey Myrtle) and *Acmena smithii* (Lilly Pilly).

4.1.2 Threatened ecological communities

One (1) Threatened Ecological Community (TEC) listed as an Endangered Ecological Community (EEC) under Schedule 1 of the BC Act was recorded in the BAR as being located within the study area, this being:

- *River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South-east Corner Bioregions* (from here on in referred to as River-Flat Eucalypt Forest).

This EEC corresponds to the Forested wetlands vegetation community covering an area of approximately 6.20 hectares across the project. A specific management plan has been developed for this EEC and provided at Appendix B.

No Commonwealth EPBC Act listed threatened ecological communities (TEC) were identified in the study area.

4.1.3 Threatened or otherwise significant flora species

No threatened flora species were recorded in the clearing boundary footprint during the targeted surveys conducted for the EIS. No threatened flora species were incidentally recorded during the pre-fire and post-fire habitat assessment (SMEC 2020).

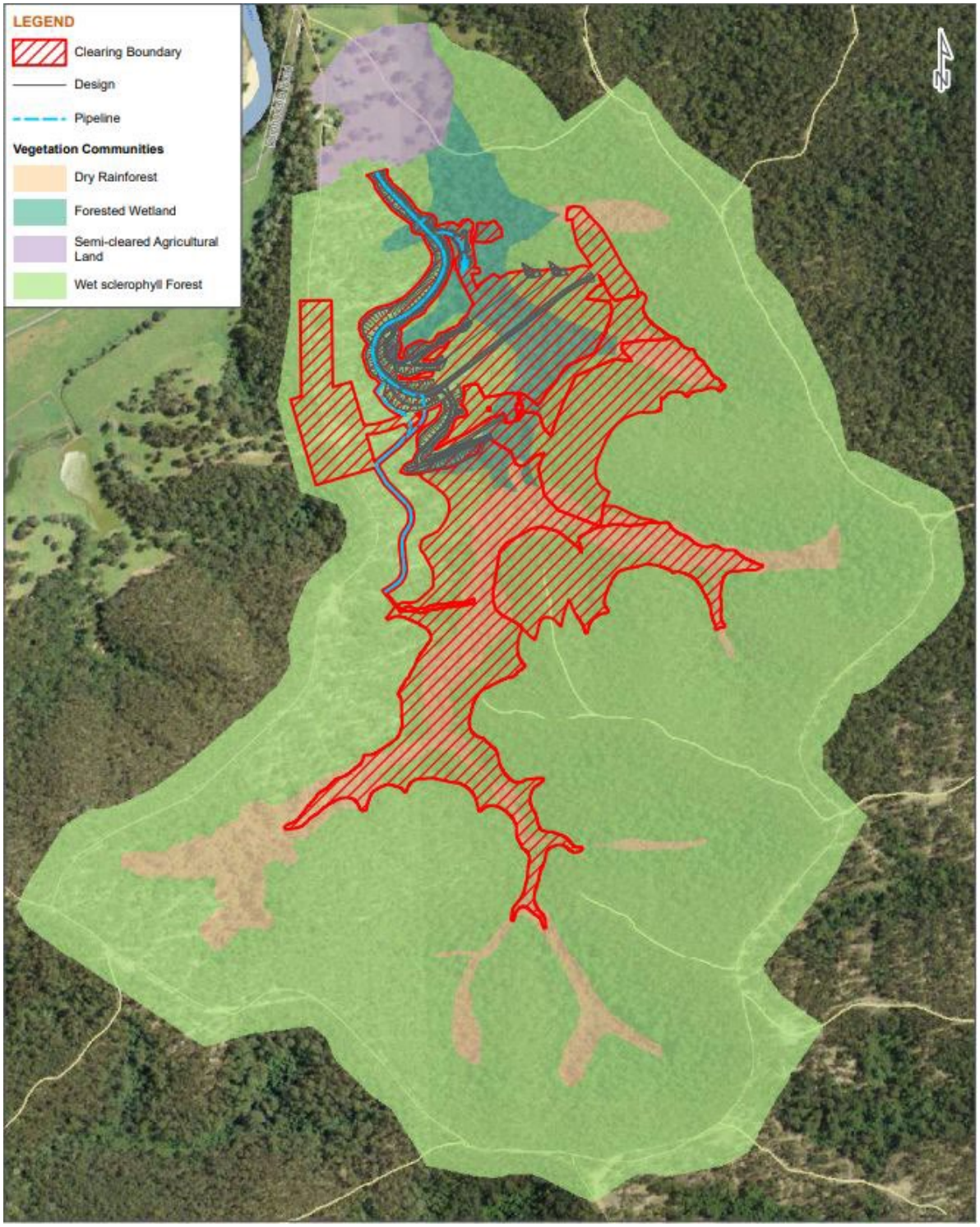


Figure 4.1 Clearing boundary and vegetation mapping

Figure 4-2 Status of vegetation on site to 27/02/2023

4.1.4 Terrestrial fauna habitat

Five (5) fauna habitat types were identified during surveys undertaken to inform the EIS. All five (5) habitat types occur within the clearing boundary footprint and are described in Table 4-1. The post-fire assessment (SMEC, 2020) concluded that all five (5) habitat types still occur in the clearing boundary footprint; however, the extents of 'shrubby mid-story' and 'fallen tree trunks, woody debris and deep leaf litter' habitat types have been reduced.

These are listed below and shown on the Sensitive Area Maps included at Appendix A3 of the CEMP.

Table 4-1 Fauna habitat types

Name	Habitat features
Remnant vegetation	Foraging, nesting, roosting and sheltering for birds, reptiles, amphibians, arboreal and terrestrial mammals and bat species. High quality habitat available for species with large home ranges including, but not limited to Dasyurus maculatus (Spotted-tailed Quoll), Tyto novaehollandiae (Masked Owl), Ninox strenua (Powerful Owl) and Ninox connivens (Barking Owl).
Hollow bearing trees	Nesting, roosting and sheltering habitat for numerous threatened and non-threatened birds, arboreal mammals and microbats. Species predicted to occur that may utilise this resource on site include Callocephalon fimbriatum (Gang Cockatoo), Tyto novaehollandiae (Masked Owl) and various microbat species.
Shrubby midstory	Foraging, nesting, roosting, and sheltering for small and medium sized birds; reptiles; arboreal and terrestrial mammals and arboreal frogs.
Fallen tree trunks, woody debris and deep leaf litter	Sheltering habitat for small terrestrial mammals, amphibians, and reptiles.
Access roads and pathways	Foraging habitat and flyways for microbats.

4.1.5 Threatened terrestrial fauna

Threatened fauna species identified during surveys undertaken to inform the EIS, as well as those predicted to occur using the Biobanking Calculator are listed in Table 4-2.

The breeding periods for species likely (and some previously recorded) within the construction boundary area are shown in Table 4-2. Five (5) of the six (6) species utilise hollows for breeding whereas the 6th species, Varied Sittella, builds a cup-shaped nest of plant fibres and cobwebs in an upright tree fork high in the living tree canopy, and often re-uses the same fork or tree in successive years.

Table 4-2 Threatened fauna

Common name	Scientific name	EPBC Act	BC Act	Recorded	Breeding period listed in the EIS
Regent Honeyeater	*Anthochaera phrygia*	CE	CE	–	
Gang-Gang Cockatoo	*Callocephalon fimbriatum*	–	V	✓	October to January
Varied Sitella	*Daphoenositta chrysoptera*	–	V	✓	June to April
Sootted-tailed Quoll	*Dasyurus maculatus*	E	V	–	
Eastern False Pipistrelle	*Falsistrellus tasmaniensis*	–	V	–	
Little Lorikeet	*Glossopsitta pusilla*	–	V	–	
Little Eagle	*Hieraaetus morphnoides*	–	V	–	
Square-tailed Kite	*Lophoictinia isura*	–	V	–	
Eastern Coastal Free-tailed Bat	*Micronomus norfolkensis*	–	V	✓	Winter breeding, young in a crèche until autumn
Southern Myotis	*Myotis macropus*	–	V	–	
Turquoise Parrot	*Neophema pulchella*	–	V	–	
Barking Owl	*Ninox connivens*	_	V	_	
Powerful Owl	*Ninox strenua*	_	V	_	
Scarlet Robin	*Petroica boodang*	–	V	–	
Koala	*Phascolarctos cinereus*	V	V	–	
Yellow-bellied Sheathtail-bat	*Saccolaimus flaviventris*	–	V	✓	Winter breeding, young at foot until autumn

Common name	Scientific name	EPBC Act	BC Act	Recorded	Breeding period listed in the EIS
Greater Broad-nosed Bat	*Scoteanax rueppellii*	–	V	✓	Winter breeding, young at crèche until autumn
Diamond Firetail	*Stagonopleura guttata*	–	V	–	
Masked Owl	*Tyto novaehollandiae*	–	V	✓	Any time of year but generally winter

4.1.6 Aquatic fauna

As noted in section 1.3, the scope of works covered by this plan does not involve any works within the Tuross River, however for completeness/context it is referred to below.

Surveys of the unnamed tributary and the Tuross River were completed to inform the EIS with the findings presented in Table 4.3 below. It was found that macroinvertebrate assemblages were similar for both waterways and the species collected are relatively widespread and common. Fish species were consistent between the two waterways with *Gobiomorphus australis* (Striped gudgeon) and introduced *Gambusia holbrookii* (Plague minnow).

There were no threatened aquatic fauna species recorded during the surveys however the fish species *Prototroctes maraena* (Australian Grayling) has been previously recorded in the Tuross River during surveys in 2003/04 by NSW Fisheries. This species is listed as vulnerable under the EPBC Act and endangered in NSW under the *Fisheries Management Act 1994* (FM Act). A significance of impact assessment determined that it is unlikely the project would result in a significant impact on *P. maraena* considering the required mitigation measures.

Stygofauna

Borehole surveys for Stygofauna, invertebrates inhabiting aquifers, identified four individuals representing three taxa. Of the taxa collected only Acarina (mite) is considered 'possible stygofauna' while the additional taxa, Araneae (spiders) and Hydrophilidae (water beetle) are likely from terrestrial, surface water or surface saturated soil habitats.

Table 4.3 Aquatic fauna

Aquatic biodiversity	Unnamed tributary	Tuross River
Key fish habitat	Class 4 waterway and regarded as unlikely fish habitat	Class 1 waterway and major key fish habitat
Macroinvertebrates	80 individual macroinvertebrates from 11 species were found during sampling with the most dominant being acarina, followed by hydrophilidae and chironomidae. The results imply that the tributary site been subject to localised habitat degradation	590 individual macroinvertebrates from 29 taxa were collected from the Tuross River sites. The results imply the study area has been subject to some pollution or localised habitat degradation.

