



S2-FGJV-ENV-PLN-0007

SNOWY 2.0 MAIN WORKS – ENVIRONMENTAL MANAGEMENT STRATEGY

Approval Record			
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CONTENTS

ABBREVIATIONS AND DEFINITIONS	5
1. INTRODUCTION	8
1.1. Background	8
1.2. Snowy 2.0	9
1.2.1. Snowy 2.0 Exploratory Works	9
1.2.2. Snowy 2.0 Main Works	9
1.3. Timing	10
1.4. Scope	11
1.5. Purpose	11
1.6. Consultation	12
1.7. Plans prepared to the satisfaction of agencies	14
1.7.1. Plans prepared to the satisfaction of the Planning Secretary	14
1.7.2. Plans prepared to the satisfaction of NPWS	14
1.7.3. Plans prepared to the satisfaction of DPI Fisheries	14
1.8. Distribution	14
1.9. Review and Improvement	15
1.9.1. Revision	15
1.9.2. Continuous Improvement	15
2. PROJECT DESCRIPTION	16
2.1. Project Location	16
2.2. General Features	16
2.3. Preconstruction and construction activities and sequencing	17
2.3.1. Snowy 2.0 Main Works	19
2.4. Operation	20
2.5. Snowy 2.0 Exploratory Works	26
2.6. Snowy 2.0 Segment Factory	27
2.7. Disturbance area	31
2.8. Works within the Construction Envelope	32
2.9. Change Management	32
2.10. Construction Hours	32
2.10.1. Working hours	32
3. PLANNING	33
3.1. Legal and other Requirements	33
3.2. Conditions of Approval	33
3.3. Revised Environmental Management Measures	36
3.4. EPBC Act Approval conditions	38
3.5. Approvals, Permits and Licences	39
3.6. Standards and Guidelines	42
4. ENVIRONMENTAL MANAGEMENT SYSTEM	43
4.1. Environmental Management Framework	43
4.1.1. Environment Policy	44
4.1.2. Objectives and Targets	44
4.1.3. Environmental Management Strategy	45
4.1.4. Environmental Management Plans	47

4.1.5.	Other Post-Approval documents.....	48
4.1.6.	Work Packs.....	51
4.1.7.	Sensitive Area Plans.....	51
4.1.8.	Progressive Erosion and Sediment Control Plans.....	51
4.1.9.	Procedures, Forms and Other Documents.....	52
4.1.10.	Document Control and Records.....	52
4.2.	Roles and Responsibilities.....	52
4.2.1.	Organisational Structure.....	52
4.2.2.	Roles and Responsibilities.....	53
4.3.	Environmental Risk Management.....	59
4.3.1.	Risk and Hazard Management Approach.....	59
4.3.2.	Environmental Risk Register.....	59
5.	TRAINING AND AWARENESS.....	61
5.1.	Site Induction.....	61
5.2.	Short-Term Workers Induction.....	61
5.3.	Toolbox Talks and Environmental Awareness.....	62
5.4.	Daily Pre-start Meetings.....	62
6.	COMMUNICATION AND COMPLAINTS MANAGEMENT.....	63
6.1.	Communication.....	63
6.1.1.	Internal Communication.....	63
6.1.2.	External Communication.....	63
6.2.	Complaint Management.....	64
6.2.1.	Dispute Resolution.....	65
7.	INCIDENTS AND EMERGENCIES.....	66
7.1.	Environmental Incidents.....	66
7.2.	Incident Reporting.....	66
7.2.1.	Incident Reporting in accordance with the Infrastructure Approval.....	66
7.2.2.	Incident Reporting in accordance with the POEO Act.....	67
7.2.3.	Incident Reporting in accordance with the EPBC Act.....	67
7.2.4.	Management Actions.....	67
7.3.	Environmental Emergencies.....	68
8.	INSPECTIONS, MONITORING AND AUDITING.....	69
8.1.	Environmental Inspections.....	69
8.2.	Monitoring.....	69
8.2.1.	Monitoring Programs.....	69
8.2.2.	Monitoring Results Outside of Expected Range.....	72
8.3.	Auditing.....	72
8.3.1.	Internal Audits.....	72
8.3.2.	External Audits.....	72
8.4.	Reporting.....	73
8.4.1.	Reporting Non-compliances.....	73
8.4.2.	EPBC Act Approval compliance reporting.....	73
8.4.3.	Reporting Notification of Works Commencement.....	74
8.4.4.	Other Reporting.....	74
8.4.5.	Project Website.....	75
8.5.	Non-conformance, Corrective and Preventative Action.....	76
9.	DOCUMENTATION.....	78

9.1. Records	78
9.2. Document and Data Control	78
APPENDIX A1 – SITE LAYOUT	79
APPENDIX A2 – LEGAL AND OTHER REQUIREMENTS	86
APPENDIX A3 – POLICY FOR ENVIRONMENT, SUSTAINABILITY AND COMMUNITY	104
APPENDIX A4 – ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER	106
APPENDIX A5 – ENVIRONMENTAL INCIDENT PROCESS	113
APPENDIX A6 – PRE-CONSTRUCTION MINOR WORKS MANAGEMENT PLAN	118
APPENDIX A7 – EXPLORATORY WORKS APPROVAL CONDITIONS	119

TABLE OF TABLES

Table 1-1: Consultation required for the management plans	13
Table 2-1: Key activities for the phases of Snowy 2.0 Main Works	21
Table 2-2: Disturbance area terminology	31
Table 2-3: Maximum disturbance area and native vegetation clearing	32
Table 3-1: Conditions relevant to the EMS – Main Works	33
Table 3-2: Revised environmental management measures relevant to the EMS – Main Works	36
Table 3-3: Revised environmental management measures relevant to the EMS – Exploratory Works	37
Table 3-4: EPBC conditions relevant to the EMS – Main Works	38
Table 3-5: Approvals, licences and permits summary table	40
Table 4-1: Environmental Management System components	43
Table 4-2: Policy communication	44
Table 4-3: Objectives and targets	45
Table 4-4: EMS plans and timing	47
Table 4-5: Other post-approval documents	49
Table 4-6: Environmental roles and responsibilities	54
Table 4-7: Risk matrix	60
Table 4-8: Likelihood and consequence table	60
Table 7-1: Environmental incident management actions	67
Table 8-1: Inspection schedule	69
Table 8-2: Environmental monitoring summary	71
Table 8-3: Other reporting requirements	74
Table A7-1: Exploratory Works conditions relevant to the EMS	120

TABLE OF FIGURES

Figure 1-1: Schematic of Main Works (EIS, EMM)	10
Figure 1-2: Timing of Snowy 2.0 Exploratory Works and Main Works (EIS, EMM)	11
Figure 2-1: Delivery of Snowy 2.0	18
Figure 2-2: Regional location of Snowy 2.0 Main Works	28
Figure 2-3: Snowy 2.0 Main Works – overview of permanent infrastructure	29
Figure 2-4: Operating principles of Snowy 2.0 Main Works (EIS, EMM)	30
Figure 2-5: Disturbance area and construction envelope	31
Figure 4-1: Environmental Management System Hierarchy	43
Figure 4-2: EMS overview	46
Figure 4-3: Management plans and post-approval documents – transitioning from Exploratory Works to Main Works	50
Figure 4-4: Project parties	52

ABBREVIATIONS AND DEFINITIONS

Acronym	Definition
AfL	Agreement for Lease with NPWS
ALARP	As low as reasonably practicable
ANZECC	Australian and New Zealand Environment and Conservation Council
APZ	Asset Protection Zone
AS/NZ	Australian Standard / New Zealand Standard
BC Act	<i>Biodiversity Conservation Act 2016</i>
BCD	Biodiversity and Conservation Division (part of Department of Planning, Industry and Environment)
BMP	Biodiversity Management Plan
BMS	Future Generation Business Management System
CNMP	Construction Noise Management Plan – Rock Forest
Contractor	Salini Impregilo, Clough and Lane have formed the Future Generation Joint Venture (Future Generation). Future Generation is the contractor who will be carrying out the Snowy 2.0 Main Works on behalf of Snowy Hydro Limited. References to the Contractor in this Environmental Management Strategy refers to Future Generation and includes all its sub-contractors.
Construction envelope	The envelope within which the disturbance area of the development may be located.
CSSI	Critical State significant infrastructure
Cth	Commonwealth
DAWE	The Commonwealth Department of Agriculture, Water and the Environment which is responsible for administering the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
Development	The development of the Exploratory Works and Main Works as modified by the conditions of this approval
Disturbance area	The area within the construction envelope where the development may be carried out.
DPIE or Department	Department of Planning, Industry and Environment
DPI Fisheries	Department of Primary Industries – Fisheries
EEC	Endangered Ecological Communities
EIS	<i>Snowy 2.0 Main Works - Environmental Impact Statement</i>
EMS	Environmental Management Strategy
Environmental aspect	Defined by AS/NZS ISO 14001:2004 as an element of an organisation's activities, products or services that can interact with the environment
Environmental impact	Defined by AS/NZS ISO 14001:2004 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects
Environmental objective	Defined by AS/NZS ISO 14001:2004 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 14001:2004 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	<i>Environmental Planning and Assessment Act 1979</i>
EPA	Environment Protection Authority

Acronym	Definition
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
ERMP	Emergency Response Management Plan
ESCP	Erosion and Sediment Control Plan
Exploratory Works	<p>The development of an exploratory tunnel and associated infrastructure described in the Environmental Impact Statement for <i>the Snowy 2.0 Exploratory Works</i> (CSSI 9208) dated July 2018, and modified by the:</p> <ul style="list-style-type: none"> • <i>Submissions Report</i> dated October 2018 and additional information provide to the Department on 17 October 2018, 19 November 2018 and 23 January 2019; • <i>Modification Report</i> dated 6 June 2019, associated <i>Submissions Report</i> dated 2 September 2019 and amendment letter dated 4 October 2019; and • <i>Modification Report</i> dated 17 October 2019 and associated <i>Submissions Report</i> dated 10 January 2020.
Exploratory Works EIS	<i>Environmental Impact Statement Exploratory Works for Snowy 2.0</i>
FMECA	Failure Mode Effects and Criticality Analysis
FRNSW	NSW Fire and Rescue
Future Generation	Future Generation Joint Venture
GIS	Geographical Information Systems
GWMP	Groundwater Management Plan
HAZID	Hazard Identification
HMP	Heritage Management Plan
HSSE	Health, Safety, Security and Environment
HSSE Manual	Health, Safety, Security and Environment Management Manual
ICNG	<i>Interim Construction Noise Guidelines</i> , DECC 2009
ISO	International Standards Organisation
JHA	Job Hazard Analysis
KNP	Kosciuszko National Park
LG Act	<i>Local Government Act 1993</i>
MAE	Major Accident Event
Main Works	<p>The development of an underground power station and associated infrastructure described in the Environmental Impact Statement for the <i>Snowy 2.0 Main Works</i> (CSSI 9687) dated September 2019, and modified by the:</p> <ul style="list-style-type: none"> • <i>Preferred Infrastructure Report and Response to Submissions – Snowy 2.0 Main Works</i>, dated February 2020; and • Additional information provided to the Department by EMM on 24 March 2020 and 7 April 2020.
Main Works EIS	<i>Snowy 2.0 Main Works - Environmental Impact Statement</i>
MNES	Matters of national environmental significance under the EPBC Act 1999
NATA	National Association of Testing Authorities
NEM	National Electricity Market
NHMP	Natural Hazard Management Plan
NPW Act	<i>National Parks and Wildlife Act 1974</i>

Acronym	Definition
NPWS	National Parks and Wildlife Service
NRAR	Natural Resources Access Regulator
NSW	New South Wales
NSW DPI	The NSW Department of Primary Industries within Regional NSW
OSOM	Oversize Overmass
PIRMP	Pollution Incident Response Management Plan
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
Pre-construction MP	Pre-construction Minor Works Management Plan
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PoM	Plan of Management
Project, the	Snowy 2.0 Main Works
Project area	The broader region within which Snowy 2.0 will be built and operated, and the extent within which direct impacts from Snowy 2.0 Main Works are anticipated.
RAP	Registered Aboriginal Parties
REMMs	Revised environmental management measures
RFS	Rural Fire Services
RMP	Rehabilitation Management Plan
RMS	Roads and Maritime Services
RTS or Submissions Report	<i>Snowy 2.0 Main Works – Response to Submissions</i>
SAPs	Sensitive Area Plans
Snowy 2.0	A pumped hydro-electric expansion of the Snowy Scheme that will link the two existing reservoirs of Tantangara and Talbingo through underground tunnels, and include a new underground power station with pumping capabilities
Snowy Hydro	Snowy Hydro Limited
SSI	State significant infrastructure
SMP	Spoil Management Plan
SWMP	Surface Water Management Plan
TARP	Trigger Action Response Plan
TBM	Tunnel Boring Machine
TfNSW	Transport for NSW
TMP	Transport Management Plan
Water Group	The Water Group within the Department
WAL	Water Access Licence
Waste MP	Waste Management Plan
WMP	Water Management Plan

1. INTRODUCTION

1.1. Background

Snowy Hydro Limited (Snowy Hydro) is constructing a pumped hydro-electric expansion of the Snowy Mountains Hydro-electric Scheme, called Snowy 2.0. Snowy 2.0 will be built by the delivery of two projects: Exploratory Works (which has commenced) and Snowy 2.0 Main Works.

Snowy 2.0 is a pumped hydro-electric expansion of the existing Snowy Scheme that involves linking the existing Tantangara and Talbingo reservoirs through approximately 27 kilometres of new underground tunnels and a hydro-electric power station.

Snowy 2.0 would provide an additional 2,000 megawatts of electricity and provide up to 350 gigawatt hours of energy storage for the National Electricity Market (NEM), enough to ensure the stability and reliability of the NEM. It is the largest committed renewable energy project in Australia and will underpin the nation's secure and stable transition to a low carbon emissions future.

On 7 March 2018, the NSW Minister for Planning declared Snowy 2.0 to be State significant infrastructure (SSI) and critical State significant infrastructure (CSSI) under the *Environmental Planning and Assessment Act 1979* (EP&A Act) on the basis that it is critical to the State for environmental, economic or social reasons.

In July 2018, the *Environmental Impact Statement for the Exploratory Works for Snowy 2.0* (Exploratory Work EIS) was submitted to the then Department of Planning and Environment. Following public exhibition, the response to submissions was prepared (*Response to Submissions Exploratory Works for Snowy 2.0*), and on 7 February 2019, approval of Snowy 2.0 Exploratory Works (Exploratory Works) was granted by the Minister for Planning.

The *Snowy 2.0 Main Works Environmental Impact Statement* (Main Works EIS) was submitted to Department of Planning, Industry and Environment in September 2019 and publicly exhibited between 26 September 2019 and 6 November 2019. A total of 222 submissions were received and in February 2020, the response to submissions was prepared (*Snowy 2.0 Main Works – Response to Submissions*).

Following consideration of this document and the Main Works EIS, approval was granted by the Minister for Planning and Public Spaces on 20 May 2020. The approval for Snowy 2.0 Main Works incorporates the Exploratory Works and Main Works project elements and requires surrender of the Exploratory Works approval within six months of the commencement of construction. At the time of surrender, the conditions and requirements of the Main Works Infrastructure Approval would apply to any Exploratory Works activities required to be completed.

In addition to the State approval, a referral (EPBC 2018/8322) was prepared and lodged with the Commonwealth Department of Agriculture, Water and the Environment (DAWE) under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Commonwealth Minister's delegate determined on 5 December 2018 that Snowy 2.0 Main Works is a "controlled action" under the EPBC Act. The EPBC Act referral decision determined that the project will be assessed by accredited assessment under Part 5, Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979*. The referral was approved by DAWE on 29 June 2020.

Salini Impregilo, Clough and Lane have formed the Future Generation Joint Venture (Future Generation), and have been engaged to deliver both Stage 2 of the Exploratory Works project and Snowy 2.0 Main Works.