4.1.7 Groundwater Dependent Ecosystems (GDE's)

The EIS identified an area along the Tuross River at the proposed river intake that would be consistent with a GDE, this being either South Coast Swamp Forest and/or Ecotonal Coastal Swamp Forest however these areas of vegetation were noted to be highly degraded and not of ecological significance. All other potential GDE's have been previously cleared for agriculture.

4.1.8 Wetlands

No important or local wetlands occur within study area.

5 Environmental aspects and impacts

5.1 Construction activities

5.1.1 Vegetation Clearing

Vegetation clearing resulting in the direct removal of native vegetation is required for construction of the project. The project approval conditions allow for a total 54.61 hectares of native vegetation to be cleared to facilitate the new Water Supply Storage infrastructure. Some areas of vegetation within the construction footprint have already been cleared under previous stages of the project. The staggered approach to vegetation clearing has been undertaken for the following reasons:

- Clear hollow bearing trees at a time that avoids impacting breeding periods for hollow dependent threatened species.
- Enable Forestry operations to harvest timber from site prior to the main works contractor commencing work.

The Hollow Bearing Trees (HBT) were removed on the project site under the Partial Clearing of Permanent Works and Inundation Area CEMP (SMEC 2022) from the 14th February 2022 and took a total of 13 days over a 5 week period by a Forestry Contractor and Arborist, engaged by ESC. On completion of this work, the harvesting (completion of the partial clearing) was undertaken by Forestry Corp, and was completed in June.

Forestry operations focused on harvestable timber removal, this being any tree greater than 15cm in diameter with the independent arborist focusing on HBT removal. Although the majority of trees greater than 15cm in diameter have been removed, some of these trees were left intact where difficult access could have presented a stability risk on site. All other vegetation clearing, including grubbing activities, will be undertaken under this FFMP in addition to any of the larger trees left in situ. In total 54.61 hectares of vegetation will be removed for the project, however as indicated above some of the clearing has already been undertaken. The total clearing areas for the project are outlined in Table 5-1 below.

Table 5-1 Total project vegetation clearing

Vegetation Community	TEC equivalency	Approveclearing (hectares)	Anticipated clearing (hectares)
Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner Bioregion	NA	37.56	30.5
Grey Myrtle - Lilly Pilly dry rainforest in dry gullies of the Sydney Basin Bioregion and South East Corner Bioregion	N/A	9.57	9.57

Vegetation Community	TEC equivalency	Approveclearing (hectares)	Anticipated clearing (hectares)
River Peppermint - Rough-barked Apple moist open forest on sheltered sites, southern South East Corner Bioregion	River-Flat Eucalypt Forest	7.19	7.0
River Peppermint - Rough-barked Apple - River Oak herb/grass forest of coastal lowlands, southern Sydney Basin Bioregion and South East Corner Bioregion	River-Flat Eucalypt Forest	0.22	0.22
Coast Grey Box - Mountain Grey Gum - stringybark moist shrubby open forest in coastal gullies, southern South East Corner	N/A	0.07	0.07
Total		**54.61 ha**	**47.36 ha**

Clearing area adjustments have been updated based on each vegetation community to account for the following:

- Reduction in width of fence line from 20m to 5m (Vegetation Zone 1 & 2: 79247m2)
- Reduction in area allocated for the Main site compound (Vegetation zone 1: 3239m2)
- Reduction in area cleared (Vegetation Zone 4 1901m2)
- Increase width of inlet chute from 3m to 15m (Vegetation Zone 1: 427m2) (referenced as Area 1)
- Additional area to be cleared adjacent to Northern Quarry (Vegetation Zone 2: 6100m2) (referenced as Area 2)
- Additional area adjoining the Boat ramp to allow access to this site from the compound area (Vegetation Zone 1: 2115m2) (referenced as Area 4)
- Additional area to be cleared adjoining the downstream side of the Main Embankment to account for project design outside original clearing limits (Zone 2: 2620m2) (referenced as Area 3)
- Additional area to be cleared adjacent to the spillway to enable access to the base of the spillway for construction vehicles and heavy machinery access (Zone 2: 1029.4 m2)

Note: due to the reduction to clearing within Zones 1, 2 & 4 the additional proposed vegetation clearing listed above, within the same vegetation community, remains below the original approved vegetation clearing limits for the same vegetation community.

Figure 6-1 has been updated to reflect the updated clearing limits

It should be noted the fenceline as represented in Figure 6-1 is indicative. Final alignment will be determined based on topographical constraints (gullies) and to reduce impact to habitat features such as hollow bearing trees, termite mounds and wombat burrows. The width of fenceline clearing will not exceed 5m and total clearing in Zone 1 & 2 will not exceed the areas represented in Table 5-1.

5.1.2 Works in Waterways

The project will have direct and indirect impacts to riparian and aquatic vegetation during the construction phase due to the following:

- Direct clearing of riparian vegetation for construction.
- Temporary decreased water quality due to sediment runoff during earthworks phase.

The Work under the Tuross River Intake Pump Station CEMP has been completed and resulted in the direct impact to 400m^2 of Key Fish Habitat creating permanent loss due to construction of the river intake (subsurface pump inlet and dissipation structures).

The works required under this FFMP will not result in any permanent obstruction of fish passage.

5.1.3 Tree Hollow Loss

The EIS identified sixty-six (66) Hollow Bearing Trees (HBT) within the development site and 17 outside of the Development Site. The HBTs supported of ‘chimney-like’, ‘fissure’ and ‘cavity’ type hollows. In addition, hollow and fallen logs that provide habitat for ground-dwelling fauna are scattered through the area requiring clearing.

A survey in January and February 2022 noted that of this original 83 HBTs, 35 were destroyed by the 2020 fires and a windstorm in January 2022. An additional 69 trees (65 within the development site, 4 outside the development site) that were considered HBTs or potential HBTs. Some of these trees were most likely created from fire activity, others may have been missed in original surveys due to the density of vegetation and scale of the site.

Hollow bearing tree (HBT) removal was undertaken in Stage 4 of the project with Partial Clearing of Permanent Works and Inundation Area CEMP. An ecologist report carried out by Southern Cross Environmental on 28 March 2022 reported that all 91 HBT with 97 hollows had been cleared by 22 March 2022.

Through active discussions during the clearing works 13 HBTs located on the edge of the inundation area were retained. These trees will be assessed for the opportunity of retainment during the main works stage of the project.

It was noted in the ecologist report that the gully system running through the site is old growth forest and contains numerous large trees of which were not marked as HBT. It was also noted in the report that Forestry and the ecologist made an agreement that any potential habitat trees would not be removed during harvestable timber removal until checked by the ecologist.

A pre-clearance survey undertaken by the project ecologist in early September 2022 concluded that there are no HBT within the clearing footprint. However, if any HBT are found, the details will be included in the (updated) nest box strategy.

Surveys by a suitably qualified ecologist for the additional vegetation areas 1, 2, 3 & 4 revealed two hollow bearing trees within the area assessed in Area 3 which is part of Vegetation Zone

2 community (PCT 1220 – Spotted Gum-White Stringy Bark-Burrawang shrubby open forest on hinterland foothills) (Figure 6-1). As these trees are inside the assessed area but outside the project design it is possible these trees can be avoided. If clearing is unavoidable pre-clearing surveys will be undertaken in accordance with this Flora and Fauna Management Plan.

5.2 Ecological impacts

Potential biodiversity impacts associated with project are discussed in the EIS, BAR and Aquatic Ecology Report. Impacts that relate to the clearing boundary footprint are summarised in Table 5-2 below.

Table 5-2 Summary of potential impacts to biodiversity

Potential Impact	Details	Extent/Scale	Mitigation
Loss and fragmentation of native vegetation	Clearing of wet sclerophyll forest, dry rainforest and forested wetland	54.61 ha of native vegetation will be cleared	Delineation and no-go zones
Loss of threatened flora species and fragmentation of habitat	No threatened flora species were recorded.	No threatened flora species were recorded.	N/A
Loss of threatened ecological community	River Flat Eucalypt Forest on Coastal Floodplains.	7.41 Ha of EEC will be cleared	Delineation and no-go zones
Loss of fauna habitat	The clearing of wet sclerophyll forest, dry rainforest and forested wetland.	54.61 ha of native vegetation will be cleared.	Delineation and no-go zones Installation of nest boxes (Undertaken by ESC only) Relocation of fallen logs
Fauna habitat fragmentation	Vegetation clearing associated with the construction works will cause habitat fragmentation.	54.61 ha of vegetation providing potential fauna habitat will be cleared.	Installation of nest boxes (Undertaken by ESC only) Relocation of fallen logs
Fauna mortality	May result from clearance works, earthworks or collisions with vehicles or machinery.	Most likely during clearance activities.	Delineation and no-go zones Preclearance surveys Fauna management protocols

Potential Impact	Details	Extent/Scale	Mitigation
Impacts on fish passage	No important fish passage habitat is present within the development site.	None.	N/A
Sediment and erosion	Short-term changes in water quality, which in turn could impact on aquatic ecology.	Temporary and localised for the extent of the project	Erosion and Sediment Control Plans (ESCP)
Edge effects and weed invasion	Vehicles, plant and people may transport weed propagules into the development site. New edges will be created as a result of the development creating the potential for edge effects.	Most likely during clearance activities.	Implementation of hygiene control points during site set-up Weed control and management
Pests and pathogens	Vehicles, plant and people may transport pathogens into the development site. Clearing of native vegetation and increased human activity increase the risk of pest animal species increasing.	May occur during construction and operational phases.	Implementation of hygiene control points during site set-up

6 Environmental mitigation and management measures

Mitigation and management measures to avoid or minimise impacts to flora and fauna during clearing within the clearing boundary include:

- Delineation of no-go zones (Vegetation Retention Zones (VRZ)
- Weed control and management (Appendix A)
- Pre-clearing surveys
- Staged clearing
- Reuse and relocation of fallen logs and bush-rock where possible
- Nest box management plan (Appendix C)
- River-Flat Eucalypt Forest management plan (Appendix B)

6.1 Flora and Fauna Management Strategies

6.1.1 Competence, training and awareness

An environmental induction as part of the main induction must be carried out by everyone working on the project site prior to works commencing. Details of the induction is discussed in Section 3.4.1 of the CEMP.

To supplement the environmental induction, the following training and awareness mechanisms will be undertaken:

- Toolbox talks
- Daily pre-start meetings
- Ecological awareness tools

Toolbox talks will be one method of raising awareness and educating personnel on issues related to all aspects of construction including environmental issues. The toolbox talks are used to ensure environmental awareness continues throughout construction. Toolbox talks will include details of EWMSs for relevant personnel. Toolbox talks will also be tailored to specific environmental issues relevant to upcoming works.

The pre-start meeting is a tool for informing the workforce of the day's activities, safe work practices, environmental protection practices, work area restrictions, activities that may affect the works, coordination issues with other trades, hazards and other information that may be relevant to the day's work.