This document has been prepared for Snowy 2.0 Exploratory Works, and pre-construction and construction of the Snowy 2.0 Main Works project, and supersedes the existing Stage 1 and Stage 2 Exploratory Works Environmental Management Strategy. It does not address the operational phase of the project.

The Stage 1 and Stage 2 Exploratory Works Environmental Management Strategy and management plans will continue to remain in place until they are superseded by the management plans for Main Works, which will occur following their approval by the relevant authority. Further detail is provided within Table 4-4.

1.2. Snowy 2.0

1.2.1. Snowy 2.0 Exploratory Works

The Snowy 2.0 Exploratory Works (Exploratory Works) project involves the construction of a tunnel approximately 2.5 km in length to obtain geological data and assist with informing detailed design for Snowy 2.0 Main Works. To support construction of the tunnel, the Exploratory Works project also involves construction of the tunnel portal, an accommodation camp, barge access infrastructure, road upgrades, excavated rock management and other ancillary construction activities. Further detail is provided in section 2.

The Exploratory Works project is being delivered in three stages.

- Stage 1a – Pre-construction Minor Works - Stage 1a commenced on 5 March 2019;
- Stage 1b - Exploratory Works Access Roads – Stage 1b commenced in the second quarter of 2019 and includes roadworks and upgrades to enable access during Exploratory Works.
- Stage 2 – Exploratory Works – Stage 2 commenced in quarter three of 2019. The scope for Stage 2 is the remainder of the Exploratory Works, including:
 - pre-construction minor activities including dilapidation studies, survey, investigations, access etc; and
 - construction works including exploratory tunnel, portal construction pad, accommodation camp, dredging, barge access infrastructure and excavated rock management and additional geotechnical investigation. This includes subaqueous emplacement within Talbingo Reservoir.

Stage 2 construction activities commenced on 29 October 2019.

The Exploratory Works project has undergone two modifications since approval.

Modification 1 was approved on 2 December 2019 and involved additional geotechnical investigation works, minor changes to the project boundary, removal of dangerous trees on Lobs Hole Ravine Road and a new electricity substation at Lobs Hole.

Modification 2 was approved on 27 March 2020 and included a change of construction methodology to excavate the exploratory tunnel. The original construction methodology of drill and blast was modified to occur predominantly through the use of a tunnel boring machine (TBM). Other changes included road upgrades for transport of the TBM, use of Lobs Hole Ravine Road (north) for light vehicles, relocation of the barge ramp and increasing the capacity of the accommodation camp.

1.2.2. Snowy 2.0 Main Works

Snowy 2.0 Main Works (the project) involves the connection of Talbingo Reservoir and Tantangara Reservoir through a network of tunnels approximately 27 kilometres in length. A new underground power station will be constructed, capable of generating 2,000 megawatts of electricity and up to 350 gigawatt hours of energy storage. The project will also involve the construction of water intakes at Talbingo Reservoir and Tantangara Reservoir, access tunnels, a surge shaft at Marica, a ventilation shaft, permanent road upgrades, and power, water and communications infrastructure. Spoil emplacement sites are also required to be constructed for the permanent emplacement of the spoil produced from the tunnels.

Ancillary infrastructure would also be required to support construction of the project. This will include construction compounds, access tunnels and adits to support tunnelling activities, accommodation camps at Lobs Hole, Marica and Tantangara, a logistics site at Rock Forest, road upgrades, water supply and wastewater treatment facilities. A schematic of the project is provided in Figure 1-1.

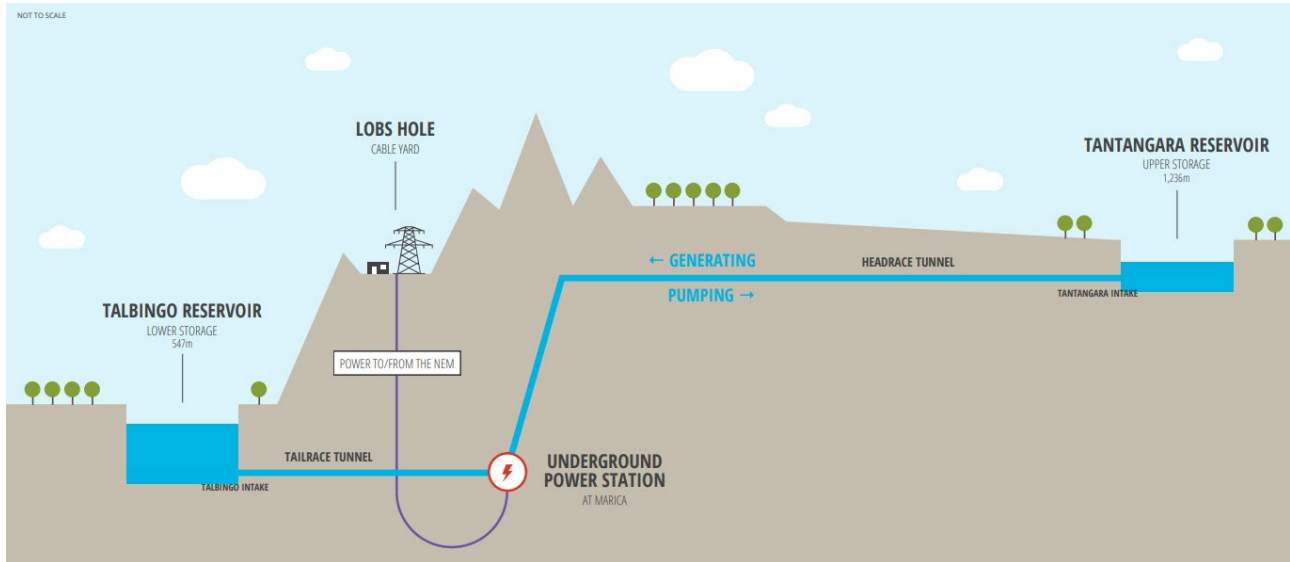


Figure 1-1: Schematic of Main Works (EIS, EMM)

1.3. Timing

Figure 1-2 displays the indicative timing for Exploratory Works and Snowy 2.0 Main Works. Exploratory Works will continue during 2020 and 2021. Construction of Snowy 2.0 Main Works is expected to commence in Quarter 3 2020, pending approval of the required management plans. This timing may be subject to change due to alterations in design development, modifications to design, wet weather impacts etc.

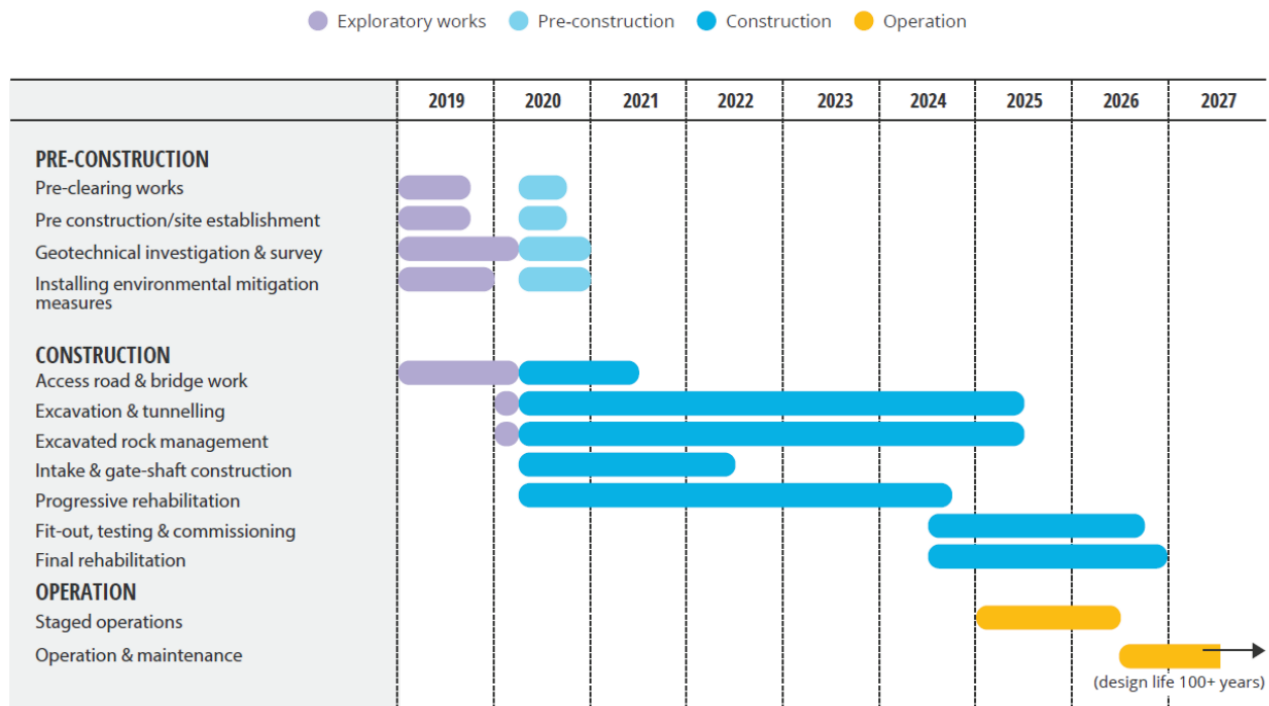


Figure 1-2: Timing of Snowy 2.0 Exploratory Works and Main Works (EIS, EMM)

1.4. Scope

This document has been prepared for the Snowy 2.0 Main Works project and supersedes the existing Exploratory Works Environmental Management Strategy.

It will also form the Environmental Management Strategy for the Exploratory Works project until the Exploratory Works Infrastructure Approval is surrendered.

1.5. Purpose

This Environmental Management Strategy (EMS) presents the framework for environmental management for Snowy 2.0 Main Works.

This EMS has been prepared to address the requirements of the Infrastructure Approval (CSSI 9687) issued for Snowy 2.0 Main Works on 20 May 2020 and the Infrastructure Approval (SSI 9208) issued for Snowy 2.0 Exploratory Works (and the Exploratory Works modifications approved thereafter). All Exploratory Works and Main Works activities undertaken on the project will be required to be undertaken in accordance with this EMS and the relevant management plans.

The purpose of this EMS is to provide a structured approach to the management of environmental issues during the delivery of the project. Implementing this EMS will ensure that the project, meets the regulatory and approval requirements in a systematic manner. In particular, this EMS:

- describes the project and activities to be undertaken;
- describes the strategic framework for environmental management of the project;
- identifies the approvals, licences and permits that relate to the project;
- describes the roles and responsibilities of personnel in relation to environmental management;
- describes the procedures that will be implemented for community consultation and notification, and complaints management; and

- outlines a monitoring regime for construction.

Specific on-site management measures identified in this document will be incorporated into the relevant management plans. These aspect-specific documents will detail the management measures which are to be implemented on the ground. Construction personnel will be required to undertake works in accordance with this EMS and the mitigation measures identified in these site-specific documents.

1.6. Consultation

Whilst there is no specific consultation requirement for this EMS, the Infrastructure Approval requires that many of the management plans, strategies and programs are developed in consultation with relevant stakeholders and agencies.

Consultation required for these management plans, strategies and programs is detailed within Table 1-1, with 'S' indicating that the document is to be prepared to the satisfaction of that agency and 'C' indicating that consultation is required.

Table 1-1: Consultation required for the management plans

Document	Main Works Infrastructure Approval condition	Main Works EIS or RTS requirement	Exploratory Works EIS or RTS requirement	Project which the plan addresses	Timing of document	Dept of Planning, Industry and Environment	Department of Agriculture, Water and Environment	National Parks and Wildlife Service	Environment Protection Authority	Department of Primary Industries – Fisheries	Water Group	Natural Resources Access Regulator	Biodiversity & Conservation	Heritage Council	Registered Aboriginal Parties	Yala Ngurumbang Yindjamarra Expert Advisory Committee	Sthn Snowy Mountains Aboriginal Community MOU Group	Snowy Valleys Council	Snowy Monaro Regional Council	Transport for NSW	NSW Police	Landowners of the nearby properties	Relevant recreational fishing groups
Environmental Management Strategy	Schedule 4 condition 1	-	-	Main Works and Exploratory Works	Prior to development	S																	
Biodiversity Management Plan	Schedule 3 condition 18	REMM EC02, EC04, ECO05, EC06, AE04	REMM ECO01, ECO04, Section 4.11.4 of the RTS	Main Works and Exploratory Works	Prior to construction	S	C	C					C										
Water Management Plan ¹ , which includes: <ul style="list-style-type: none"> Surface Water Management Plan Groundwater Management Plan 	Schedule 3 condition 31	REMM WM01, WM02, ECO02	REMM SOIL02	Main Works and Exploratory Works	Prior to construction	S	C	C	C	C	C	C											
Heritage Management Plan	Schedule 3 condition 35	REMM HER01, HER04, GE06	REMM HER01, HER03	Main Works and Exploratory Works	Prior to development	S	C	C					C	C	C	C	C						
Spoil Management Plan, including detailed plans for the spoil emplacement areas ¹ : <ul style="list-style-type: none"> Lobs Hole (Main Yard) Ravine Bay GFO01 Tantangara Rock Forest 	Schedule 3 condition 7	REMM CONTAM07	REMM CON02, CON01	Main Works and Exploratory Works	Prior to construction	S		C	C	C	C	C								C			
Construction Noise Management Plan – Rock Forest	Schedule 3 condition 57	REMM NV01	REMM KNP01, NOI01	Main Works	Prior to construction at Rock Forest	S																C	
Natural Hazard Management Plan (titled Emergency Management Plan in the Approval)	Schedule 3 condition 61	REMM HAZ08, REMM WM14	REMM PUS02, REMM PUS01, 4.1.7 of the RTS	Main Works and Exploratory Works	Prior to construction			S															
Other Post-Approval documents required by the Approval																							
Transport Management Plan <ul style="list-style-type: none"> Heavy Vehicle Salvage Plan Marine Transport Management Plan Snow & Ice Traffic Management Plan Communication Strategy 	Schedule 3 condition 46	REMM TRA07	REMM TRA01, PUS05	Main Works and Exploratory Works	Prior to construction	S		C										C	C	C	C		
Digital Strategy (Snowy Hydro)	Schedule 3 condition 2	-	-	Main Works	Within 6 months of the commencement of construction	S		C															
Rehabilitation Management Plan	Schedule 3 condition 10	REMM REHAB01, SOIL01, SOIL04, LCV01	REMM SOIL04, KNP06, SOIL03	Main Works and Exploratory Works	Within 18 months of the commencement of construction	S		C	C	C			C							C			
Biosecurity Risk Management Plan (Snowy Hydro)	Schedule 3 condition 22	-	-	Main Works	Within 2 years of the commencement of construction	C	C	C		S													
Threatened Fish Management Plan (Snowy Hydro)	Schedule 3 condition 24	-	-	Main Works	Within 12 months of the commencement of construction	C	C			S													
Recreational Fishing Management Plan (Snowy Hydro)	Schedule 3 condition 26	-	-	Main Works	Within 12 months of the commencement of construction	C		C		S													C
Recreation Management Plan (Snowy Hydro)	Schedule 3 condition 39	-	-	Main Works	Within 12 months of the commencement of construction	S		C		C										C			
Long-Term Road Strategy (Snowy Hydro)	Schedule 3 condition 50	-	-	Main Works	Within 2 years of the commencement of construction	S		C												C			
Visual Impact Management Plan	Schedule 3 condition 54	-	-	Main Works	Within 12 months of the commencement of construction	S		C															

¹ The detailed plans may be submitted on a staged basis as permitted by condition 7 and condition 31 of schedule 3.

1.7. Plans prepared to the satisfaction of agencies

1.7.1. Plans prepared to the satisfaction of the Planning Secretary

The EMS and relevant management plans will be submitted to Department of Planning, Industry and Environment (DPIE or Department) for confirmation that the document has been prepared to the satisfaction of the Secretary.

In accordance with the Infrastructure Approval, prior to development, the EMS and Heritage Management Plan will be prepared to the satisfaction of the Planning Secretary.

Prior to the commencement of construction, the following additional plans will be prepared to the satisfaction of the Planning Secretary:

- Biodiversity Management Plan;
- Water Management Plan;
- Transport Management Plan;
- Spoil Management Plan;
- Construction Noise Management Plan – Rock Forest (for commencement of construction at Rock Forest).

The approved EMS will be implemented in accordance with the requirements of condition 2 of schedule 4 of the Infrastructure Approval. Regardless of the allocation of responsibilities within this EMS and the management plans, the responsible party is to be assigned in accordance with the Contract.

1.7.2. Plans prepared to the satisfaction of NPWS

The Natural Hazard Management Plan (titled Emergency Management Plan in condition 61 of schedule 3 of the Infrastructure Approval) will be prepared prior to construction and to the satisfaction of the NSW National Parks and Wildlife Service (NPWS).

1.7.3. Plans prepared to the satisfaction of DPI Fisheries

Three post-approval documents are required to be prepared by Snowy Hydro to the satisfaction of the Director-General of Department of Primary Industries – Fisheries (DPI Fisheries). These include the:

- Biosecurity Risk Management Plan;
- Threatened Fish Management Plan; and
- Recreational Fishing Management Plan.

1.8. Distribution

Future Generation's Environmental Manager will coordinate the preparation, review and distribution, as appropriate, of the environmental documents. During construction, Future Generation's environmental documents will be stored electronically at the site office and on the project document control system (Aconex).

The EMS and relevant management plans, programs or strategies will be made available to all personnel and subcontractors either by hard copy (if requested) or through the project document control system. Documents which are required to be made publicly available will also be placed on the Snowy Hydro project website.

Registered copies will be distributed to:

- Snowy Hydro's Representative;
- Snowy Hydro's Environmental Manager;
- Future Generation's Project Director; and
- Future Generation's Environmental Manager.

1.9. Review and Improvement

1.9.1. Revision

In accordance with condition 4 of schedule 4 of the Main Works Infrastructure Approval, and unless the Planning Secretary agrees otherwise, within three months of the below, strategies, plans and programs will be reviewed and if necessary revised:

- the submission of an incident report under condition 6;
- the submission of an independent environmental audit report under condition 10; and
- any modification to the conditions of the Infrastructure Approval; or
- a direction of the Planning Secretary under condition 4 of schedule 2.

Where any revisions to the management plans, strategies or programs are made, the revised document will be issued to the Snowy Hydro prior to submission to the Department.

In accordance with condition 3 of schedule 4, any strategy, plan or program required under the Infrastructure Approval may be submitted on a staged basis with the agreement of the Planning Secretary. Updates to any approved strategies, plans or programs may also be submitted at any time.

Condition 3 also states that, with the agreement of the Planning Secretary, staged or updated strategies, plans or programs may be prepared without undertaking all the consultation required under the applicable condition in this approval.

Only the Future Generation Environmental Manager, or delegate, has the authority to change any of the environmental management documentation.

Should the EMS or management plans not require review or revision under condition 4, then they will be reviewed at least annually and revised as necessary. Revised versions of the EMS will be made available through the processes described in Section 1.6.

1.9.2. Continuous Improvement

Continuous improvement of this EMS 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; and
- make comparisons with objectives and targets.

2. PROJECT DESCRIPTION

Snowy 2.0 is a pumped hydro-electric project that will link the existing Tantangara and Talbingo Reservoirs through a series of new underground tunnels and a hydro-electric power station. Most of the project's facilities will be built underground, with approximately 27 kilometres of concrete-lined tunnels constructed to link the two reservoirs and a further 20 kilometres of tunnels required to support the facility. Intake and outlet structures will be built at Tantangara and Talbingo Reservoirs.

Snowy 2.0 will increase the generation capacity of the Snowy Scheme by an additional 2,000 MW, and at full capacity will provide approximately 350,000 MWh of large-scale energy storage to the NEM. This will be enough to ensure the stability and reliability of the NEM, even during prolonged periods of adverse weather conditions.

As with most of the existing Snowy Scheme, the majority of Snowy 2.0 is within Kosciuszko National Park. Snowy Hydro has been working with NPWS since the announcement of Snowy 2.0 to ensure long term management objectives for Kosciuszko National Park are considered in the project development.

2.1. Project Location

Snowy 2.0 Main Works is in the Australian Alps in southern NSW, approximately mid-way between Canberra and Albury. The project is within both the Snowy Valleys and Snowy Monaro Regional local government areas. The nearest large towns are Cooma and Tumut and other nearby towns include Talbingo, Cabramurra, Adaminaby and Tumbarumba. The location of these towns in relation to the project are shown on Figure 2-2.

The majority of the project area is within Kosciuszko National Park. Kosciuszko National Park is an area recognised for its unique landscapes, recreational and heritage values, as well as the successful co-existence of the Snowy Scheme within this area over the past 65 years.

The regional location of Snowy 2.0 Main Works is identified in Figure 2-2, with the key elements of the permanent infrastructure identified in Figure 2-3. Site layout diagrams (as provided within the Infrastructure Approval) are included within Appendix A1.

2.2. General Features

The general features of Snowy 2.0 Main Works include:

- an underground pumped hydro-electric power station complex;
- water intake structures at Tantangara and Talbingo reservoirs;
- underground power waterway tunnels, chambers and shafts;
- underground access tunnels;
- fish control structures at Tantangara Creek and in proximity to Tantangara Reservoir wall;
- new and upgraded roads to allow ongoing access and maintenance;
- power, water and communication infrastructure, including:
 - a cable yard to facilitate the connection of Snowy 2.0 to the national electricity market (NEM) transmission network;
 - permanent auxiliary power connection;
 - permanent communication cables; and
 - permanent water supply to the underground power station.

2.3. Preconstruction and construction activities and sequencing

The Exploratory Works project is currently being constructed on the Snowy 2.0 site. Stage 1 Exploratory Works are in the process of being finalised, however Stage 2 construction activities such as the accommodation camp and exploratory tunnel portal are underway and will continue throughout 2020 and 2021.

The works associated with Snowy 2.0 Main Works will commence upon approval of the relevant management plans, and therefore will be undertaken in parallel, or at the same time, as the Exploratory Works project. This will occur until the Exploratory Works Infrastructure Approval is surrendered. The sequence and overlapping nature of the project works is indicated in Figure 2-1.

The Main Works activities will follow the natural sequence of project delivery and include pre-construction minor works and construction works. Further detail of these activities is provided in Section 2.3.1.

For the most part, the management plans are being prepared to address both Main Works and Exploratory Works within the one document. Where this occurs, the approved management plans for Exploratory Works will continue to remain in place until they are superseded by the management plans for Main Works, following their approval by the relevant authority. Where the Approval / REMMs are specific to only one project (for example the Subaqueous Emplacement Management Plan for Exploratory Works), this plan would only be prepared for the relevant project. A list of the plans and their applicability relevant are detailed within Table 4-4.

As detailed within condition 7 and condition 31 of the Infrastructure Approval, the Water Management Plan and Spoil Management Plan will be submitted on a staged basis as additional information and detailed design becomes available. Subsequent versions of the Spoil Management Plan will include for example, the detailed plans for spoil emplacement areas, and subsequent versions of the Water Management Plan will include for example, detail relating to the operation of the outlet points.

As detailed within Section 1.9, all management plans will be subject to review and if necessary, revision during the project. These reviews will occur following the submission of an incident report; following submission of an independent environmental audit report; following any modification to the conditions of approval; at the direction of the Planning Secretary; and where not required by these items, at least on an annual basis. The sequencing of pre-construction and construction and anticipated timing for review of the plans during construction is provided within Figure 2-1.

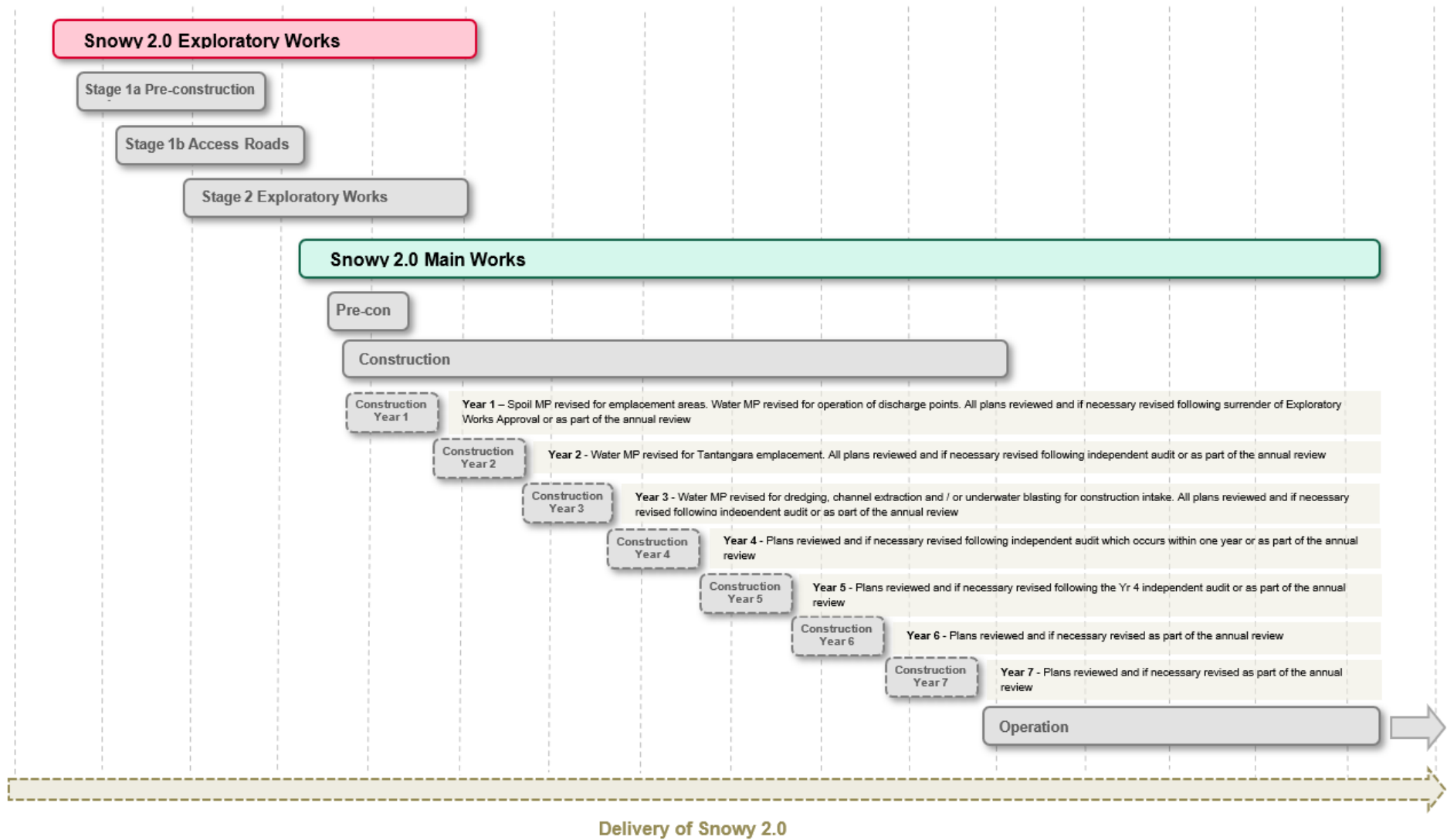


Figure 2-1: Delivery of Snowy 2.0

2.3.1. Snowy 2.0 Main Works

Pre-construction minor works

Pre-construction minor works will occur prior to construction and will include the following:

- building/road dilapidation studies;
- survey works;
- installation of environmental impact mitigation measures, including the installation of monitoring equipment, erosion and sediment controls, and fencing provided that there is no clearing;
- archaeological investigation works (archival recording, archival research, salvage excavation or relocation of heritage items);
- minor clearing (ie slashing, lopping or pruning of vegetation) for the purpose of archival recording, archival research, salvage excavation or relocation of heritage items only.

Pre-construction minor works will commence following approval of the Environmental Management Strategy and Heritage Management Plan as permitted by the Infrastructure Approval. This is indicated within Section 4, Figure 4-3.

A Pre-construction Minor Works Management Plan has been prepared and included in Appendix A6. Pre-construction minor works will be therefore be undertaken in accordance with the Infrastructure Approval, Main Works EIS, Main Works RTS, the Environmental Management Strategy, Heritage Management Plan, and the Pre-construction Minor Works Management Plan within Appendix A6.

Construction

All other work required to be constructed on the project will occur during the construction stage. The construction elements of Snowy 2.0 Main Works include:

- construction compounds, portals, stockpile areas, yards, maintenance and laydown areas to provide areas for plant and equipment, and storage of construction materials, at Talbingo Reservoir, Lobs Hole, Marica, and Tantangara Reservoir;
- access tunnels and adits to support main tunnelling activities and construction of the underground power station complex;
- a construction logistics site at Rock Forest;
- site-based accommodation camps to house the temporary workforce at Lobs Hole, Marica and Tantangara Reservoir;
- road establishment and other access improvements and upgrades to allow access to construction sites;
- management of excavated rock from tunnelling and excavation activities, including:
 - permanent storage of excavated rock within Talbingo and Tantangara reservoirs;
 - temporary and/or permanent on-land storage within the Kosciuszko National Park and temporary and/or permanent storage outside of Kosciuszko National Park;
- temporary water supply for water required by construction activities;
- temporary water and wastewater treatment facilities where needed to manage the above sites and construction activities;
- continued use of the Lobs Hole substation for construction power if required; and

- establishment of barge access at Tantangara Reservoir for construction of the intake.

Construction works will commence following approval of the Biodiversity Management Plan, Water Management Plan, Transport Management Plan, Spoil Management Plan and Natural Hazard Management Plan. For construction to commence at Rock Forest, the Construction Noise Management Plan – Rock Forest will require approval. This is indicated within Section 4, Figure 4-3.

2.4. Operation

It must be noted that though the operational phase is described within this section, this Environmental Management Strategy does not apply to the operational phase of the project.

The operational phase of the project will occur following the construction phase. Operation of Snowy 2.0 will involve the transfer of water through the underground tunnels and power station to provide energy generation, as well as large-scale energy storage that will be available on-demand at critical times of peak demand, including times when renewable energy output or thermal generation is low. To do this, Snowy 2.0 will have two operating modes; energy generating mode and pumping mode (for large-scale energy storage Figure 2-4 provides an overview of the principles of the operation of Snowy 2.0).

Following the commencement of operation, both Tantangara and Talbingo reservoirs will have increased operational functions. Tantangara Reservoir will act as the head storage for generation from the Snowy 2.0 power station and will also act as storage for water pumped up from Talbingo Reservoir. Talbingo Reservoir will act as tail storage from Snowy 2.0 generation.

Due to these additional operational functions of the reservoirs, the short and longer term water levels, as well as the rates of water level rise and fall, are expected to experience some degree of change compared to the historical operations. Under the existing Snowy Scheme, the levels within the various reservoirs are subject to significant variability due to the design and construction of reservoirs, the environmental releases required by the Snowy Water Licence and variations of annual flows into the existing scheme. In operating the Snowy 2.0 power station, Snowy Hydro will move water directly (in both directions) between Tantangara and Talbingo reservoirs (rather than in only one direction via Lake Eucumbene, Tumut Pond and Tumut 2 Pondage), and as a consequence will store water at different locations in the Snowy-Tumut Development. For example, more water is likely to be held for longer in Tantangara than was previously diverted from Tantangara Reservoir to Lake Eucumbene.

As a result of the operation of Snowy 2.0, the water level in Tantangara Reservoir will be more variable than historically. Notwithstanding this, the EIS determined that no additional land will be affected by the inundation and water storages will continue to be held within the footprint of the existing Full Supply Levels.

During operation, several service roads established during construction will be used to access surface infrastructure including the power station's vent shaft, the water intake structures, and the headrace tunnel surge shaft. Permanent access tunnels (the MAT and emergency egress, cabling and ventilation tunnel (ECVT)) will be used to enter and exit the power station. For some roads, permanent access by Snowy Hydro will require restricted public access arrangements. Operational access arrangements are shown within Figure 2.8 of Appendix 2 of the Infrastructure Approval.