The Supervisor will conduct a daily pre-start meeting with the site workforce before the commencement of work each day (or shift) or where changes occur during a shift. Daily pre-start meetings are generally succinct in nature and take approximately 10-15 minutes.

The environmental component of pre-starts will be determined by relevant foreman and environmental personnel and will include any environmental issues that could potentially be impacted by, or impact on, the day's activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.

Ecological awareness tools (posters and information kits) will be used to show the construction staff what fauna species are likely to be found and site and what to do if fauna are spotted. They will include photos and diagrams to indicate where on site they are likely to be found. Posters will be displayed in site sheds and construction compounds.

6.1.2 Site Set up

Site set up includes establishing site access points located off Eurobodalla Road. Hygiene control points will be established at all site access points for any vehicle, machinery or personnel entering site.

6.1.3 Delineation of No-go zones

'No-go zones' are any areas of native vegetation outside the designated construction boundary in Figure 6-1. The physical clearing boundary is to be marked with high visibility bunting where the border of the no-go zones and project boundaries meet. The high visibility bunting will be kept in place for the duration of clearing works.

Trees for felling would be directed to fall within the clearance boundary where possible to minimise impacts on retained vegetation. Shrubby vegetation will be retained where possible (e.g. areas only cleared for temporary access) to assist in stabilizing the slope in the areas of native vegetation.

6.1.4 Weed Control and Management

Weed control is to be carried out prior to vegetation clearing. Specific weed control measures are outlined in Appendix A.

6.1.5 Erosion and Sediment Control

Specific erosion and sediment control measures are detailed within the SWMP (Appendix B4 of CEMP), including timing of implementation prior/during the clearing and grubbing works.

6.1.6 Pre-clearing Surveys

Within the week prior to clearing of any vegetation, pre-clearing surveys and inspections for threatened and non-threatened fauna and their habitat (tree hollows, nests, rocky areas, hollow fallen logs) are to be conducted. The surveys and inspections, and any subsequent relocation of species and associated management measures, are to be undertaken under the guidance of a suitably qualified and experienced ecologist. If any new fauna habitat is identified, it is to be marked with high visibility flagging tape and spray painted with the letter "H" (Figure 6-3). If previously marked habitat has become difficult to identify (flagging tape may have fallen off or bark with spray paint may have shed) then flagging tape and/or spray paint is to be reapplied. The pre-clearing survey will identify sensitive areas and habitat trees which will require on-site supervision by an ecologist during staged clearing of vegetation.

In consultation with an appropriately trained ecologist, the pre-clearance surveys will also provide an opportunity to collect seeds of native species where possible. Where feasible, all mapped and additional hollows as identified in ecologist pre-clearing survey will be inspected for visual signs of recent use from the ground or by pole mounted camera. The information attained from ground or camera inspections will be used by an arborist to support the verification of hollow existence, assessment of potential for salvaging/repurposing, and identification of evidence of current/recent hollow use.

6.1.7 Reuse of logs and vegetation

Where practicable, the following should be employed for reuse of logs and vegetation:

- Cleared vegetation and woody material will be re-used in habitat supplementation and restoration.
- The guidance of an ecologist should be sought to determine suitable capacity of fallen timber in the vegetation communities in accordance with NSW benchmarks. The aim is to use felled HBTs first before salvaging other logs.
- Identified fallen logs are to be put aside after felling for relocation into vegetation retention zones (VRZ) and revegetation areas. In consultation with ESC, opportunities to harvest sections of fallen hollow logs of a manageable size in order to repurpose as

nest boxes will be explored and implemented where practical. Availability of fallen hollow log material for repurposing as nest boxes will be subject to guidance from an ecologist.

- Timber should only be moved into accessible retained vegetation areas where there are suitable routes in for machinery without causing significant damage.
- Logs can be placed into vegetation zones from the edge of no-go zones or short incursion made into the no-go zone under guidance of an ecologist.
- Management zones for the River Flat EEC (shown in Appendix B) should not be breached.
- Logs should be cut to a size practical for relocation without damaging hollow features where possible. Should any fauna be found during the relocation process, fauna is to be relocated in accordance with the protocols detailed in Section 6.2.3.

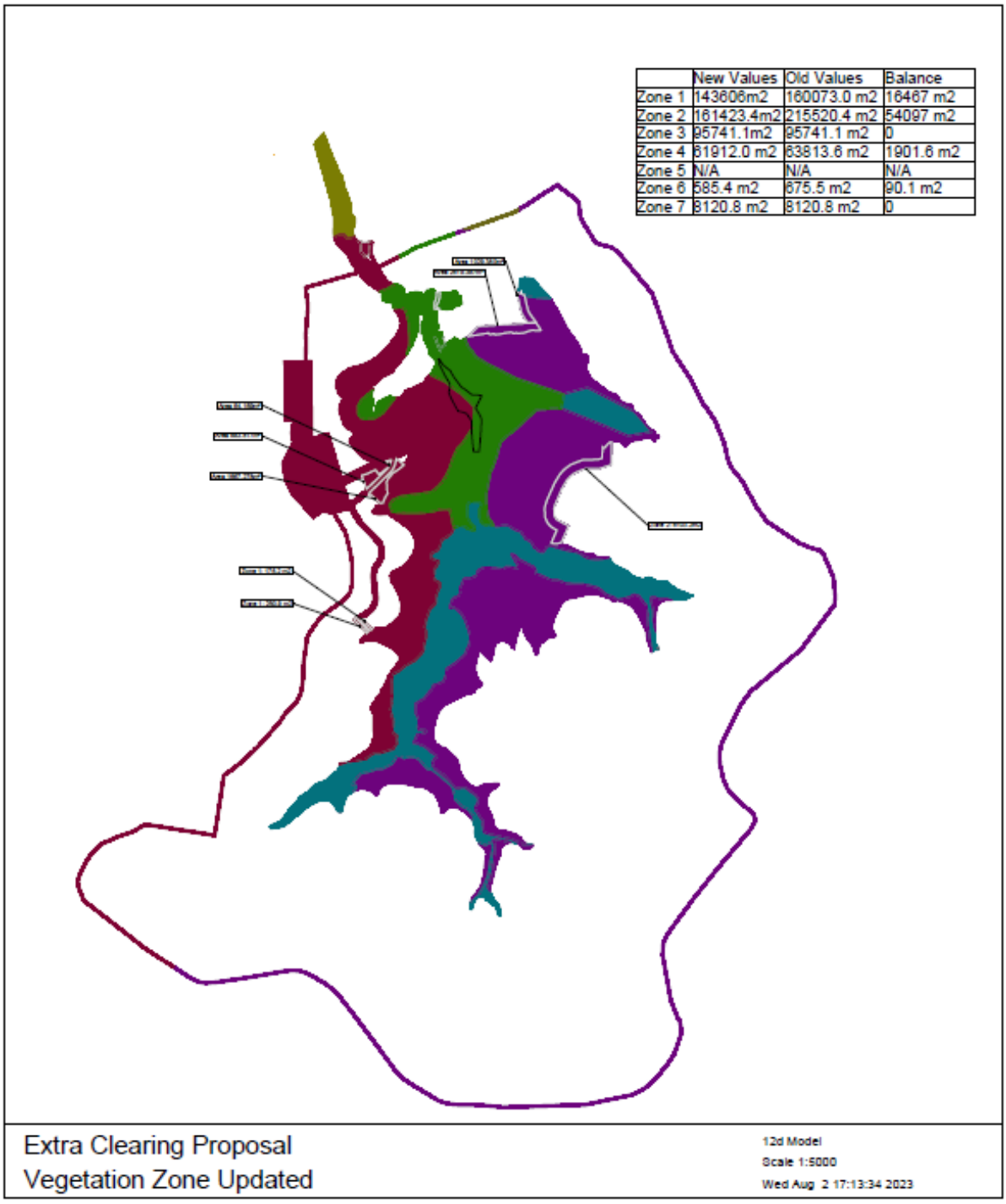


Figure 6-1 Project clearing limits (updated to reflect clearing limits from 01/08/2023).

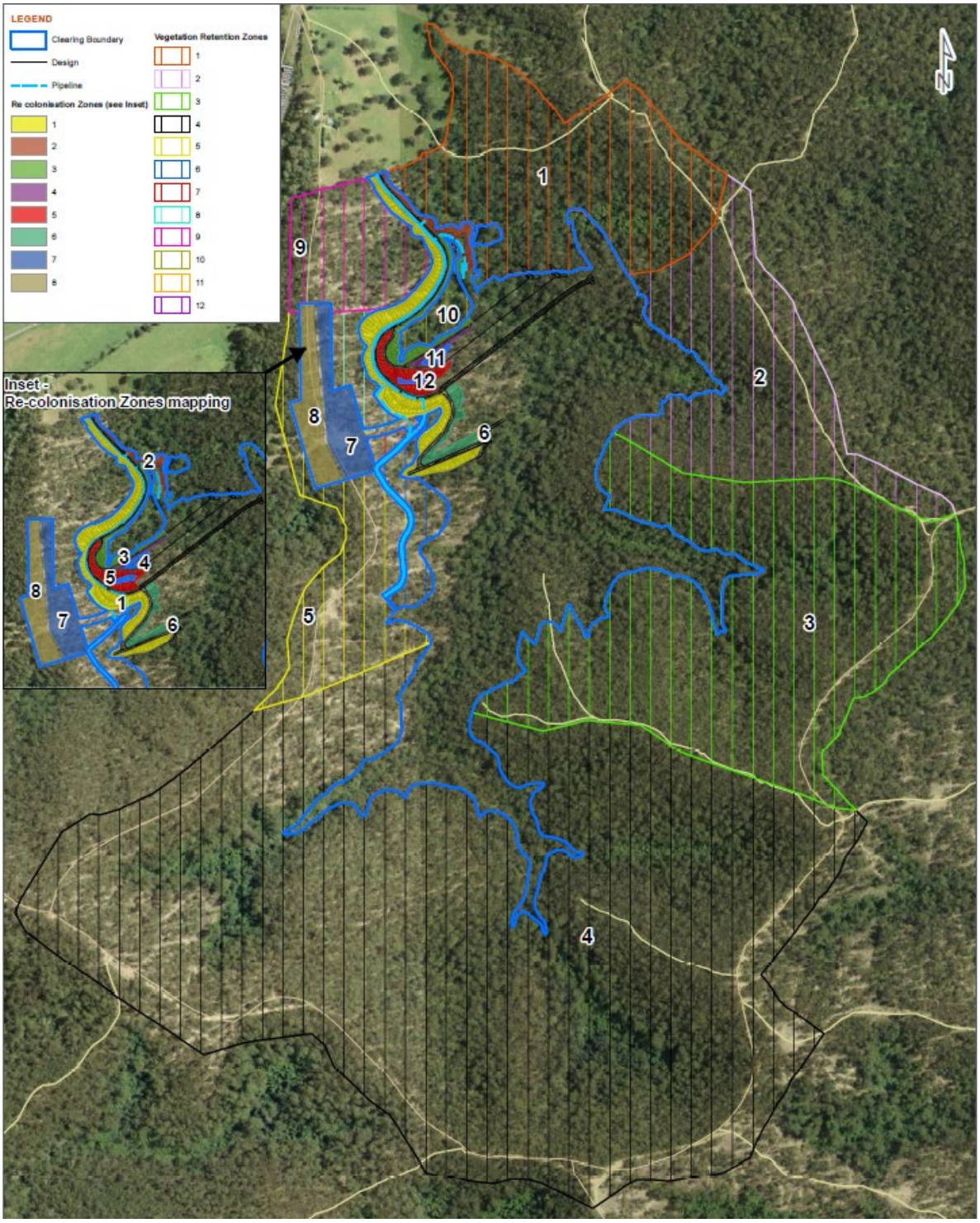


Figure 6-2 Vegetation Recolonization and Retention Zones (VRZ)

6.1.8 Vegetation Clearing

Vegetation Clearing Strategy

The approach to clearing vegetation within the project site is to be staged in order to meet the objectives of minimising impact to threatened species, prevent erosion and salvageable timber resources.