Table 2-1: Key activities for the phases of Snowy 2.0 Main Works

Phase	Key activity	Activities (summary)
Pre-construction minor works	Pre-construction works	<ul style="list-style-type: none"> • Building/road dilapidation studies • Survey works • Installation of environmental impact mitigation measures, including the installation of monitoring equipment, erosion and sediment controls, and fencing provided that there is no clearing • Archaeological investigation works (archival recording, archival research, salvage excavation or item relocation) • Minor clearing (ie slashing, lopping or pruning of vegetation) for the purpose of archival recording, archival research, salvage excavation or relocation of heritage items only
Construction	<p>Construction of portal works, construction compounds, tunnelling support infrastructure, relevant access roads and ancillary infrastructure. These include:</p> <ul style="list-style-type: none"> • Talbingo Portal; • Talbingo construction support areas; • Main Yard; • Emergency, cable and ventilation tunnel ("ECVT") Portal (including Cable yard and Substation); • Main Access Tunnel ("MAT") Portal; • Marica construction support areas; • Surge shaft yard; • Tantangara construction support areas; • Tantangara Portal; • Tantangara communication tower; • Marica communication tower. 	<ul style="list-style-type: none"> • Installation of temporary and permanent safety measures including signage, barricades and any other equipment necessary • Installation and maintenance of temporary fencing for delineation of sensitive areas or other features • Installation and maintenance of environmental controls including establishment of short term and long-term erosion and sedimentation control systems and devices including sediment basins, wastewater treatment plants and drainage • Trimming of hazardous trees following pre-construction survey if required and as per assessment recommendations • Collection and storage of indigenous/native seed and alpine soda • Clearing and grubbing of vegetation and topsoil including stockpile management • Topsoil stripping and stockpiling • Short-term excavation and stockpiling of topsoil • Earthworks including trenching, excavation of cuttings, construction of fills including selected zone material, and placement of excess spoil in stockpiles • Utilisation of suitable material from necessary excavations for re-use in and around the site • Site preparation of all roads (new or upgraded) • Laying of road base, pavements, footpaths and drainage • Installation of road furniture including but not limited to barriers, line marking, guide posts and road signs • Construction of bridges and culverts where required • Construction of retaining walls where needed • Excavation or placement of fill for new road levels • Placement / replacement of topsoil and revegetation and other surface treatments to disturbed earth surfaces including lining of open drains • Installation of underground communications cable laid in trench, with some sections also underbored or bridged where suitable • Installation and operation of pipelines, pits and conduits to support the trunk services, including the use of trenching machines • Installation of construction power laid in trench, with some sections also underbored, bridged or constructed overhead where suitable • Direct drilling of cable trenches in sensitive areas • Installation of permanent power by buried cable, laid in trench, with some sections also underbored or bridged where suitable

Phase	Key activity	Activities (summary)
		<ul style="list-style-type: none"> Establishment and operation of temporary facilities to support tunnelling such as a concrete batch plant, dewatering plant, fuel farm and bowser, explosives magazine Establishment of a portal building and helipad at the MAT portal Transport TBM and Supporting System Assemble and launch the TBM through excavated trench/Launch Shaft/Portal Receipt and use of precast segments Establish temporary power supply system through generators Drill and blast Testing of excavated rock for suitability of placement where required Transport of excavated rock from tunnels, adits, portals, and surge shafts to stockpile areas Transport to and filling placement areas within the reservoirs and on land placement for construction pads and permanent landforming; Installation of ground support to the portal face and within the tunnel such as rock bolts and shotcrete, canopy tubes, steel arches, precast concrete segments Concrete works Installation and testing of mechanical and electrical equipment Other activities incidental to the activities undertaken with minor impacts such as removal and disposal of existing redundant infrastructure and minor structures Ongoing use and maintenance of the facilities Site stabilisation, progressive rehabilitation, weed and pest control Utilisation of Helipads; Access for project construction, maintenance and monitoring activities in relation to all above works, including Environmental monitoring and recording in accordance with approved management plans Installation of wheel washes on entrances and exits to comply with conditions of Infrastructure Approval.
	Construction of accommodation camps including: <ul style="list-style-type: none"> Lobs Hole Main Works accommodation camp (including Exploratory camp); Marica accommodation camp; and Tantangara accommodation camp. 	<ul style="list-style-type: none"> Installation of temporary and permanent safety measures including signage, barricades and any other equipment necessary Fencing the perimeter of the site Installation and maintenance of temporary fencing for delineation of sensitive areas or other features Installation and maintenance of environmental controls including establishment of short term and long-term erosion and sedimentation control systems and devices including sediment basins Trimming of hazardous trees following pre-construction survey if required and as per assessment recommendations Collection, storage and propagation of indigenous/native seed and alpine soda Clearing and grubbing of vegetation and topsoil including stockpile management Topsoil stripping and stockpiling Earthworks including excavation of cuttings, construction of fills and placement of excess spoils in pads and stockpiles, crushing, sorting and screening the material

Phase	Key activity	Activities (summary)
		<ul style="list-style-type: none"> Earthworks including trenching, excavation of cuttings, construction of fills and backfilling of trenches, and placement of excess spoil in stockpiles Installation and operation of utilities and associated plants to support the accommodation such as water, wastewater, power and communications Installation of trunk services - pipes, pits and conduits Installation of foundations and building modules and structures such as bedroom modules, mess and ablution facilities, kitchen facilities, offices, storage containers, waste management areas, laundry facilities, recreational areas Installation of footpaths, roads and road furniture in accordance with any approved traffic management plans and traffic control plans in place for Main Works Ongoing occupation and operation of the accommodation camps for the duration of construction activities Other activities incidental to the activities undertaken with minor impacts such as removal and disposal of existing redundant infrastructure and minor structures Site stabilisation, progressive rehabilitation and weed control Access for project construction, maintenance and monitoring activities in relation to all above works, including environmental monitoring and recording in accordance with approved management plans.
	Tunnelling and subsurface works. These include: <ul style="list-style-type: none"> Talbingo Adit; Tailrace Tunnel; Main Access Tunnel; ECVT; Power Station Cavern Complex; Tailrace Surge tank; Ventilation shaft; Draft tube and collector tunnels; Pressure tunnels; Headrace Surge tank Headrace Tunnel; and Tantangara Adit. 	<ul style="list-style-type: none"> Installation of temporary and permanent safety measures including signage, barricades and any other equipment necessary Installation and maintenance of temporary fencing for delineation of sensitive areas or other features Installation and maintenance of environmental controls including establishment of short term and long-term erosion and sedimentation control systems and devices including sediment basins, waste water treatment plants and drainage Installation and assembly of: <ul style="list-style-type: none"> Ventilation; Emergency power generation; Air compressors; Water tanks; Workshops; Conveyor belts, etc to support tunnelling Tunnelling including horizontal excavation using drill and blast, probing, TBM, trenchers, ground reinforcement, grouting, sealing and lining and ventilation Testing of excavated rock for suitability of placement where required Transport of excavated rock from tunnels, adits, portals, and surge shafts to stockpile areas Execute power waterways, power station cavern and associated tunnel infrastructure Ongoing use and maintenance of the facilities Other activities incidental to the activities undertaken with minor impacts such as removal and disposal of existing redundant infrastructure and minor structures Access for construction, operation, maintenance and monitoring activities in relation to all above works, including environmental

Phase	Key activity	Activities (summary)
		monitoring and recording in accordance with approved management plans
	Reservoir works These include: <ul style="list-style-type: none"> • Talbingo Water Intake and associated structures; • Talbingo Barge launch area (Exploratory Works); • Tantangara Water Intake and associated structures; • Tantangara Barge launch area; and • Tantangara Fish Screen. 	<ul style="list-style-type: none"> • Installation of temporary and permanent safety measures including signage, barricades and any other equipment necessary • Installation and maintenance of temporary fencing for delineation of sensitive areas or other features • Installation and maintenance of environmental controls including establishment of short term and long-term erosion and sedimentation control systems and devices including sediment basins, and drainage • Trimming of hazardous trees following pre-construction survey if required and as per assessment recommendations • Clearing and grubbing of vegetation and topsoil including stockpile management • Short-term excavation and stockpiling of topsoil • Cut excavation and benching at intake and gate shaft to create retaining temporary rock plug to allow dry works zone; • Installation of permanent rock anchors • Concrete works • Removal of rock plug • Excavation and tunnelling of permanent approach channel • Earthworks including trenching, excavation of cuttings, construction of fills and backfilling of trenches, and placement of excess spoil in stockpiles • Dredging, channel extraction and underwater blasting in the reservoirs • Utilisation of suitable material from necessary excavations for re-use in and around the site • Installation of diffusers for water treatment plant discharge into Talbingo reservoir • Operation of discharge points • Installation of underground communications cable laid in trench, with some sections also underbored or bridged where suitable • Installation of pipelines, pits and conduits to support the trunk services • Installation of footpaths, roads and road furniture in accordance with any approved traffic management plans and traffic control plans in place for Main Works • Installation of fish control structures • Placement / replacement of topsoil and revegetation and other surface treatments to disturbed earth surfaces including lining of open drains • Other activities incidental to the activities undertaken with minor impacts such as removal and disposal of existing redundant infrastructure and minor structures • Site stabilisation and progressive rehabilitation • Ongoing use of the facilities • Other activities incidental to the activities undertaken with minor impacts such as removal and disposal of existing redundant infrastructure and minor structures • Access for project construction, maintenance and monitoring activities in relation to all above works, including environmental monitoring and recording in accordance with approved management plans
	Spoil emplacement areas	<ul style="list-style-type: none"> • Installation of temporary and permanent safety measures including signage, barricades and any other equipment necessary

Phase	Key activity	Activities (summary)
	These include: <ul style="list-style-type: none"> • Ravine Bay; • GFO1; • Lobs Hole; and • Tantangara. 	<ul style="list-style-type: none"> • Installation and maintenance of temporary fencing for delineation of sensitive areas or other features • Installation and maintenance of environmental controls including establishment of short term and long-term erosion and sedimentation control systems and devices including sediment basins • Trimming of hazardous trees following pre-construction survey if required and as per assessment recommendations • Clearing and grubbing of vegetation and topsoil including stockpile management • Stockpiling of topsoil and other materials • Earthworks including excavation of cuttings, construction of fills and placement of excess spoils in pads and stockpiles, crushing, sorting and screening of material • Testing of excavated rock for suitability of placement where required • Utilisation of suitable material from necessary excavations for re-use in and around the site, including for embankments, construction pads, operational pads and structures and in road works • Transport to and filling of areas within the reservoirs and onland placement for construction pads and permanent landforming • Stockpile management • Final landforming • Installation of footpaths, roads and road furniture in accordance with any approved traffic management plans and traffic control plans in place for Main Works • Management of Naturally Occurring Asbestos (NOA) and encapsulation • Placement / replacement of topsoil and revegetation and other surface treatments to disturbed earth surfaces including lining of open drains • Other activities incidental to the activities undertaken with minor impacts such crushing and screening plant, removal and disposal of existing redundant infrastructure and minor structures • Site stabilisation, progressive rehabilitation and weed control • Access for project construction, maintenance and monitoring activities in relation to all above works, including environmental monitoring and recording in accordance with approved management plans
	Ancillary activities	<ul style="list-style-type: none"> • Geotechnical investigation works and soil sampling • Installing groundwater bores in the Ravine beds on site for water supply • Establishing a temporary site office • Installation of environmental controls, where required • Utilisation of barge launch areas • Marine access to geotechnical monitoring points, reservoir spoil emplacement areas; reservoir works and fish screen • Marine based project construction support • Maintenance and repair of submerged fibre optic cable, water supply and waste service pipeline • Access for survey, maintenance and monitoring activities in relation to all above works, including environmental monitoring and recording in accordance with approved management plans
Operation	Operation of Snowy 2.0 Main Works	<ul style="list-style-type: none"> • Transfer of water between Tantangara Reservoir and Talbingo Reservoir to provide electricity generation

Phase	Key activity	Activities (summary)
		<ul style="list-style-type: none"> • Large-scale energy storage • Operation of the permanent infrastructure including the: <ul style="list-style-type: none"> • intake and gate structures and surface buildings at Tantangara and Talbingo Reservoirs; • fish control structures on Tantangara Creek and Tantangara Reservoir wall; • power waterway tunnels primarily comprising the headrace tunnel, headrace surge structure, inclined pressure tunnel, pressure pipelines, tailrace surge tank and tailrace tunnel; • underground power station complex comprising the machine hall, transformer hall, ventilation shaft and minor connecting tunnels; • access tunnels (and tunnel portals) to the underground power station comprising the MAT and ECVT; • portal building and helipad at the MAT portal; • communication, water and power supply including the continued use of the Lobs Hole substation; • cable yard adjacent to the ECVT portal to facilitate the connection of Snowy 2.0 to the NEM; and • access roads, permanent bridge structures and barge launch ramps needed for the operation and maintenance of Snowy 2.0 infrastructure • Maintenance activities such as: <ul style="list-style-type: none"> • maintenance of equipment and systems within the power station complex, intake structures, gates and control buildings; • maintenance of access roads (vegetation clearing, pavement works, snow clearing); • dewatering the headrace and tailrace tunnel (estimated once every 15 to 50 years, or as required); • maintenance of electricity and communications infrastructure (cables, cable yard, cable tunnel) • Completion of rehabilitation • Rehabilitation monitoring

2.5. Snowy 2.0 Exploratory Works

The Exploratory Works project commenced in March 2019 and is currently underway. Key elements of the Exploratory Works project are summarised below:

- pre-construction minor works (not construction activities);
- installation of environmental impact mitigation measures, including the installation and use of monitoring equipment, erosion and sediment controls, and fencing;
- minor clearing or translocation of native vegetation within the approved disturbance footprint for the pre-construction minor works;
- borehole drilling and geophysical surveys, and horizontal and other test drilling;
- the exploratory tunnel which is approximately 3.1 km long and will lead to the site of the underground power station. Excavation of the tunnel will occur through a method of both drill and blast and tunnel boring machine (TBM);
- a portal construction pad for the exploratory tunnel. This will provide the entrance structure to the tunnel and an area for infrastructure and equipment needed to support tunnelling activities;

- road upgrades for transport and delivery of the TBM and TBM equipment;
- a turnaround area on Link Road;
- laydown areas at Talbingo north;
- an accommodation camp for the construction workforce;
- barge access infrastructure;
- excavated rock management, including subaqueous placement within Talbingo Reservoir. The excavated rock will be managed by a combination of the following options:
 - re-use – suitable material can be used as construction materials for roads or similar;
 - on land placement – material will be placed in one of two on land emplacement areas. The eastern emplacement area has been designed to safely treat reactive material during temporary storage. The western emplacement area will be used for temporary storage of materials for re-use or offsite disposal;
 - subaqueous placement within Talbingo Reservoir – suitable material will be placed at a suitable location within Talbingo Reservoir, subject to a number of water quality controls and monitoring;
- services infrastructure such as diesel-generated power, water and communication;
- establishment of construction power connection to the transmission line at Lobs Hole;
- diesel storage and generators for TBM power supply until the Lobs Hole substation is commissioned;
- removal of dangerous trees on Lobs Hole Ravine Road;
- light vehicle access to Lobs Hole via Lobs Hole Ravine Road north;
- maintenance and rehabilitation of existing tracks required for groundwater monitoring and geotechnical investigations; and
- post-construction revegetation and rehabilitation, management and monitoring.

2.6. Snowy 2.0 Segment Factory

On 31 March 2020, the Minister for Planning and Public Spaces approved the Snowy 2.0 Segment Factory (Segment Factory). The Segment Factory is located in the industrial area at Polo Flat, Cooma and will produce concrete segments to line the underground tunnels for both Snowy 2.0 Main Works and the Exploratory Works project.

The Segment Factory will be located on industrial-zoned land in the south-eastern corner of Polo Flat, an industrial zoned area located to the east of Cooma. The operational facility will contain a concrete batching plant, a warehouse building for the manufacture of precast concrete segments (the precast building), uncovered storage areas for raw material and segments, vehicle parking areas and associated offices and workshops.

The Segment Factory will produce and transport approximately 14,500 precast reinforced concrete tunnel rings (containing 130,500 segments) to be exclusively used on the Snowy 2.0 project. The concrete segments will be transported to Lobs Hole, Tantangara Reservoir and the laydown area at Rock Forest, via the Monaro Highway and Snowy Mountains Highway.

In accordance with the Infrastructure Approval for the Snowy 2.0 Segment Factory (CSSI 10034), a separate Environmental Management Strategy and relevant management plans have been prepared the construction and operation of the Segment Factory.

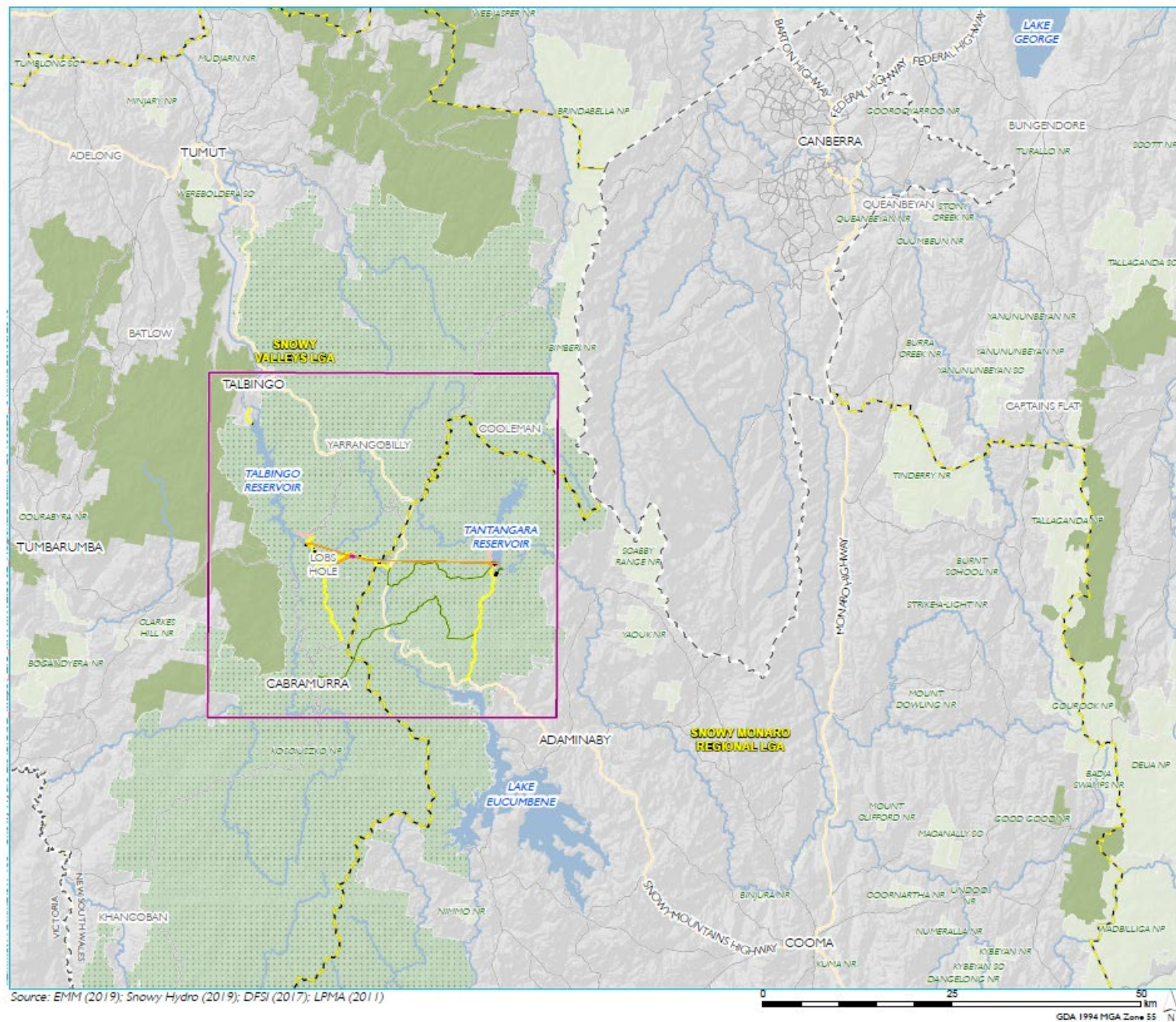


Figure 2-2: Regional location of Snowy 2.0 Main Works

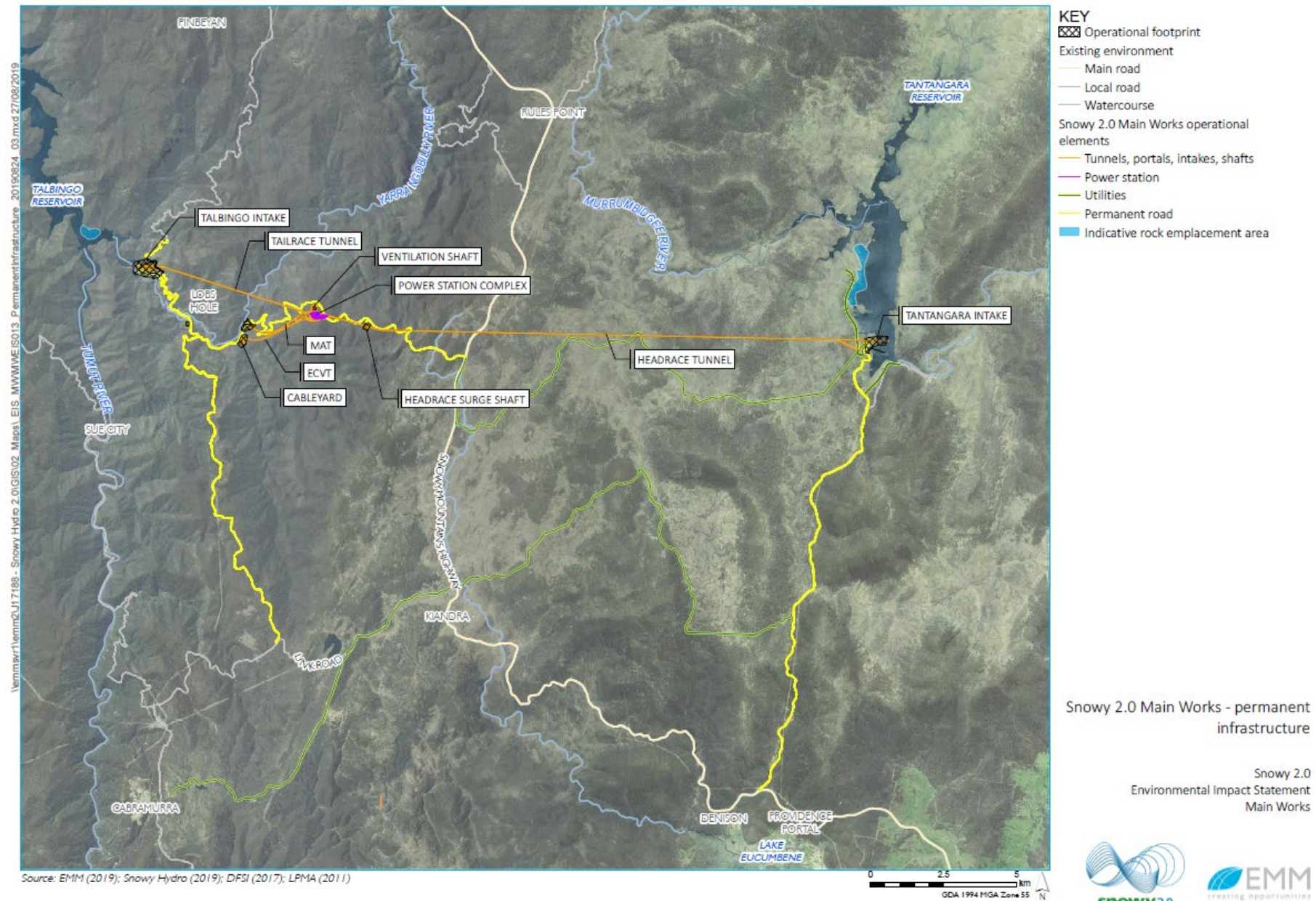


Figure 2-3: Snowy 2.0 Main Works – overview of permanent infrastructure

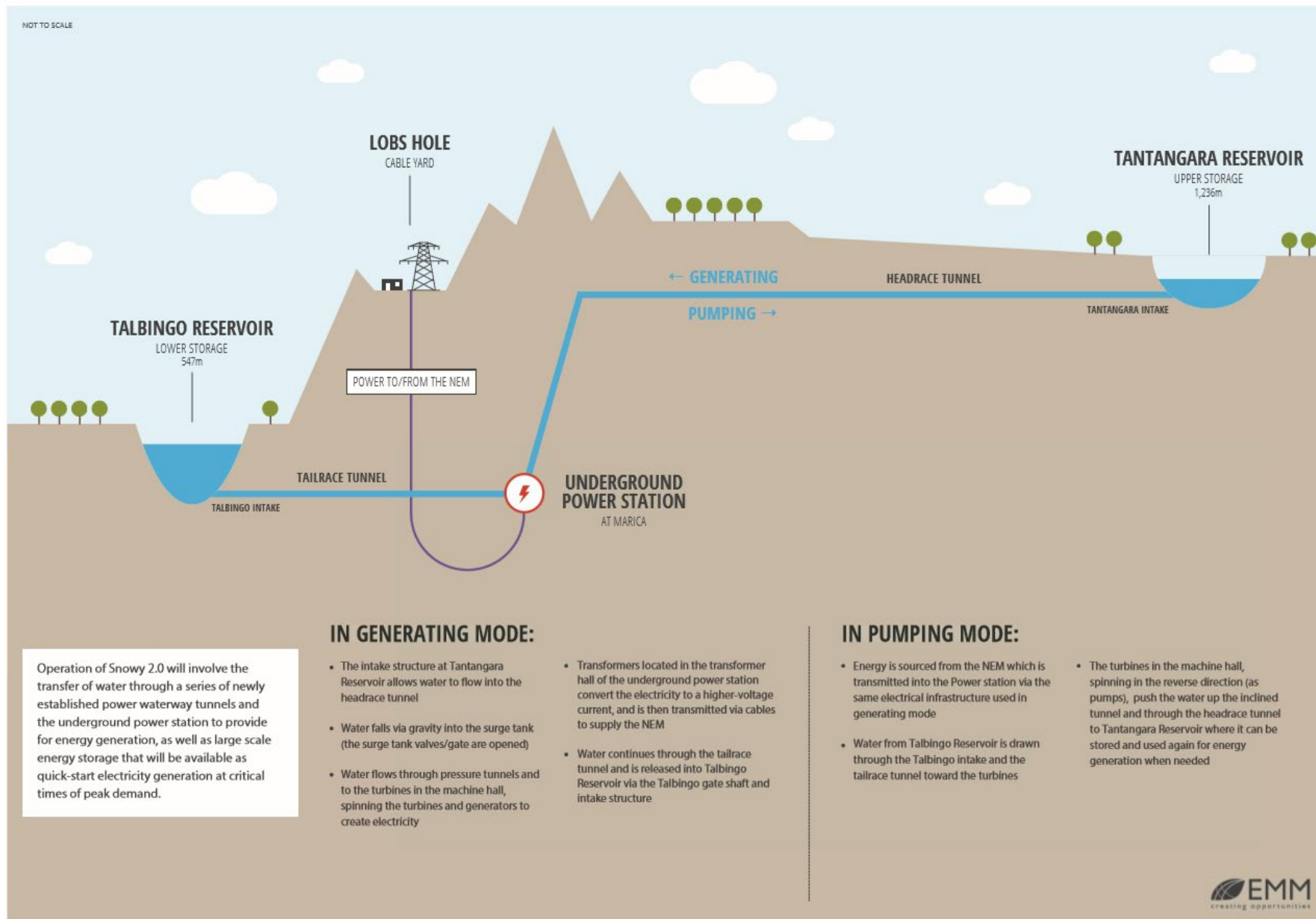


Figure 2-4: Operating principles of Snowy 2.0 Main Works (EIS, EMM)

2.7. Disturbance area

A key refinement following public exhibition of the Main Works EIS was a change to and clarification of disturbance area terminology.

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area.

Note that the approved Exploratory Works disturbance area (SSI 9208) will also be a disturbance area for Main Works, even following surrender of the Exploratory Works Approval. The cumulative disturbance area for Main Works and the approved Exploratory Works project is therefore presented in the Appendix 2 of the Infrastructure Approval (included in Appendix A1 of this EMS).

The revised disturbance area terminology as defined within the Infrastructure Approval and Submissions Report is detailed within Table 2-2. An example of the terminology is provided in Figure 2-5.

Table 2-2: Disturbance area terminology

Term	Definition	Reasoning
Project area	The project area is the broader region within which Snowy 2.0 will be built and operated, and the extent within which direct impacts from Snowy 2.0 Main Works are anticipated.	The project area does not represent a footprint for the construction works, but rather indicates an area that was investigated during environmental assessments.
Construction envelope	The envelope within which the disturbance area of the development may be located.	As detailed design continues, final siting of the infrastructure (i.e. the disturbance area) can move within the assessed construction envelope subject to recommended environmental management measures and provided it does not exceed the limits defined by the construction envelope.
Disturbance area	The area within the construction envelope where development may be carried out; the precise location of the disturbance area will be fixed within the construction envelope following final design.	



Figure 2-5: Disturbance area and construction envelope

2.8. Works within the Construction Envelope

The disturbance area for the project is the area within the construction envelope where development may be carried out. The precise location of the disturbance area will be fixed within the construction envelope following final design.

Where project works are required to occur in locations outside of the disturbance boundary, Future Generation will review the proposed area of clearing against the limits included within condition 5 of schedule 2. The review will be undertaken to ensure that the maximum disturbance area and maximum native vegetation clearing remains within the total areas nominated within the condition. These area limits are included within Table 2-3.

All vegetation clearing which occurs on the project will be monitored regularly to record the extent of clearing which has occurred, and to ensure that the clearing limits are not exceeded.

Table 2-3: Maximum disturbance area and native vegetation clearing

Matter	Exploratory Works	Main Works	Total
Maximum Disturbance Area	126 ha	504 ha	630 ha
Maximum Native Vegetation Clearing	107 ha	425 ha	532 ha

Note that the areas in Table 2-3 relate to direct disturbance and clearing and do not include the indirect impacts of this disturbance and clearing.

2.9. Change Management

Refinements to the project may occur during project delivery as detailed design occurs and construction methodologies are confirmed.

Design changes or changes in scope will be communicated to the Future Generation Environmental Manager either through formal change processes or via informal communications.

In accordance with section 5.25(2) of the EP&A Act, a modification to the Infrastructure Approval is not required if the infrastructure as modified will be consistent with the existing approval. Proposed changes will therefore be assessed for consistency against the approved project.

Future Generation will undertake an assessment of the proposed changes for potential impacts and compare them to the proposed impacts for the assessed and approved project. Consideration will also be given to requirements of the Commonwealth Approval issued under *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act).

Once prepared, consistency assessments will be submitted to Snowy Hydro for review and determination by Snowy Hydro's Representative.

Changes deemed to be consistent with the approved project can proceed. Changes that are not consistent with the Approval will require modification under Section 5.25 of the EP&A Act and determination by the Minister for Planning and Public Spaces.

2.10. Construction Hours

2.10.1. Working hours

Construction will be carried out 24 hours per day, seven days per week.

3. PLANNING

3.1. Legal and other Requirements

A register of legal and other requirements for the project is included in Appendix A2. This register will be maintained throughout the project and updated as required. An online subscription service will provide regular notifications. Updates will include new/amended approvals and licences or updates to legislation.