Condition B4(e) of the conditions of consent requires staged clearing and timing of clearing outside of threatened fauna breeding seasons to minimise the potential impact from clearing (Table 4-2).

The EIS noted that all threatened fauna species on site breed within hollow bearing trees, with the exception of the Varied Sittella which builds a nest in upper branches. In keeping with the recommendation in Section 8.3.1 of the EIS, Forestry removed all known HBT by 22 March 2022. Large non-harvestable trees and trees along the main gully line in difficult to access areas were left in place. The timing of clearing by Forestry just missed the CFFMP window of "second week of March" but with the lack of threatened fauna seen over the site in previous weeks and consideration of the habitats left to clear, the ecologist concluded risk was low to fauna and works should press on to capitalise dry weather.

The pre-clearing checklist will be used prior to any clearing works to detect any additional nesting fauna or HBT's prior to vegetation clearing. A pre-clearing survey by the project ecologist in early September 2022 concluded that there are no HBT within the clearing footprint.

As noted above, Forestry has salvaged most of the harvestable timber and all known HBT from the site. The clearing under this FFMP will be the remaining vegetation including smaller trees, remaining shrubs, regrowth, vegetation along the main gully line and any as yet unidentified HBT. Clearing works will commence in late September/early October 2022 and is expected to take approximately four months.

Clearing will also be done in sections with erosion and sediment controls installed progressively to reduce the risk of erosion and runoff and ensure soil stability are detailed in the CSWMP.

The Eastern Pygmy Possum (*Cercartetus nanus*) was identified as being potentially present in the EIS. Although not found in survey, the survey results were considered inconclusive in being able to eliminate their potential presence on the Project site. Eastern Pygmy Possums undergo a period of winter torpor, a time during which they would be most vulnerable to clearing and may not respond to the disturbance of encroaching clearance. They may shelter in a variety of locations including tree hollows, rotten stumps, holes in the ground, abandoned bird-nests, Ringtail Possum dreys or thickets of vegetation, (e.g. grass-tree skirts). Potential habitat trees/features for this species, including potential foraging habitat (i.e. nectar-producing plants such as Banksias) have already been cleared during the February/March clearing works that occurred under the Partial Clearing works CEMP. Should further remaining potential habitat trees be located within the clearance zones, the habitat tree clearance procedures (described below), in addition to clearing commencing in late September/early October 2022 will reduce the risk to this species.

Habitat Tree Clearing

As stated above, a pre-clearing survey by the project ecologist in early September 2022 concluded that there are no HBT within the clearing footprint. However it is possible that some HBT are still present at the site that were not previously cleared.

Should a HBT be identified within the clearing footprint, a targeted Hollow Bearing Tree Clearance Report will be prepared by the ecologist. The Hollow Bearing Tree Clearance Report will document:

- what actions have been undertaken to ensure that threatened fauna are not occupying the hollow,
- proposed tree clearance timing, and
- procedures to safety remove hollows and manage tree clearing.

If a subsequent HBT is identified on site, it will be marked with an 'H' and/or flagged with flagging tape (example shown in Figure 6 2). If tape or paint has been removed, it is to be re-

applied during pre- clearing works or prior to vegetation clearing machinery working through the site. The following best-practice vegetation clearing methodology is to be applied to any remaining HBTs within the clearing boundary being felled:

- The pre-clearing checklist (found in Appendix D) is to be addressed and all completed pre-clearing checklists submitted to the Proponent.
- Removal of all HBTs is to be undertaken between 1 February and the first two weeks of March (to the greatest extent practicable) to minimise impacts on breeding of threatened fauna. If clearing of HBT is required outside of this period, the Hollow Bearing Tree Clearance Report will be provided to the Secretary and Biodiversity Conservation Division for consultation prior to proposed clearing.
- The removal of HBT will occur in a staged manner. This first stage will involve the removal of trees surrounding HBTs and is to will occur at least 48 hours before HBTs are removed so that disturbance and reduction in surrounding habitat may encourage fauna sheltering in HBTs to self-relocate. “Surrounding” in this case is to include a clearing radius of at least 10m around the habitat tree, including the felling of smaller trees. More extensive clearing around HBTs is preferable with shrubs, roots and ground cover to be left in situ for erosion and sedimentation control.
- An ecologist will be present during both stages of HBT clearing and will also be present to inspect existing hollow fallen logs and rocks before they are moved. If fauna is found utilising this habitat it is to be relocated to suitable habitat outside the clearing boundary.
- The second stage of the HBT clearing will involve the felling of the identified HBT using the following method:
    - Undertake initial inspection of HBT to identify if any fauna present. If fauna seen, the HBT is to be knocked/shaken as described below to encourage the animal to self-relocate from the tree,
    - Prior to felling, the HBT is to be knocked or shaken with an excavator bucket or other machinery several times to encourage fauna to evacuate the tree during this time or immediately prior to felling,
    - pause and wait five minutes to give fauna the opportunity to escape,
    - repeat knocking or shaking HBT with excavator bucket,
    - pause and wait five minutes to give fauna the opportunity to escape, and
    - using the excavator bucket, slowly lower the tree to the ground. Where feasible, HBT should be lowered in a direction or position such that damage to hollows are minimised.
- Felled trees must be left for at least an hour and If possible overnight on the ground to give any fauna trapped in the trees an opportunity to escape before further processing of the trees.
- An ecologist will be present during this first stage of HBT clearing and will also be present to inspect any existing hollow fallen logs and rocks before they are moved. If fauna is found utilising this habitat it is to be relocated to suitable habitat outside the clearing boundary.
- Should fauna be observed either during the felling process or during the inspection by an ecologist and it can’t be safely caught and relocated at the time, the tree should be retained in place for 24 hours to allow fauna the opportunity to move on during the night. The tree should be inspected again the next day to ensure the animal has vacated the tree. If the animal is still present and can’t be caught the ecologist should

work with a skilled chain saw operator to access the animal so it can be safely relocated.

- Felled HBTs to be assessed by ecologist and/or arborist for potential for salvaging for either repurposing as nest box or use as ground habitat outside the clearing area, and subsequently salvaged and repurposed as practical.
- Results and outcomes of fauna rescued and or relocated during the clearing works will be documented and provided to the proponent.

All persons working on the vegetation clearing will be briefed in inductions and/or toolbox talks about the possible fauna present at the time of construction, and what procedures should be undertaken in the event of an animal being injured or disturbed.

Figure 6-3 Hollow-bearing tree identification. Hollow-bearing tree were marked with an 'H' and with high-visibility flagging tape.

Clearing of all other vegetation

For removal of all remaining vegetation including the understorey vegetation, non-hollow bearing trees, and trees not removed by Forestry, the following best-practice vegetation clearing methodology is to be applied where possible:

- The pre-clearing checklist (found in Appendix D) should be completed.
- A fauna handler or ecologist will be onsite during vegetation clearing within sensitive areas identified within the pre-clearing survey that require on-site surveillance by an ecologist (refer Section 6.1.8). Non-habitat vegetation clearing outside of sensitive areas does not require an ecologist to be present.
- The clearing process should be undertaken in a manner sensitive to the potential presence of fauna during the clearing process.

- Grubbing and soil disturbance should be avoided in the Vegetation Recolonization Zones where clearing is for temporary access. The eight Vegetation Recolonization Zones are identified in Figure 6-2. Retained roots can assist in soil stabilisation and some regrowth and coppicing can assist in the rehabilitation stage postconstruction.
- Weed and exotic vegetation in seed should be removed and disposed of appropriately to prevent spread as required under the Biosecurity Act 2015. This would namely include *Rubus fruticosus spp. agg.* (Blackberry), *Cenchrus clandestinus* (Kikuyu Grass), *Solanum psuedocapsicum* (Jerusalem Cherry) and *Sida rhombifolia.*
- Trees near the clearing boundary should be felled in a manner to minimise damage to retained vegetation. Felling into the clearing area is preferable when there are no other safety constraints.
- Hollow log habitat is to be relocated to a vegetation retention zone. The supervising ecologist should be consulted during this process.
- Should fauna be observed either during the felling process or during the inspection by an ecologist, the tree should be retained in place for 24 hours to allow fauna the opportunity to move on during the night.

6.2 Fauna Rescue and Release Procedure

6.2.1 General Protocols

Should fauna be observed on the site during vegetation clearing activities, and there is a risk these activities may harm the animal or pose risk to site personnel, the following steps are to be taken.

- stop all work in the vicinity of the fauna and immediately notify the Site Supervisor / Environmental Manager,
- if possible, allow fauna to leave the area without intervention (ie self-relocate), and
- if fauna cannot or will not leave the area without intervention, the fauna is to be removed by a suitably qualified ecologist, licensed fauna ecologist or wildlife carer with specific animal handling experience using the following methodology:
    - cover larger animals with a towel or blanket and place it in a cardboard box and/or canvas bag
    - place smaller animals in a cotton bag, tied at the top
    - keep the animal in a quiet, cool, ventilated and dark location away from noisy construction activities until it can be relocated
    - frogs will be transported in moistened plastic bags (1 frog/bag) with a small amount of leaf litter. The translocation of frogs shall be in accordance with the Hygiene Protocol for the Control of Disease in Frogs
    - if the animal cannot be handled (i.e., venomous reptiles):
        - exclude all personnel from the vicinity with fencing and/or signage
        - record the exact location of the animal/s and provide to the qualified ecologist or appropriate rescue agency (i.e., WIRES).

6.2.2 Injured Fauna

Should fauna be injured as part of the vegetation clearing works within the clearing boundary, the follow steps are to be taken:

- call the appropriate rescue agency immediately and follow any advice provided by the agency,

- once the rescue agency arrives at the site, they are responsible for the animal. Any decisions regarding the care of the animal will be made by the rescue agency, and
- in the event the rescue agency and/or local veterinary service cannot be contacted, the injured animal will be delivered to the nearest prequalified veterinary clinic for treatment where, if assessed by a vet as unlikely to survive, it will be humanely euthanized.

The relevant fauna rescue services and local veterinary surgeries contact details are listed in Table 6-1.

Table 6-1 Fauna rescue services' contact details

Agency/Business	Contact Number
Vanessa Place (Southern Cross Environmental)	0437 431 625
WIRES	1300 094 737
Vet 1 – Narooma Veterinary Hospital	(02) 4476 1125
Vet 2 – Moruya Veterinary Hospital	(02) 4474 2532

6.2.3 Relocation of Fauna

Relocation of fauna adjacent to the construction footprint is to be carried out where possible by a qualified ecologist or wildlife rescuer and is to be recorded as part of the pre-clearance reporting obligations. If the animal is not injured or stressed, it may be released nearby in an area that is not to be disturbed by the works and in accordance with the following procedures:

- site identified as a suitable release point by the qualified ecologist or wildlife rescuer,
- release site is to contain similar habitat (the same vegetation community if possible) and occur as close to the original capture location as possible without placing the animal in danger from the continuing constructing works,
- if the species is nocturnal, release is to be carried out at dusk or after nightfall to minimise the risk of predation by diurnal predators,
- release would generally not be carried out during periods of heavy rainfall, and
- hollow-dependent species, particularly those with dependent young, shall be released ono the trunk of a tree that has had a (temporary) nest box installed, or, if not feasible, onto the trunk of an identified (and retained) HBT.

The native vegetation adjacent to the clearing boundary on the eastern and western uphill slopes offers the best relocation sites for most species and shown as the 'Fauna relocation zones' in Figure 6-4. These areas of native vegetation are contiguous with the native vegetation of Bodalla State Forest and should provide any relocated fauna with an opportunity to disperse away from potential further danger associated with continuing construction activities at the site. The south of the water storage site also supports dry rainforest and rocky creek lines within the steeper gullies and may also be a suitable relocation site for fauna that may require such habitat.

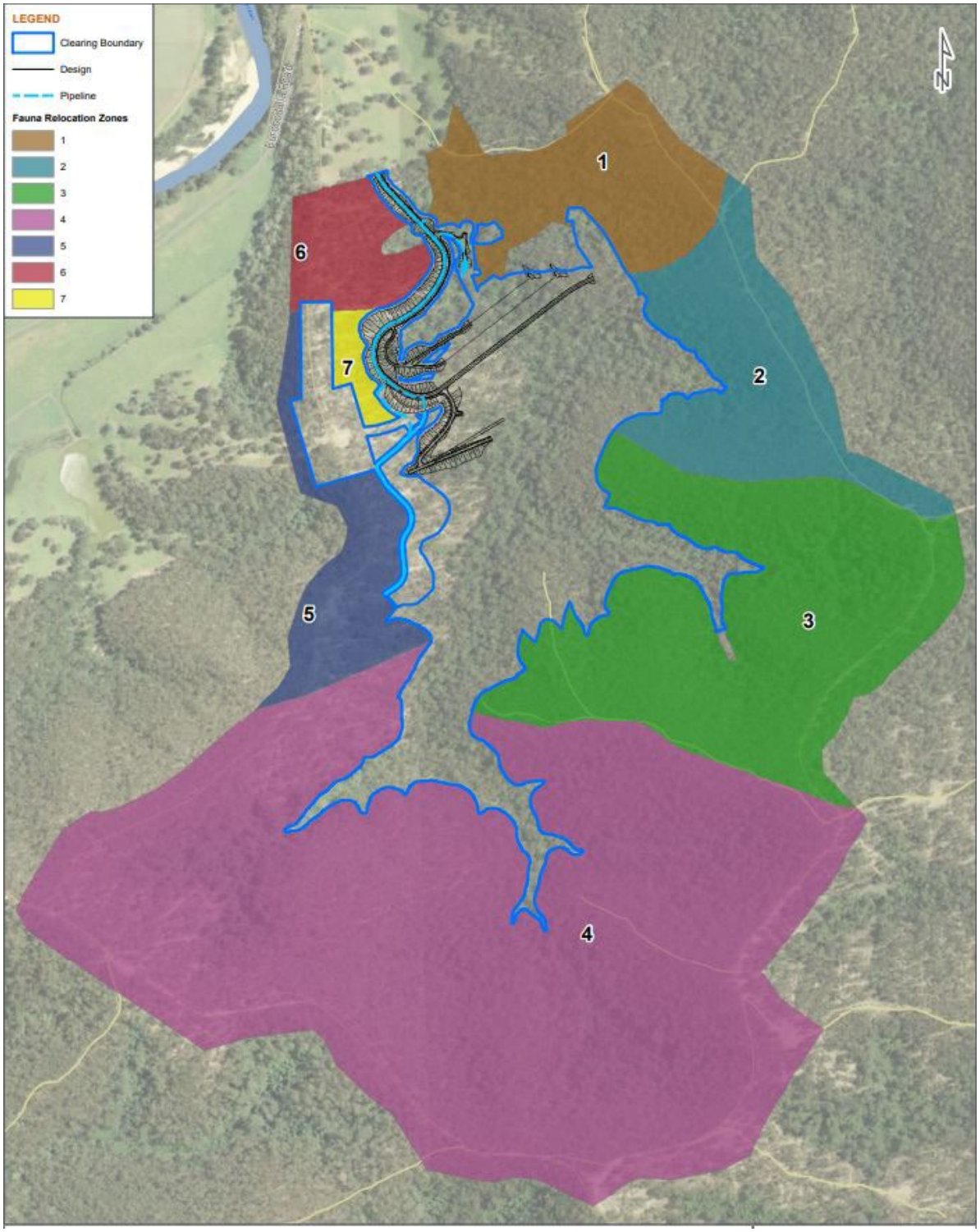


Figure 6-4 Fauna Relocation Zones

6.2.4 Fauna handling information

Unless the welfare of the animal is under immediate risk and it is safe to do so, animals would only be handled by the project ecologist or a wildlife rescue organisation (WIRES representative).

6.3 Weed and Pathogen Control Procedure

Management of weeds, pathogens and disease risk is detailed in Appendix A – Weeds and pathogens management plan.

6.4 Unexpected threatened species finds

If any threatened species are observed within the site during the clearing activities, the following procedure is to be followed:

- immediately cease all work likely to affect the threatened species,
- the ecologist is to be contacted to determine the appropriate corrective actions and additional safeguards to be carried out,
- the adequacy of existing safeguards will be reviewed in consultation with the project ecologist, and
- the Environment Manager is to record the find using the Environmental Incident Reporting process. All relevant characteristics of the find should be recorded to the fullest extent practicable.

6.5 Biodiversity offsets

The project has been designed and developed in accordance with Principle 1 of the NSW Biodiversity Offsets Policy for Major Projects (NSW Government 2014a) that requires that project proposals consider all reasonable measures to avoid and minimise impacts on biodiversity.

After efforts to avoid and minimise impacts on biodiversity in line with the NSW Biodiversity Offsets Policy for Major Projects Policy, unavoidable impacts would require offsetting. The Biodiversity Offset Strategy (SMEC 2021) has been developed by Eurobodalla Shire Council to offset the impacts to native vegetation and species and populations.

Native vegetation impacts requiring offsetting:

- The removal of 37.56 hectares of SR643: Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner Bioregion.
- The removal of 9.57 hectares of SR551: Grey Myrtle - Lilly Pilly dry rainforest in dry gullies of the Sydney Basin Bioregion and South East Corner Bioregion.
- The removal of 7.19 hectares of SR609: River Peppermint - Rough-barked Apple moist open forest on sheltered sites, southern South East Corner Bioregion.
- The removal of 0.22 hectares of SR608: River Peppermint - Rough-barked Apple - River Oak herb/grass forest of coastal lowlands, southern Sydney Basin Bioregion and South East Corner Bioregion.
- The removal of 0.07 hectares of SR533: Coast Grey Box - Mountain Grey Gum - stringybark moist shrubby open forest in coastal gullies, southern South East Corner.

Species and populations requiring offsetting

- Impacts to 0.07 hectares of *Correa baeuerlenii* habitat within SR533.

- Impacts to 37.56 hectares of *Genoplesium vernale* habitat within SR643.
- Impacts to 0.07 hectares of *Persicaria elatior* habitat within SR533.
- Impacts to 0.22 hectares of *Galium astralale* habitat within SR608.
- Impacts to 0.22 hectares of Southern Myotis habitat within SR608.
- Impacts to 54.39 hectares of Giant Burrowing Frog habitat within SR643, SR551, SR609 and SR533.
- Impacts to 54.39 hectares of Eastern Pygmy-possum habitat within SR643, SR551, SR609 and SR533.
- Impacts to 0.22 hectares of Koala habitat within SR608.
- Impacts to 0.07 hectares of Southern Brown bandicoot habitat within SR533.

Eurobodalla Shire Council has developed a Biodiversity Offset Strategy (29 November 2021) for the entire Project that has been approved by Secretary of Planning 9 December 2021.

7 Rehabilitation and re-vegetation

The goal of rehabilitation and re-vegetation is to manage vegetation through on-site weed and disease risk mitigation measures (see Appendix A: Weeds and pathogens management plan), temporary vegetation in disturbance areas as well as maintaining and improving vegetation retention areas.

Rehabilitation of temporary construction areas will be undertaken using a combination of natural regeneration and rehabilitation. Regeneration is expected to occur via soil bourn seeds and seed rain from neighbouring zones of retained vegetation. Where regeneration is ineffective, rehabilitation such as active topsoil replacement, sowing of seeds, mulching, hydro mulching and by return of brush/branches/logs will be investigated.

Management of weeds and invasive species reduces competition and displacement pressures in the revegetation and recolonization zones, therefore promoting the likelihood of successful recolonisation of local native flora species. If natural recolonisation is not successful as determined during monitoring, supplementary planting may be required.

7.1 Retention and recolonisation of vegetation

Eurobodalla Shire Council has identified twelve (12) vegetation retention zones (VRZs) that are beyond the construction boundary of the project and committed to long term management measures in each zone. The main management objectives is the prevention of weed and invasive species colonising the revegetation and recolonization zones as a result of vegetation clearing works. The VRZs correspond to the no-go zones outlined in Section 6.1.3 and are to be appropriately managed as no-go zones for the duration of the project.

Within the construction footprint, eight (8) revegetation and re-colonisation zones have been identified. These are areas that will be impacted during construction but are not identified for permanent clearing as part of the inundation area.