Any changes made to the legal requirements register will be communicated to the wider team where necessary through toolbox talks, specific training or other methods detailed in Section 5.

3.2. Conditions of Approval

The conditions from the Main Works Infrastructure Approval relevant to the preparation of this EMS are detailed in Table 3-1.

The conditions relevant to the Exploratory Works Infrastructure Approval have been included within Appendix A7. These conditions have been included as an appendix to assist with the revision process of this document when the Exploratory Works Infrastructure Approval is surrendered.

Table 3-1: Conditions relevant to the EMS – Main Works

Condition	Requirement	Where addressed
Environmental Management		
Environmental Management Strategy		
Schedule 4, condition 1	Prior to the commencement of the development of the Main Works, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:	This document Section 1.6 and Section 1.7
	(a) provide the strategic framework for the environmental management of the development;	Section 4 Section 4.1.3 Section 4.1.4
	(b) identify the statutory approvals that apply to the development;	Section 3.1 Section 3.4 Table 3-4 Appendix A2 – Legal and other requirements
	(c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development; and	Section 4.2 Section 4.2.2 Table 4-6
	(d) describe the procedures that would be implemented to: <ul style="list-style-type: none"> keep the local community and relevant agencies informed about the progress of the development; receive, handle, respond to, and record complaints; resolve any disputes that may arise during the development; respond to incidents and/or non-compliances; and respond to any emergency. 	Section 6.1.2 Section 6.2 Section 6.2.1 Section 7, Section 7.2.4, Section 8.4.1 Section 7.3
Schedule 4, condition 2	The Proponent must implement the approved Environmental Management Strategy.	This document Section 1.7

Condition	Requirement	Where addressed
Staging and Updating of Strategies, Plans or Programs		
Schedule 4, condition 3	<p>With the agreement of the Planning Secretary, the Proponent may submit any strategy, plan or program required under this approval on a staged basis. The Proponent may also submit updates to approved strategies, plans or programs at any time.</p> <p>With the agreement of the Planning Secretary, the Proponent may prepare the staged or updated strategy, plan or program without undertaking all the consultation required under the applicable condition in this approval.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times. If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program. 	Section 1.9.1
Update of Strategies, Plans or Programs		
Schedule 4, condition 4	<p>Within 3 months of the following, unless the Planning Secretary agrees otherwise, the Proponent must review and (if necessary) update the approved strategies, plans and programs for the development to the satisfaction of the Planning Secretary:</p> <ul style="list-style-type: none"> (a) the submission of an incident report under condition 6 below; (b) the submission of an independent environmental audit report under condition 10 below; and (c) any modification to the conditions of this approval; or (d) a direction of the Planning Secretary under condition 4 of schedule 2. <p><i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</i></p>	Section 1.9.1
Monitoring		
Schedule 4, condition 5	The Proponent may undertake monitoring outside the construction envelope of the development provided this monitoring is required under the conditions of this approval and authorised under an approved management plan.	Section 8.2.1
Reporting		
Notification of Dates		
Schedule 4, condition 6	<p>At least 1 week prior to the relevant notification date, the Proponent must notify the Department, NPWS and NSW DPI via the Major Projects Portal of the date of the:</p> <ul style="list-style-type: none"> (a) commencement of the development of the Main Works; (b) commencement of development on the following sites under this approval: <ul style="list-style-type: none"> Marica site; Plateau site; Tantangara site; and Rock Forest site; (c) commencement and completion of the required road upgrades; (d) commencement and completion of construction; (e) commencement of commissioning and testing the power station; (f) completion of the initial rehabilitation of the site following construction; 	Section 8.4.3

Condition	Requirement	Where addressed
	(g) completion of the ecological rehabilitation of the site, apart from the areas used for operations; (h) commencement and completion of operations; (i) commencement of decommissioning the development; (j) completion of the final rehabilitation of the site; and (k) completion of the ecological rehabilitation of the areas used for operations.	
Incident Reporting		
Schedule 4, condition 6 ¹	The Proponent must notify the Department and NPWS via the Major Projects Portal immediately after it becomes aware of an incident on site. This notice must set out the location and nature of the incident.	Section 7.2.1
Reporting Non-compliances		
Schedule 4, condition 7	Within 7 days of becoming aware of any non-compliance with the conditions of this approval, the Proponent must notify the Department via the Major Projects portal of the non-compliance. This notice must set out the non-compliance, the reasons for the non-compliance (if known) and what actions have been taken, or will be taken, to address the non-compliance.	Section 8.4.1 Section 7.2.1
Reporting on Environmental Performance		
Schedule 4, condition 8	The Proponent must provide regular reporting on the environmental performance of the development on its website in accordance with the requirements in any approved strategies, plans or programs.	Section 8.4.5
Independent Environmental Audit		
Schedule 4, condition 9	Within one year of the commencement of construction and every 3 years thereafter, unless the Planning Secretary agrees or directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must: <ul style="list-style-type: none"> (a) be conducted by a suitably qualified, experienced and independent team of experts, including a lead auditor, whose appointment has been endorsed by the Planning Secretary; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the development and whether it is complying with the requirements in this approval (including the requirements of any approved strategy, plan or program); (d) review the adequacy of the approved strategies, plans or programs for the development; and (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any approved strategies, plans or programs. 	Section 8.3
Schedule 4, condition 10	Within 12 weeks of commissioning this audit, unless the Planning Secretary agrees otherwise, the Proponent must submit the following via the Major Projects Portal: <ul style="list-style-type: none"> (a) a copy of the audit report; (b) its response to the recommendations in the audit report; and (c) a copy of the proposed audit action plan to address the recommendations. 	Section 8.3.2
Schedule 4, condition 11	The Proponent must implement any approved audit action plan for the development.	Section 8.3.2
Access to Information		
Schedule 4, condition 12	From the commencement of the development of the Main Works until the completion of the ecological rehabilitation of the areas used for operations, the Proponent must:	Section 8.4.5

Condition	Requirement	Where addressed
	(a) make copies of the following information publicly available on its website: <ul style="list-style-type: none"> the documents referred to in the definition of the Exploratory Works and Main Works; current statutory approvals for the development; approved strategies, plans or programs; a comprehensive summary of the monitoring results of the development, reported in accordance with the requirements in the conditions of this approval, or any approved strategies, plans and programs; a monthly summary of complaints; a record of all incidents and non-compliances; any independent environmental audit, and the Proponent's response to the recommendations in any audit; any approved audit action plan; any other matter required by the Planning Secretary; (b) keep this information up to date.	

¹ This condition number is repeated within the Approval.

3.3. Revised Environmental Management Measures

Environmental safeguards and management measures are included in the EIS in Appendix G. During preparation of the Submissions Report, revised environmental management measures (REMMs) were developed and included in Appendix C of the Submissions Report. A tracked change version of the REMMs was provided in the Additional Information provided to the Department on 24 March 2020 (*Snowy 2.0 Main Works – Preferred Infrastructure Report – Response to request*).

REMMs which reference a Construction Environmental Management Plan or EMS are included within Table 3-2 and Table 3-3. These requirements are not detailed within this EMS, but instead within the relevant management plans listed within the final column.

The Main Works REMMs relevant to the EMS are listed in Table 3-2, whilst the relevant Exploratory Works REMMs are included within Table 3-3.

Table 3-2: Revised environmental management measures relevant to the EMS – Main Works

Impact	Ref #	Revised environmental management measures	Where addressed
Contaminated soil management during construction	CONTAM 03	Protocols for the management of contaminated soil during construction will be included in the CEMP or EMS.	Contaminated Land Management Plan
Unexpected finds	CONTAM 08	An unexpected finds procedure will be included in the CEMP. Workers will be trained to identify potential contamination that may be encountered during construction.	Contaminated Land Management Plan

The REMMs relevant to the EMS from the Exploratory Works RTS are listed within Table 3-3.

Table 3-3: Revised environmental management measures relevant to the EMS – Exploratory Works

Impact	Ref #	Revised environmental management measures	Where addressed
Impacts to soil resources	SOIL01	<p>Soil management procedures (including stripping, stockpiling and application) will be implemented as part of the CEMP. The objectives of soil management will be to:</p> <ul style="list-style-type: none"> • preserve as much of the topsoil and subsoil as possible; • minimise the risk of contamination; • minimise the risk of any topsoil degradation or compaction during construction and following reinstatement; • ameliorate subsoil where required for use in rehabilitation works; • minimise topsoil mixing with unsuitable soil and spoil materials during stripping and stockpiling; and • ensure reinstatement of soil horizons in the correct order and required depths to allow for rehabilitation. 	Spoil Management Plan
Geodiversity – rock streams	GEO01	<p>Measures to avoid and minimise impacts to geodiversity features will be implemented as part of the CEMP and include:</p> <ul style="list-style-type: none"> • digging the road deeper into the rock stream should be avoided where practical, and excavations that take place to widen the road should be undertaken on the upslope side of the road; • appropriate drainage should be constructed under the road to ensure no build-up of water occurs above the road, within the rock stream, during heavy rain; • educational signage should be provided in a nearby suitably widened area to provide information on the periglacial rock stream geoheritage features; • if any works are required to stabilise upslope sections of rock stream it is recommended that open mesh wire fencing is used so the general public and scientists can see and appreciate the architecture of the deposit. Building a solid wall or spraying concrete on the upslope side should be avoided. 	Heritage Management Plan
Geodiversity – fossiliferous beds	GEO02	<p>Measures to avoid and minimise impacts to geodiversity features will be implemented as part of the CEMP and include:</p> <ul style="list-style-type: none"> • representative excavated spoil is to be preserved off site so that palaeontologists (from various research organisations) can look through the fresh material and collect fossil specimens for scientific research and curation in their respective collections; and • depending on the option of road upgrades to be implemented, interpretive signs could be installed in an appropriate location near the cuttings to highlight features in the exposures, provided the fossils were protected from being easily collected. 	Heritage Management Plan
Spills of hydrocarbons	WAT11	Procedures to address spills and leaks will be developed and implemented as part of the CEMP.	Water Management Plan
Refuelling	M1.10	A refuelling protocol will be developed for in-reservoir borehole drilling and will be included in the Construction Environment Management Plan (CEMP).	Water Management Plan

3.4. EPBC Act Approval conditions

The conditions from the EPBC Act Approval (EPBC 2018/8322) relevant to the EMS are detailed in Table 3-4.

Table 3-4: EPBC conditions relevant to the EMS – Main Works

Condition	Requirement	Where addressed
Notification of the commencement of the action		
Condition 28	The approval holder must notify the Department in writing of the date of commencement of the action within 10 business days after the date of commencement of the action.	Section 8.4.3
Compliance records		
Condition 29	The approval holder must maintain accurate and complete compliance records.	Section 8.4.2
Preparation and publication of plans		
Condition 31	<p>The approval holder must:</p> <ul style="list-style-type: none"> (a) submit plans required by conditions 18, 22 and 24 of the NSW approval and conditions 18 and 22 of this approval for consultation purposes, electronically to the Department; (b) publish each plan approved by the NSW Planning Secretary or Director-General of NSW Department of Primary Industries on the website within 20 business days of the date the plan is approved, unless otherwise agreed to in writing by the Minister; (c) exclude or redact sensitive ecological data from plans published on the website or provided to a member of the public; and (d) keep plans published on the website until the end date of this approval, unless otherwise agreed to in writing by the Minister. 	Section 1.6 and Section 8.4
Annual compliance reporting		
Condition 33	<p>The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister. The approval holder must:</p> <ul style="list-style-type: none"> (a) publish each compliance report on the website within 60 business days following the relevant 12 month period; (b) notify the Department by email that a compliance report has been published on the website and provide the weblink for the compliance report within five business days of the date of publication; (c) keep all compliance reports publicly available on the website until this approval expires, unless otherwise agreed to in writing by the Minister; (d) exclude or redact sensitive ecological data from compliance reports published on the website; and (e) where any sensitive ecological data has been excluded from the version published, submit the full compliance report to the Department within 5 business days of publication. <p>Note: Compliance reports may be published on the Department's website.</p>	Section 8.4.2
Reporting incidents and non-compliances		
Condition 34	<p>The approval holder must notify the Department in writing of any incident as soon as practicable after becoming aware of the incident and no later than two business days. The notification must specify:</p> <ul style="list-style-type: none"> (a) a short description of the incident; and 	Section 7.2.3

Condition	Requirement	Where addressed
	(b) the location (including co-ordinates), date, and time of the incident. In the event the exact information cannot be provided, provide the best information available.	
Condition 35	<p>The approval holder must provide to the Department in writing the details of any incident or non-compliance with the conditions or commitments made in plans within 10 business days after becoming aware of the incident or non-compliance, specifying:</p> <ul style="list-style-type: none"> (a) any condition that is or may be in breach; (b) any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future; (c) the potential impacts of the incident or non-compliance on protected matters; and (d) the method and timing of any remedial action that will be undertaken by the approval holder. 	Section 7.2.3 and Section 8.4.1
Independent audits		
Condition 36	The approval holder must ensure that independent audits of compliance with the conditions are conducted as requested by the Minister.	Section 8.3
Condition 37	<p>For each independent audit, the approval holder must:</p> <ul style="list-style-type: none"> (a) provide the name and qualifications of the independent auditor and the draft audit criteria to the Department; (b) only commence the independent audit once the audit criteria have been approved in writing by the Department; and (c) submit an audit report to the Department within the timeframe specified in the approved audit criteria. 	Section 8.3

3.5. Approvals, Permits and Licences

Snowy Hydro and/or Future Generation will obtain licences, permits and approvals as required throughout delivery of the project. Copies of licences, approvals and permits shall be held on site with files available for audit and inspection purposes.

A summary of the approvals, licences and permits detailed is shown in Table 3-5 below.

Environment Protection Licence (EPL) 21266 has been issued for the project for the scheduled activity of extractive activities for the Exploratory Works phase.

The premises boundary for the Exploratory Works EPL will be expanded to encompass both Exploratory Works and Main Works activities and the governing scheduled activity for Main Works will be electricity generation.

A Construction Lease will be established with NPWS (with an accompanying Works Access Licence), in order to carry out Snowy 2.0 Main Works.

Table 3-5: Approvals, licences and permits summary table

Legislation	Requirement	Agency	Responsibility	Timing
<i>Environmental Planning and Assessment Act 1979</i>	Infrastructure Approval under the EP&A Act	Department of Planning, Industry and Environment	Snowy Hydro	Prior to the commencement of the relevant infrastructure. Approval for the project was granted on 20 May 2020 by the Minister for Planning and Public Spaces under Section 5.19 of the EP&A Act.
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Proposed action	Department of Environment, Agriculture and Water (DAWE)	Snowy Hydro	The project has been determined by DAWE to be a controlled action, and therefore requires further approval under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> . The referral number is EPBC 2018/8322.
<i>Protection of the Environment Operations Act 1997</i>	Environment Protection Licence	Environment Protection Authority	Snowy Hydro	EPL 21266 has been issued for the project for the scheduled activity of extractive activities for the Exploratory Works phase. The premises boundary for the Exploratory Works EPL will be expanded to encompass both Exploratory Works and Main Works activities and the governing scheduled activity for Main Works will be Electricity Generation.
<i>Water Management Act 2000</i>	Water access licence (section 60)	Water Group	Snowy Hydro	Snowy Hydro have secured three Water Access Licences for the project: <ul style="list-style-type: none"> • WAL42408 – Groundwater licence; • WAL42960 – Groundwater licence; and • WAL42407 – Surface water licence. The three licences allow for direct and indirect take of groundwater from the Lachlan Fold Bent (LFB) Murray Darling Basin (MDB) groundwater source and direct take from the Upper Tumut water source (from within Talbingo Reservoir). Snowy Hydro is also in the process of applying for additional groundwater licences for Main Works.
	Controlled activity approvals and aquifer interference approvals (section 91)	Water Group	Snowy Hydro	In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring an activity approval under section 91 (other than an aquifer interference approval). An activity approval is therefore not required, however an aquifer interference licence may be required. If aquifer interference is expected to occur through excavation, deep excavations, and dewatering then an aquifer interference licence may be required. Caverns, tunnels, cuttings and pipelines are considered minimal impact if a water access licence is not required. If aquifer interference is expected to occur through excavation, deep excavations and dewatering then an aquifer interference licence will be required.