Management Zones	Management Objective	Action	Timing / Responsibility
Recolonisation Zones 1 -8	Promote the re-colonisation of locally native flora species	Control the weeds and invasive flora species. This may include physical removal and/or the use of herbicide.	After construction Eurobodalla Shire Council
	Prevent the colonisation of weed and invasive flora species		

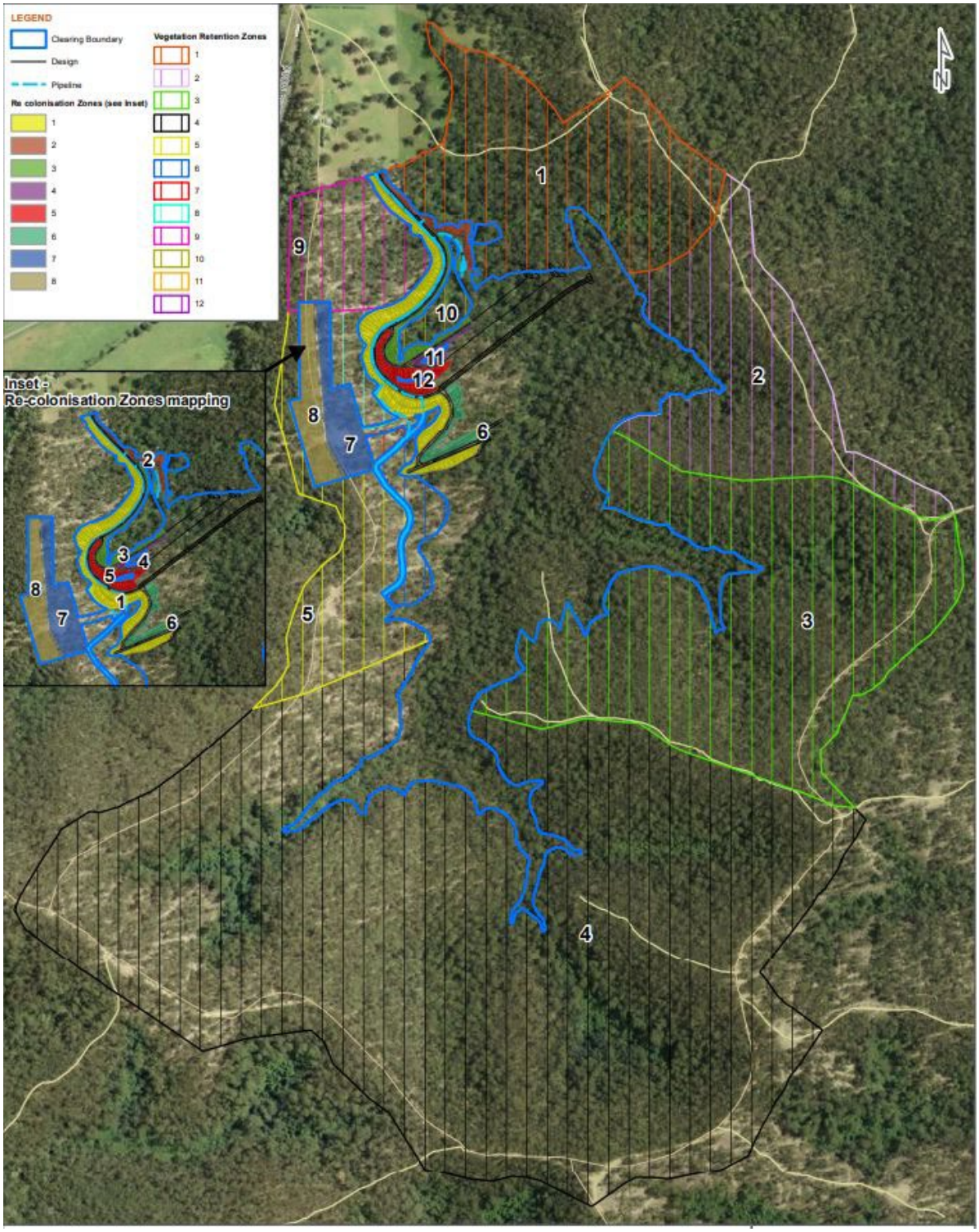


Figure 7-1 Vegetation Retention Zones and Re-colonisation Zones

*Note that the northern and eastern edge of Area 1, where the Lot changes, is not ESC owned land and does not form part of the project boundary or scope.

Table 7-1 Flora and fauna management and mitigation measures

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
GENERAL						
M1	An unexpected finds procedure has been developed	Induction / Procedure	During project	Project team	REMM 3.1	Unexpected finds report
M2	Erosion and sediment controls will be established.	ESCP	Pre-and during project	Project team		EWMS
M3	Investigate measures throughout design phase to reduce vegetation removal impact.	Design meetings	Pre-clearing and during project	Project and design team	REMM 3.2 and 3,8	Project meeting minutes
M4	A Biodiversity Offset Strategy for offset impact to vegetation clearing.	Offset Strategy	During and after project completion	Eurobodalla Shire Council	REMM 3.3	Biodiversity Offset Strategy
VEGETATION CLEARING						
M5	Pre-clearing checklist to be completed identifying sensitive areas, weeds and habitat trees.	Pre-clearing Checklist	Prior to clearing	Environment Manager	B5 and REMM 3.1	Pre-clearing Checklist
M6	Incorporate discussion on flora and fauna impacts and mitigation measures into Site Induction.	Induction	During induction	Project Team	B5	Induction record

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
M7	Ensure no-go areas are delineated.	Flagging / Bunting fencing	Prior to clearing	Project Team	B4 (a) and REMM 3.1 and 3.6	No-go zone maps and photos
M8	Ensure habitat trees are marked.	Sign and / or bunting	Prior to clearing	Ecologist / Environment Manager	B4 (e)	Habitat tree location map and ecologist report
M9	Clearing of HBT will be a two-staged process where non-habitat trees are removed first allowing fauna time to move to other areas and then following a minimum duration period of one (1) night, habitat trees are removed.	Pre-start/EWMS	During clearing works	Ecologist / Project Team	B4 (e) and REMM 3.9	Ecologist report / Environmental Inspection Checklist
M10	Removal of all HBTs is to be undertaken between 1 February and the first two weeks of March (to the greatest extent practicable) to minimise impacts on breeding of threatened fauna. If clearing of HBT is required outside of this period, the Hollow Bearing Tree Clearance Report will be provided to the Secretary and Biodiversity Conservation Division for consultation prior to proposed clearing.	Program	During clearing works	Ecologist / Project Team	B4 (e)	Ecologist report / Environmental Inspection Checklist

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
M11	Trees to be removed adjacent to the boundary will be felled in such a way as to avoid falling into and damaging adjacent vegetation outside the construction footprint.	Pre-start / EWMS	During clearing	Arborist	B4 (c)	Environmental Inspection Checklist
M12	Prior to felling, trees will be 'tapped' by the excavator bucket (or other clearing equipment apparatus) to provide an opportunity for animals to escape.	Pre-start/ EWMS	During clearing	Arborist	B4 (e)	Environmental Inspection Checklist
M13	If fauna is observed in trees whilst felling, then clearing work is to cease and personnel fall back to allow fauna a chance to vacate the area.	Pre-start/ EWMS	During clearing	Clearing contractor	B (e)	
M14	Felled habitat trees will remain on the ground for a short period to allow time for any trapped fauna to escape. All hollows will be left on the ground for 24 hours immediately after felling and prior to further processing of the tree.	Pre-start/ EWMS	During clearing	Arborist / Ecologist	B4 (e)	Ecologist report / Environmental Inspection Checklist

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
M15	If fauna are found to be utilising the site, or a nest, hollow or roost is found, the animals will be relocated by a qualified ecologist or other authorised person to outside the construction footprint.	Pre-start/ EWMS	During clearing	Ecologist	B5	Ecologist report / Environmental Inspection Checklist
M16	In consultation with ESC and their Nest Box Management plan, salvage any suitable hollows from HBT that are removed.	EWMS	Pre- and during clearing	Ecologist / Arborist	B4 (e)	Ecologist report / Environmental Inspection Checklist
M17	Relocate any appropriate habitat logs into the no-go zones (VRZs).	EWMS	During clearing	Ecologist / Arborist	B4 (d)	Ecologist report / Environmental Inspection Checklist
FAUNA HANDLING						
M18	Capture and relocation of fauna to be carried out by a qualified ecologist or WIRES.	Pre-start / EWMS	During clearing	Ecologist / WIRES	REMM 3.8	
WEED MANAGEMENT						
M19	Undertake weed management of areas of identified weed infestations.	EWMS	Pre-clearing and during project	Project team / Ecologist	B4 (C)	Environmental Inspection Checklist
REHABILITATION AND REVEGETATION						

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
M20	Utilise locally collected seed or as close as possible for revegetation works.	EWMS	Post construction	Environment Manager	B4 (f) (i)	Ecologist Report/Rehabilitation Strategy

8 Compliance management

8.1 Roles and responsibilities

The Haslin Project Team's organisational structure and overall roles and responsibilities are outlined in Section 3.3 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Section 6 of this Plan.

8.2 Training

To ensure that this management plan is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this plan. The Environment Manager will coordinate the environmental training in conjunction with other training and development activities (eg safety) in accordance with Section 3.4 of the CEMP.

8.3 Monitoring and inspections

Inspections of sensitive areas and activities with the potential to impact flora and fauna will occur for the duration of the project.

Requirements and responsibilities in relation to monitoring and inspections are documented in Section 3.8 of the CEMP.

8.4 Reporting

Environmental monitoring and reporting will be undertaken in accordance with section 3.8.3 of the CEMP. There are no specific reporting requirements for Flora and Fauna, though the following will be recorded by the Environment Manager and provided to Council at the completion of clearing:

- Fauna injuries.
- HBT's and hollows removed.
- Habitat logs relocated.

9 Review and improvement

9.1 Continuous improvement

Continuous improvement of this plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement. The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance.
- Determine the cause or causes of non-conformances and deficiencies.
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies.
- Verify the effectiveness of the corrective and preventative actions.
- Document any changes in procedures resulting from process improvement.
- Make comparisons with objectives and targets.

9.2 FFMP update and amendment

The processes described in Section 3.9 to Section 3.13 of the CEMP may result in the need to update or revise this Plan. This will occur as needed.

Any revisions to the FFMP will be in accordance with the process outlined in Section 3.13 of the CEMP.

Appendix A – Weeds and Pathogens Management Plan

Overview

Measures to manage the current weeds within the project area and to prevent the colonisation of weeds are to be addressed throughout the project from pre-construction through to operation. For the purposes of this CFFMP this includes the initial removal of existing weeds within the clearing boundary and undertaking measures to reduce the risk of introduction and spread of weeds.

General hygiene measures are detailed and will be followed throughout the clearing period. Follow up weed treatment and monitoring are also outlined in this plan.