Legislation	Requirement	Agency	Responsibility	Timing
<i>Water Act 1912</i>	Obtain a licence where interference with groundwater is likely to occur.	Water Group	Snowy Hydro	The EIS advises that in Section 4.4.4 that monitoring bore licences are required under the <i>Water Act 1912</i> .
<i>Roads Act 1993</i>	Road occupancy licence (ROL)	Transport for NSW	Future Generation	ROLs will be required to be obtained prior to relevant works and / or road occupancy.
<i>Local Government Act 1993</i>	Building Code Construction Certificate and Occupation Certificate	Snowy Valleys Council or private certifier	Future Generation	In accordance with condition 11 of schedule 2, a Construction Certificate and Occupation Certificate is required prior to the commencement of construction or use of relevant structures in the surface infrastructure area.
<i>Dangerous Goods (Road and Rail Transport) Act 2008</i>	Ensure that dangerous goods are transported in a safe manner.	EPA	Future Generation	Vehicles that transport dangerous goods are required to be licensed. Drivers transporting dangerous goods are required to be licensed.

3.6. Standards and Guidelines

Compliance standards, policies and guidelines relevant to the project are detailed in the respective management plans. The requirements of these standards have been taken into account in the preparation of the EMS and will be considered by Future Generation during the preparation of the Work Method Statements and Work Packs.

4. ENVIRONMENTAL MANAGEMENT SYSTEM

4.1. Environmental Management Framework

The project will use the Future Generation Business Management System which includes the Environmental Management System designed to comply with the requirements of *ISO 14001 Environmental Management Systems*. This delivers integrated management of health, safety, security and environment (HSSE). Figure 4-1 summarises the Environmental Management System hierarchy.

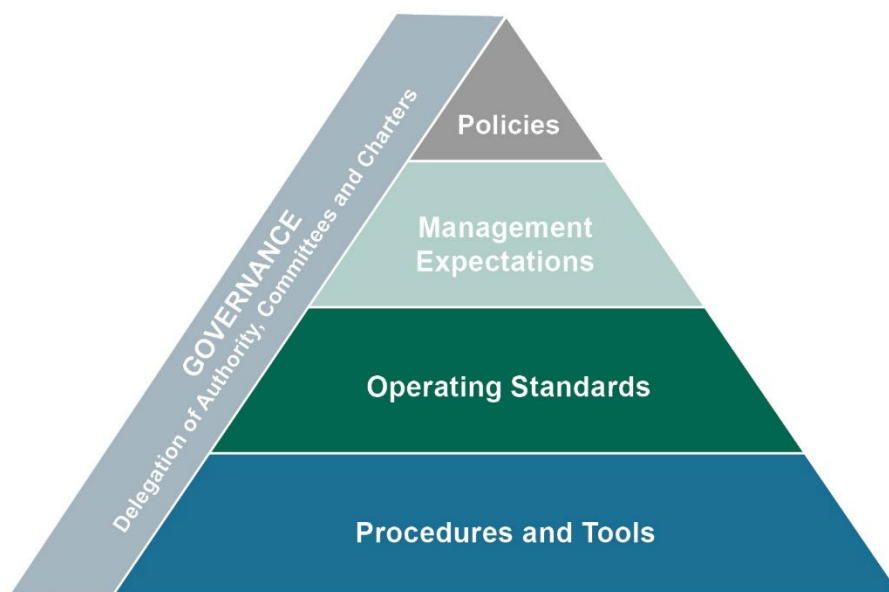


Figure 4-1: Environmental Management System Hierarchy

The Health, Safety, Security and Environment Management Manual (HSSE Manual) describes the Environmental Management System for Future Generation. The Environmental Management System is audited twice a year by an independent third-party organisation to ensure the processes are maintained and are being used throughout the business and in project delivery.

Table 4-1 summarises the Environmental Management System components.

Table 4-1: Environmental Management System components

Management System Component	Description
HSSE Policy & HSSE Management Expectations	<p>The policy sets the overall guidelines and direction to HSSE and represents the commitment of management to the achievement of its aims. The Policy for the Project is presented in Appendix A3.</p> <p>The <i>HSSE Management Expectation</i> clearly defines minimum expectations to ensure that all Future Generation personnel and subcontractors understand their obligations and accountabilities to contribute to Future Generation's HSSE culture.</p>

Management System Component	Description
HSSE Operating Standards	<p>The HSSE Operating Standards set out the minimum mandatory performance requirements.</p> <p>Environmental minimum mandatory performance requirements are set out in the following HSSE related Operating Standards:</p> <ul style="list-style-type: none"> • Environment Management Operating Standard; • Major Accident Event Hazard Management Operating Standard.
HSSE Management Manual	Provides a framework for the HSSE component of the BMS, an overview of the key elements and reference documents.
HSSE Procedures, documents and registers (tools)	Procedures or work practices which provide the detailed steps to be taken to identify risks, work safely, protect the environment, investigate incidents and implement continuous improvement.
HSSE Management Plans – This EMS and relevant sub-plans	Project specific plans prepared to identify and manage project HSSE risks and achieve the Operating Standards performance requirements.
Project/Site Specific Procedures, Work Instructions	Project and activity specific procedures, risk assessments and work methods to mitigate HSSE hazards. They are prepared by project personnel.

4.1.1. Environment Policy

Future Generation believes that respect for the project location, its surroundings and the communities in which it operates is essential for project success, as well as compliance with all environmental requirements. This commitment is described in the Policy for Environment, Sustainability and Community. This outlines the commitment to establish environmental management and community engagement plans to avoid, minimise and mitigate impact. The Policy is provided in Appendix A3.

The Policy for Environment, Sustainability and Community will be communicated to staff and sub-contractors via inductions and ongoing awareness programs as detailed within Table 4-2.

Table 4-2: Policy communication

What	Who	When
Communicate environment and sustainability policies to Future Generation employees	Environmental Manager Training Coordinators	Staff induction Project induction On display at Future Generation managed work sites Project environmental and sustainability training presentation
Communicate environment and sustainability policies to Future Generation subcontractors	Environmental Manager Training Coordinators	Prior to commencement of operations
Apply Future Generation policies to all Future Generation activities	All staff	At all times

4.1.2. Objectives and Targets

As a means of assessing environmental performance, environmental objectives and targets have been established. These objectives and targets have been developed in consideration of requirements in statutory approvals, the EIS and RTS commitments, contractual requirements, legislative requirements, HSSE project performance requirements and significant environmental

aspects and impacts. They assist in determining whether the commitments of the Policy are being met. Environmental objectives for the project are provided below in Table 4-3.

Table 4-3: Objectives and targets

Objective	Target	How monitored and measured
Comply with all legislative requirements	Compliance with statutory approvals.	Audits, reports, inspections, monitoring.
Construct the project in accordance with the conditions of the Infrastructure Approval, the revised environmental management measures and any other environmental approvals	No regulatory infringements (PINs or prosecutions). No formal regulatory warning.	Audits, reports, inspections, monitoring.
Engage with stakeholders and the broader community, minimise complaints and respond to any complaints within a suitable timeframe	Disseminate regular project updates and other information to keep the community informed of the project. Record and respond to complaints within a timely manner.	Review complaints register and timeliness of response.
Continuously improve environmental performance	Develop and maintain a program of ongoing environmental training. Capture lessons learnt where required from environmental incidents to minimise repeat issues. Encourage and reward innovation and effort throughout the workforce.	Reports, induction records, training delivered, lessons learnt disseminated.

4.1.3. Environmental Management Strategy

The EMS is the overarching management tool in relation to environmental performance during project delivery. The EMS describes the construction environmental management framework for the project and the system for minimising and managing environmental risks.

The EMS and relevant management plans have been prepared in consideration of the Infrastructure Approval and the revised environmental management measures presented in the RTS / Additional information provided to the Department on 24 March 2020.

The EMS details the management plans which are being prepared to address specific environmental aspects of the project and outlines the environmental management practices and procedures that are to be followed during the construction of this project. It provides the overall framework for the system to ensure environmental impacts are minimised and legislative and other requirements are fulfilled.

An overview of the Future Generation EMS is presented in Figure 4-2.

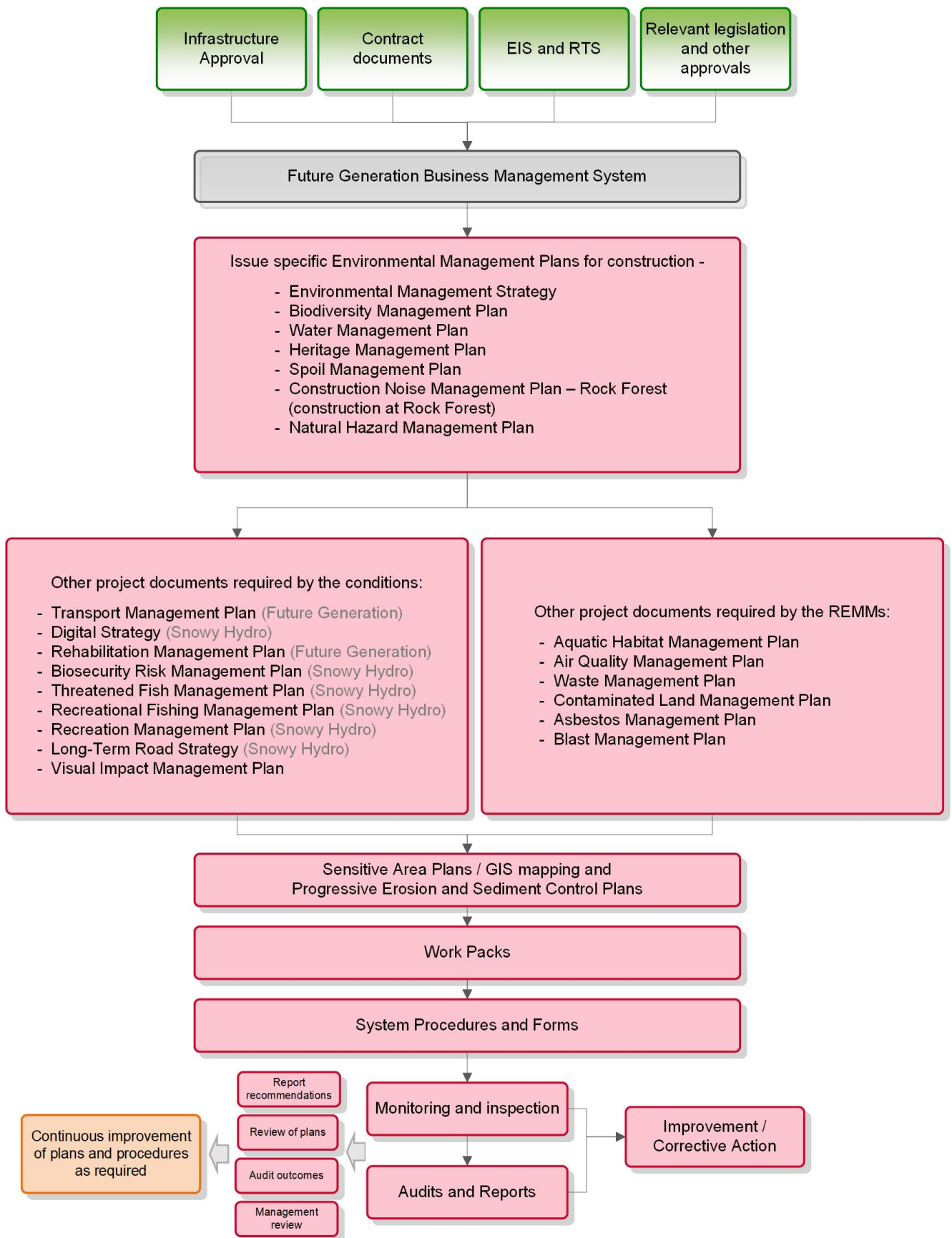


Figure 4-2: EMS overview

4.1.4. Environmental Management Plans

A number of environmental management plans are required to support the EMS. They document the aspects, impacts, management measures and monitoring requirements for each key environmental aspect.

The conditions of Approval and REMMs define the content and issues to be addressed in most of the management plans. Table 4-4 details the management plans required to be prepared and their timing.

Most plans are being prepared to address both Main Works and Exploratory Works within the one document. Where this occurs, the approved management plan for Exploratory Works will continue to remain in place until they are superseded by the management plans for Main Works, following their approval by the relevant authority. For example, the Stage 1 and Stage 2 Exploratory Works Biodiversity Management Plans will continue to remain in place until the Snowy 2.0 Main Works Biodiversity Management Plan is approved.

Where the Approval / REMMs are specific to only one project (for example the Subaqueous Emplacement Management Plan for Exploratory Works), this plan would only be prepared for the relevant project. A list of the plans and their applicability relevant to the project are listed below.

Table 4-4: EMS plans and timing

Existing Exploratory Works Plans (Stage 1 and Stage 2)	Snowy 2.0 Main Works Plan	How the plans will apply
Environmental Management Strategy	Environmental Management Strategy	The Snowy 2.0 Main Works EMS (this document) addresses both projects. The Stage 1 and Stage 2 Exploratory Works EMS will therefore no longer exist when the Snowy 2.0 Main Works EMS is approved.
Biodiversity Management Plan	Biodiversity Management Plan	The Snowy 2.0 Main Works Biodiversity Management Plan addresses both projects. The Stage 1 and Stage 2 Exploratory Works Biodiversity Management Plan will therefore no longer exist when the Snowy 2.0 Main Works Biodiversity Management Plan is approved.
Water Management Plan	Water Management Plan	The Snowy 2.0 Main Works Water Management Plan addresses both projects. The Stage 1 and Stage 2 Exploratory Works Water Management Plan will therefore no longer exist when the Snowy 2.0 Main Works Water Management Plan is approved.
Aboriginal Heritage Management Plan	Heritage Management Plan	The Snowy 2.0 Main Works Heritage Management Plan addresses both projects. The Stage 1 and Stage 2 Exploratory Works Aboriginal Heritage Management Plan will therefore no longer exist when the Snowy 2.0 Main Works Heritage Management Plan is approved.
Historic and Natural Heritage Management Plan		The Snowy 2.0 Main Works Heritage Management Plan addresses both projects. The Stage 1 and Stage 2 Exploratory Works Historic and Natural Heritage Management Plan will therefore no longer exist when the Snowy 2.0 Main Works Heritage Management Plan is approved.
Traffic Management Plan	Transport Management Plan	The Snowy 2.0 Main Works Transport Management Plan addresses both projects.

Existing Exploratory Works Plans (Stage 1 and Stage 2)	Snowy 2.0 Main Works Plan	How the plans will apply
		The Stage 1 and Stage 2 Exploratory Works Traffic Management Plan will therefore no longer exist when the Snowy 2.0 Main Works Transport Management Plan is approved.
Excavated Material Management Plan	Spoil Management Plan	The Snowy 2.0 Main Works Spoil Management Plan addresses both projects. The Stage 1 and Stage 2 Exploratory Works Excavated Material Management Plan will therefore no longer exist when the Snowy 2.0 Main Works Spoil Management Plan is approved.
-	Construction Noise Management Plan – Rock Forest	The Snowy 2.0 Main Works Construction Noise Management Plan – Rock Forest is a new document . This document will be prepared specifically for the Snowy 2.0 Main Works project and in particular, the works at Rock Forest. Refer also below to the Construction Noise and Vibration Management Plan required by the RTS.
Bushfire Management Plan	Natural Hazard Management Plan (titled Emergency Management Plan within the Approval)	The Snowy 2.0 Main Works Natural Hazard Management Plan addresses both projects. The Stage 1 and Stage 2 Exploratory Works Bushfire Management Plan will no longer exist when the Snowy 2.0 Main Works Natural Hazard Management Plan is approved.
Subaqueous Emplacement Management Plan		Only required for the Exploratory Works project. This plan will be prepared only in the event of subaqueous emplacement occurring prior to surrender of the Exploratory Works Infrastructure Approval.
Rehabilitation Management Plan		Please refer to Section 4.1.5 (Other Post-Approval documents). The Snowy 2.0 Main Works Rehabilitation Management Plan will address both projects. The Exploratory Works Rehabilitation Management Plan is required to be prepared by 8 September 2020. Should the surrender of the Exploratory Works Infrastructure Approval occur prior to 8 September 2020, the Snowy 2.0 Main Works Rehabilitation Management will address both Exploratory Works and Main Works. Should the Infrastructure Approval be surrendered after this date, the Exploratory Works Rehabilitation Management Plan will be prepared unless otherwise approved by the Planning Secretary.
Worker – Recreational Management Plan		Only required for the Exploratory Works project. The Stage 1 and Stage 2 Exploratory Works Worker – Recreational Management Plan will continue to exist until the Exploratory Works Infrastructure Approval is surrendered. Please also refer to Section 4.1.5 (Other Post-Approval documents). A Recreation Management Plan is required, however this is considered to be very different in scope to that required by the Exploratory Works Approval.