Hygiene measures and protocols

The following general weed and hygiene management measures are to be adopted for the project:

- light vehicles and road trucks should be brought to site in clean condition to prevent the introduction of new weeds or pathogens,
- a wash bay equipped with a hose and backpack or handheld sprayer containing disinfectant solution will be established on site,
- light vehicles and road trucks, that enter areas on site where topsoil has not been removed, should have soil and plant material cleaned before leaving the site in order to prevent the transport of weeds into areas outside the development site, and
- all mobile plant arriving on site would be washed and treated in the wash down bay before commencing work. The plant (namely wheels, chassis, undercarriage) would be cleaned to remove loose soil and weed propagules and then disinfected for pathogens using the disinfectant solution.

Priority Weed Control

Weeds that are listed as 'priority weeds' for Eurobodalla LGA must be removed from the site or controlled depending on the category of weed and according to the provisions of the Biosecurity Act. Priority weed control is to be carried out across the entire site for the duration of the project. Works will be undertaken according to industry best practices.

Primary Weeding

Primary weeding, which was undertaken prior to HBT harvesting, is the first round of weeding activity and involves the removal of most of the weed biomass present (shown in Figure A-1). Primary weeding methods include:

- 'cut-and-paint', 'frill and fill', long stem scrape or target spraying of woody weeds (e.g., Grevillea robusta),
- hand-removal and spot spraying of smaller woody, vine and herbaceous weeds, and
- spot-spraying and hand-weeding of annuals (e.g., Blackberry, Fireweed and *Bidens pilosa*).

Secondary Weeds

Secondary weeding will occur approximately one to three months after the commencement of works, depending on the amount of regrowth of herbaceous annuals (and other weeds that have an abundant seed source present in the soil). The site will be inspected at regular monthly intervals by the Environment Manager to determine the need and appropriate timing of secondary weeding. This will vary according to the timing of the primary weeding, insofar as regrowth will be stronger if primary weeding occurs during spring and summer, and slower during autumn and winter. The need for secondary weeding will also depend on climatic conditions in the intervening period (e.g., periods of sustained rainfall will promote germination of weed seeds and require secondary weeding to occur sooner than it would under dry conditions).

Secondary weeding will involve the targeted removal of priority weed regrowth and hand removal and spot spraying of exotic grasses, herbaceous weeds and seedlings of woody weeds.

Maintenance Weeding

Maintenance weeding will occur throughout construction as required. This will involve the removal and management of weeds throughout the project area where required, including the revegetation zones. The River Flat Eucalypt Forest that occurs adjacent to the Storage Site Clearing Boundary is also required to be monitored for weeds and invasive flora species throughout construction.

Herbicide application

Herbicide applications by cut and paint, frill and fill, long stem scrape or spray will mainly use Glyphosate (or equivalent). Treatment of some noxious weeds species or grass weeds may require selective or residual herbicides. The use of herbicides on the site must be in accordance with labelling instructions and MSDS's and comply with the NSW Pesticides Act 1999. Herbicides should generally be applied when wind speeds are low. Where possible herbicide application should take place after two consecutive days with no rain; application should be delayed if rain is forecasted. Appropriate PPE should be worn during herbicide application.

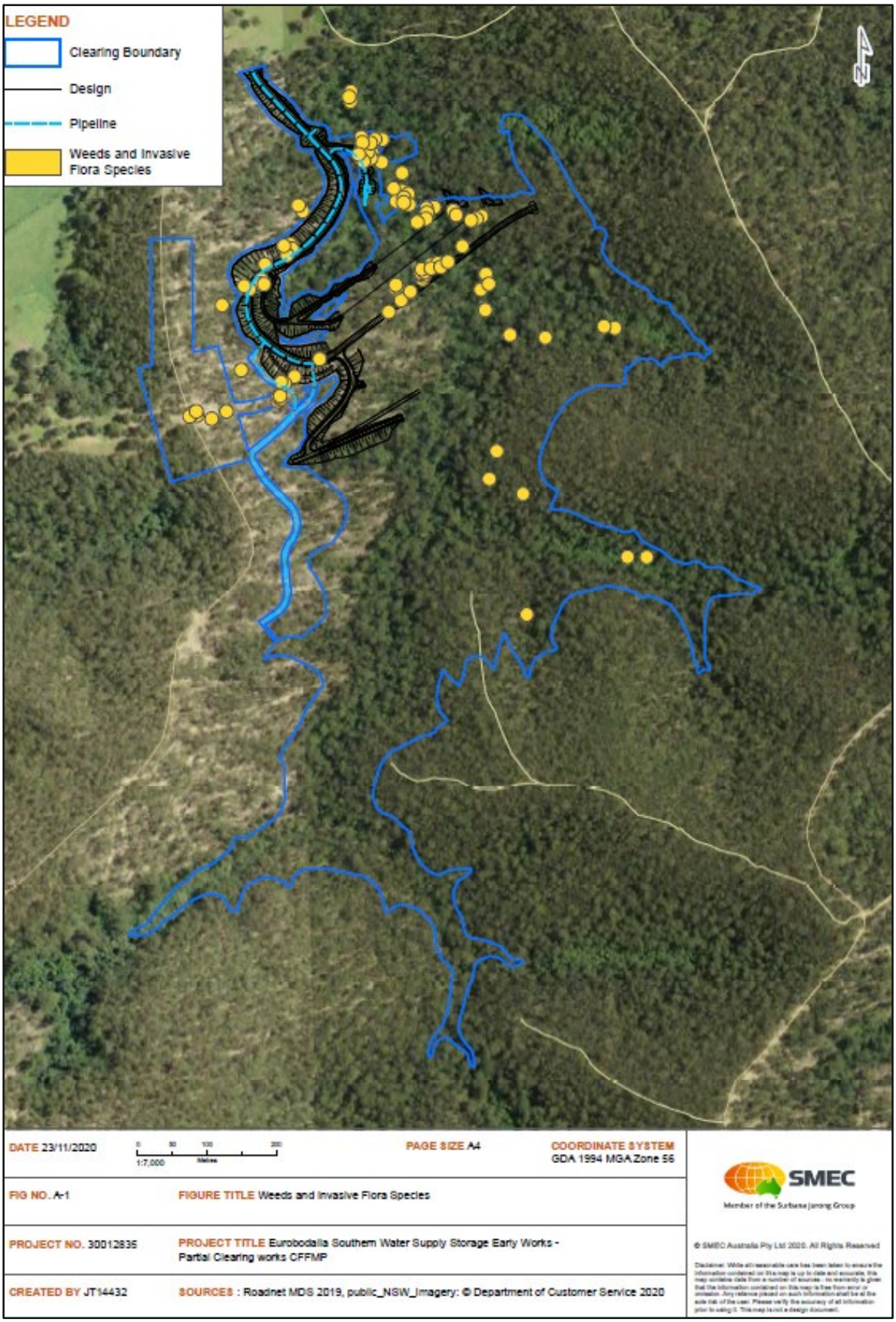


Figure A1 Known weed locations on site

Appendix B – River Flat Eucalyptus Forest Management Plan

River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South-East Corner Bioregions (River Flat Eucalypt Forest) is an endangered ecological community listed under the Biodiversity Conservation Act 2016. River Flat Eucalypt Forest occurs throughout the bottom of the valley within the Eurobodalla Southern Storage Site being associated with alluvial soils and higher levels of groundwater compared to the surrounding slopes and ridges. Approximately 7.68 hectares of River Flat Eucalypt Forest has been mapped in the Eurobodalla Storage Site. This management plan aims to protect areas of River Flat Eucalypt Forest not occurring within the Storage Site clearing boundary and regenerate the areas that are only temporarily impacted by the construction works.

Management Actions

This management plan describes management actions which are required to conserve and maintain the remnant stands of River-Flat Eucalypt Forest. Table B-1 outlines the purpose and outcomes of these management actions applied to the River Flat Eucalypt Forest within and immediately adjacent to the Storage Site Construction Footprint.

Table B-1 River Flat Eucalypt Forest management actions

Management Action	Purpose	Timing
Sediment control measures (detailed in the SWMP)	To minimise sediment-laden run-off from the construction works entering into the waterways that support River Flat Eucalypt Forest.	Pre-construction
	To minimise the spread of weed and invasive flora seed and material into the adjacent River Flat Eucalypt Forest.	
	To prevent temporary and permanent changes in hydrology that impacts groundwater availability.	
Delineate Storage Site Clearing Boundary. Areas are to be marked with high-vis flagging rope.	To prevent the accidental clearing	Pre-construction
	To prevent the spread of weed and invasive flora seed and material	

Management Action	Purpose	Timing
Hygiene controls (see Appendix A: Weeds and pathogens management plan)	To prevent the spread of weed and invasive flora seed and material via plant, machinery and personnel into the adjacent River Flat Eucalypt Forest.	During pre-construction and construction
Weed control (see Appendix A: Weeds and pathogens management plan)	To promote the regeneration of River Flat Eucalypt Forest temporarily cleared during the construction works.	Pre-construction, during construction and post-construction.
	To prevent the spread of weed and invasive flora species into adjacent areas of River Flat Eucalypt Forest.	
	To assess the presence of weeds and invasive species in the temporarily cleared and recovering area of River Flat Eucalypt Forest.	
	To assess the presence of recolonising native species in the temporarily cleared and recovering area of River Flat Eucalypt Forest.	
Water quality monitoring	Monitoring water quality during construction will be conducted to determine potential impacts on the EEC. Corrective measures will be applied in consultation with the Environment Manager	During construction

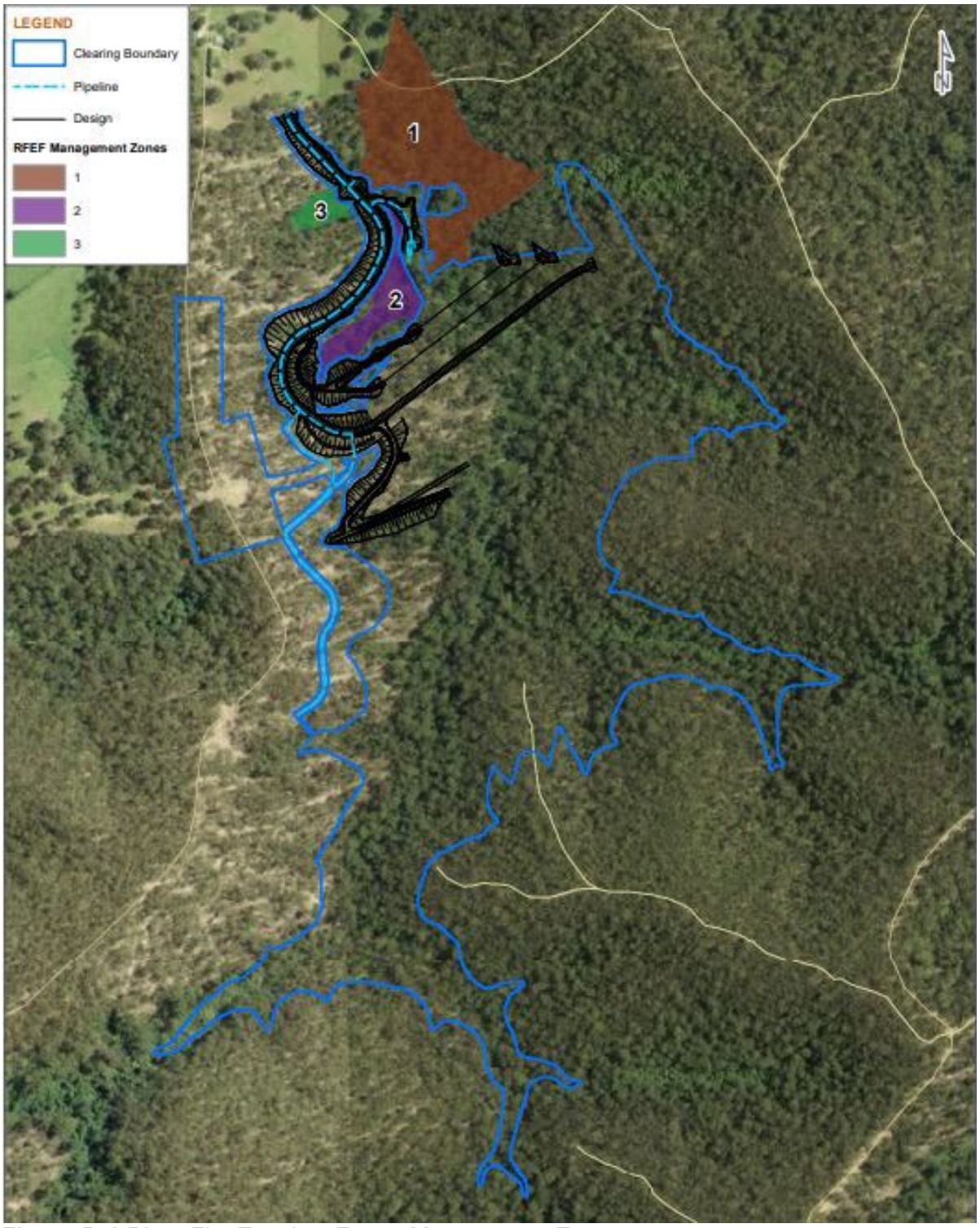


Figure B-1 River-Flat Eucalypt Forest Management Zones

Appendix C – Nest Box and Connectivity Management Plan

The EIS for this project stated that ‘equivalent nest boxes should be erected for each natural hollow that is removed during the construction phase. Replacement nest boxes should be suitable for the threatened and non-threatened fauna inhabiting the development site.

Initial clearing works for removal of habitat (hollow bearing trees) and salvageable timber was carried out under the Partial Clearing CEMP (SMEC 2022). A Nest Box Strategy was included in the CEMP and nest boxes were erected before removal of hollow bearing trees by Eurobodalla Shire Council (Section 6.1.8). In total 91 hollows were removed during the Partial Clearing stage which focused on HBT removal. These works allowed for any suitable hollows to be salvaged and repurposed for hollows. In total there were 20 hollows salvaged for reuse as nest boxes.

If additional HBT clearing is identified during the main clearing works, the number and type of hollows will be recorded and provided to Eurobodalla Shire Council. The need for further nest boxes will be determined by Eurobodalla Shire Council with reference to Nest Box and Connectivity Management Plan 2022.

Appendix D – Pre-clearing Checklist

#	Control Measure	Y/N/NA	Comments/Corrective Actions
1	Has the extent of works been clearly delineated and is consistent with the approved limit?		
2	Have clearing boundary limits been established and clearly marked with demarcation rope or fenced off? Please comment on how the limit has been identified on the ground.		
3	Has the project ecologist completed the pre-clearing inspection?		
4	Do all habitat trees have clear visible marking with “H” or flagging tape?		
5	Were any native animals or active nests and habitat features other than the habitat trees observed and marked, or fauna relocated?		
6	Were any threatened flora species identified during preclearance survey? If yes, was this translocated (with appropriate approvals) from the clearing area or fenced off for protection prior to clearing?		
7	Have areas of weed infestation been identified and are measures in place for removal and appropriate disposal?		
8	Have sediment control measures been installed before clearing as required by the Soil and Water Management Plan?		
9	Have sensitive areas requiring on-site supervision by an ecologist/fauna catcher during clearing activities been identified?		
10	Is an ecologist/fauna catcher available to be onsite during clearing of identified sensitive areas?		
11	Has WIRES / local licenced wildlife carer or fauna handler been notified of the intention to commence clearing?		
12	Have the relevant personnel been briefed on the staged clearing process including that for habitat trees		
13	Have all relevant staff and contractors been briefed during toolbox talks on the clearing limits, no go areas, clearing process, descriptions of fauna that may be present and fauna handling procedures?		

Appendix E – Consultation

From: Nicholas Francesconi <nfrancesconi@strategicenvironmentalsupport.com.au>
Sent: Friday, 29 July 2022 10:02 AM
To: Carla Ganassin <carla.ganassin@dpi.nsw.gov.au>
Cc: Andrew Lynam <alynam@haslin.com.au>
Subject: Eurobodalla Southern Water Supply Storage project

Morning Carla,

Haslin Constructions has been contracted by Eurobodalla Shire Council to construct the Eurobodalla Southern Water Supply Storage project near Bodalla. I'm supporting Haslin Constructions with their environmental approvals (CEMP/Sub plans and EPL).

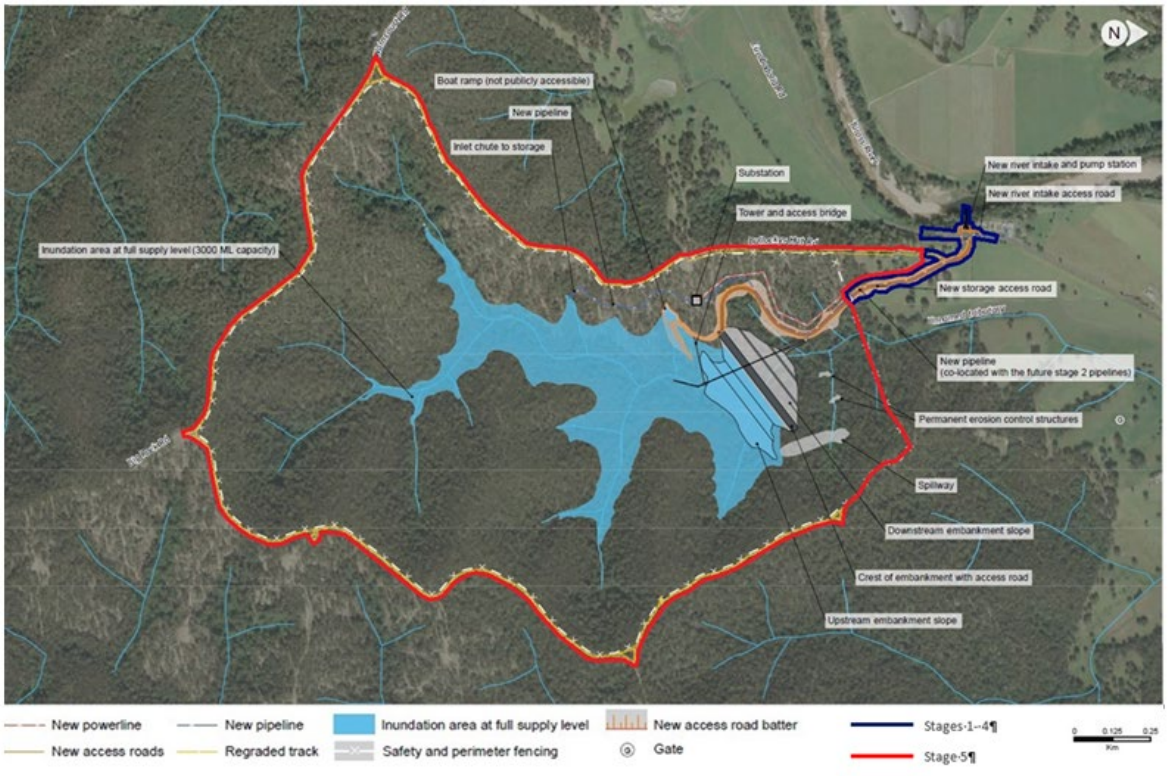
I'm mindful that the Development Consent requires the Construction Soil and Water Management Plan plus the Construction Flora and Fauna Management Plan to be developed in consultation with DPI Fisheries. I can see that you reviewed the Soil and Water / Flora and Fauna plans in December 2021 for Council and wanted to understand whether DPI Fisheries was interested to reviewing the Haslin Constructions CEMP/Sub Plans cover.

The reason I ask is because there is no requirement for Haslin Constructions to work in/around the Tuross River (which I can appreciate is the key focus of DPI Fisheries) as this has already been delivered for Council. The works in the Tuross River identified in blue on the map below have been delivered by Quay Civil already. Eurobodalla Shire Council has commenced constructing the access road into the site and Haslin Constructions will finish these works off under the already approved CEMP and sub plans.

Therefore the CEMP and Sub plans I've developed for Haslin Constructions only cover the inundation area (identified in red below). The key focus for the Haslin Constructions CEMP/Sub Plans is minimising impacts of terrestrial biodiversity and protecting water quality impacts to the unnamed tributary.
In light of the above, can you please let me know whether or not DPI Fisheries has interest in reviewing the Flora and Fauna Sub Plan/Soil and Water Sub Plan.

Please feel free to call me if you'd like to discuss, I've left a voicemail on your mobile this morning.

regards



RE: Eurobodalla Southern Water Supply Storage project

CG

Carla Ganassin <carla.ganassin@dpi.nsw.gov.au>
To Nicholas Francesconi
Cc Andrew Lynam

Reply | Reply All | Forward

Fri 29/07/2022 2:06 PM

You forwarded this message on 29/07/2022 6:19 PM.

Hi Nicholas,

Thanks for checking in with DPI Fisheries about this. We do not have an interest in reviewed the Flora & Fauna and Water Quality Sub-Plans for the dam construction works.

That said, pleas ensure best practice erosion and sediment control techniques are used during construction to manage and mitigate sedimentation inputs to the tributary and Tuross River downstream.

Regards,
Carla Ganassin
Senior Fisheries Manager, Coastal Systems
DPI Fisheries | Aboriginal Fishing & Marine & Coastal Environments
Department of Regional NSW

T 4222 8342 **M** 0447 644 357 **E** carla.ganassin@dpi.nsw.gov.au

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Department of Primary Industries
Department of Regional NSW

We stand on Country that always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for Elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work.