4.1.5. Other Post-Approval documents

Further to the environmental management plans listed within Section 4.1.4, the Infrastructure Approval requires other post-approval documents to be prepared, including plans and strategies. These are required to be prepared 6 to 24 months from the commencement of construction. The Post-Approval documents for the project include those listed within Table 4-5.

Table 4-5: Other post-approval documents

Plan	Responsibility	Timing and application
Digital Strategy	Snowy Hydro	Within 6 months of construction commencement
Rehabilitation Management Plan	Future Generation	Within 18 months of construction commencement
Biosecurity Risk Management Plan	Snowy Hydro	Within 2 years of construction commencement
Threatened Fish Management Plan	Snowy Hydro	Within 12 months of construction commencement
Recreational Fishing Management Plan	Snowy Hydro	Within 12 months of construction commencement
Recreation Management Plan	Snowy Hydro	Within 12 months of construction commencement
Long-Term Road Strategy	Snowy Hydro	Within 2 years of construction commencement
Visual Impact Management Plan	Snowy Hydro	Within 12 months of construction commencement

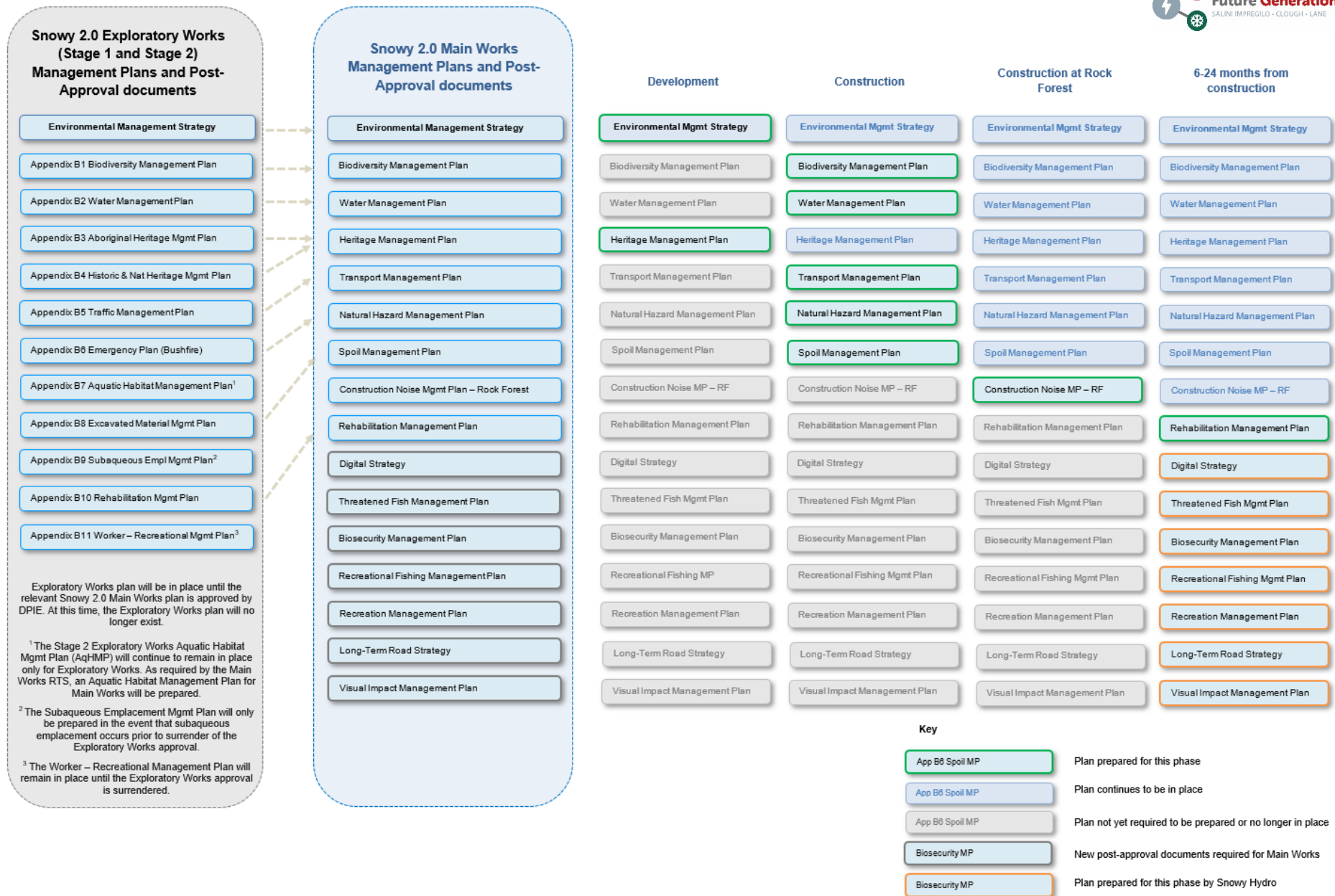


Figure 4-3: Management plans and post-approval documents – transitioning from Exploratory Works to Main Works

4.1.6. Work Packs

Work Packs describe the construction implementation in detail. The preparation of Work Packs involves a comprehensive review of the requirements of many aspects of project delivery, including design, construction, environment and safety. The Work Packs provide specific instructions on how to conduct components of the construction. The Work Pack incorporates the procedures relevant to site specific activities to reduce risk and ensure ongoing environmental compliance. These measures are based on relevant measures in EMS and subordinate management plans.

Work Packs set out the construction methodology for a particular activity or set of activities, specific to the project. Work Packs communicate the relevant requirements of the environmental management plans to site personnel.

The Future Generation Environmental Manager (or delegate) will review all Work Packs to ensure that they capture and adequately address relevant requirements in this EMS, management plans and the Future Generation Geographic Information System (GIS) sensitive area mapping.

The Work Packs will be prepared prior to commencement of the works to which they relate.

Construction personnel and sub-contractors undertaking a task governed by a Work Packs will participate in training and awareness associated with the Work Pack.

Regular inspections against compliance with the Work Packs will be undertaken to ensure that controls are being implemented.

4.1.7. Sensitive Area Plans

To aid in the identification and protection of significant environmental features associated with the project, a set of Sensitive Area Plans (SAPs) will be prepared. The SAPs identify environmental constraints and 'no go' zones and will be included in the project Work Packs.

A copy of each of the worksite SAPs will be available for Future Generation personnel and subcontractors and at each of the worksite locations.

4.1.8. Progressive Erosion and Sediment Control Plans

Progressive erosion and sediment control plans (ESCPs) are to be developed and will show the site layout and approximate location of erosion and sediment control structures on site. They will be developed for all work areas prior to commencing activities and will be updated as changes occur on site.

Environmental staff will typically develop the ESCPs in consultation with Project Engineers, Superintendents, Foremen and the Soil Conservationist (as required). This will ensure that erosion and sediment control management is incorporated into the planning stage of construction activities and is coordinated in its approach.

ESCPs will be regularly reviewed as site conditions change and flow paths are altered (e.g. the reshaping of drainage lines to direct sediment laden runoff to sediment basins). All revisions will be controlled and allocated an appropriate revision number.

ESCPs will generally be prepared on detailed drainage diagrams and will include a title, date and revision number; details regarding the implementation period and staging; and the location of temporary and permanent erosion and sediment control measures proposed to treat stormwater prior to discharge.

ESCPs are designed for use as a practical guide and as required, will be produced in conjunction with Work Method Statements or Work Packs.

4.1.9. Procedures, Forms and Other Documents

The project's Environmental Management System procedures, forms and other documents (for example the Clearing Permit, Dewatering Permit and the Unexpected Finds Release Permit) provide instructions and records related to both environmental and non-environmental activities throughout the project.

Procedures and forms used will be developed and implemented by Future Generation. Records will be held on site by in electronic form by the project's Environmental Manager and Environmental Coordinators.

4.1.10. Document Control and Records

Records shall be developed and maintained by Future Generation including:

- training records;
- incident reports;
- audit and inspection forms;
- monitoring results; and
- volume of waste to landfill, waste recycled, and waste disposed of offsite.

Future Generation shall maintain all records generated as a result of environmental management and make these available on request to Snowy Hydro.

4.2. Roles and Responsibilities

4.2.1. Organisational Structure

Figure 4-4 shows the project parties relevant to environmental governance.

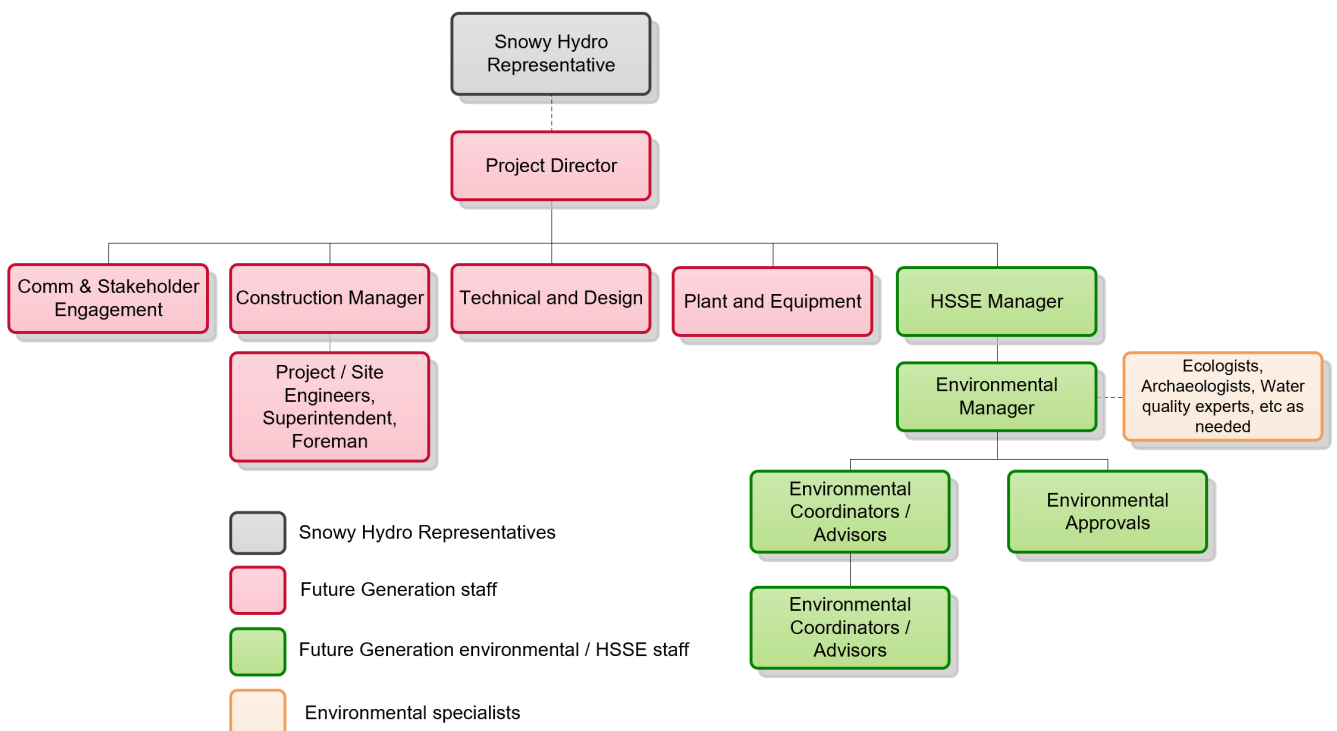


Figure 4-4: Project parties

The Future Generation organisation is described in Table 4-6. The Future Generation Project Director, in consultation with functional Department Managers, will ensure that appropriate resources are available to effectively manage the implementation of the EMS during delivery of the project.

All Future Generation staff, subcontractors and visitors are required to operate in accordance with this EMS and related environmental management plans during construction.

The project environmental management structure incorporates the following site personnel:

- Environmental Manager responsible for overall management of the EMS and environmental management plans; and
- Environmental Co-ordinators to assist in implementing and monitoring measures in the EMS and environmental management plans.

Further additional support, as required, is available to the project, as described in Section 4.2.2.

4.2.2. Roles and Responsibilities

Snowy Hydro Project Director

The environmental responsibilities of the Snowy Hydro Project Director include (but are not limited to):

- monitor the environmental performance of the project in relation to Snowy Hydro requirements;
- liaise with relevant stakeholders (as required);
- attend project meetings (as required).

The Snowy Hydro Project Director has the authority to direct works for the delivery of the Snowy 2.0 project in accordance with the contract.

The Snowy Hydro Project Director is accountable for the delivery of the Snowy 2.0 project.

Snowy Hydro Environmental Manager

The environmental responsibilities of the Snowy Hydro Environmental Manager (or their delegate) include (but are not limited to):

- review any environmental management plans and related documents prepared for the project;
- liaise between Future Generation and stakeholders (government agencies) as required;
- review minor project refinements that are consistent with the project environmental assessment and approval documentation; and
- monitor the environmental performance of the project in relation to Snowy Hydro requirements.

The Snowy Hydro Environmental Manager is accountable for ensuring that the project works are executed in accordance with the Infrastructure Approval and to provide assurance with all relevant management plans. The Snowy Hydro Environmental Manager has the authority to review and issue a response of objection or no-objection for Future Generation's management plans and to direct works (such as monitoring) undertaken by Snowy Hydro.

Future Generation Project Team

Table 4-6 summarises the roles, responsibilities, authority and accountability of Future Generation personnel. These requirements will be communicated to personnel and incorporated into their job descriptions.

Table 4-6: Environmental roles and responsibilities

Role	Authority, Responsibilities and Accountability
Project Director	Authority
	<ul style="list-style-type: none"> Appointed by the Future Generation Project Executive Committee Directly manages the Project Management Team
	Responsibilities
	<ul style="list-style-type: none"> Overall delivery of the project program Manage all key aspects of project performance, including environmental performance Undertake actions in accordance with the project's due diligence framework Define and refine project management philosophies, capabilities, processes and tools Ensure project practices and on-site activities are conducted in accordance with project policies and procedures Ensuring personnel delegated responsibility for environmental management are adequately trained and competent to implement the requirements of the project EMS Direct activities to ensure resource needs are accurately forecasted and linked to the project, including the identification of skill and behaviour requirements Ensuring personnel delegated responsibility for environmental management are adequately trained and competent to implement the requirements of the project EMS Making available resources to enable execution of project environmental management activities Making available resources to enable execution of project emergency response systems Drive the creation of systems, practices and behaviours that promote the identification and appropriate management of potential risks and opportunities Lead negotiations with SHL to achieve an agreed resolution of complaints and non-conformance reports (NCR) Ensure all management plans – including the HSMP, QMP, DMP and CEMP – are fully developed and implemented Attending and participating in environmental meetings as appropriate
	Accountability
	<ul style="list-style-type: none"> Delivering the project in accordance with the requirements of the contract.
Health, Safety & Environment Manager	Authority
	<ul style="list-style-type: none"> Management and direction of the Health Safety and Environment Team.
	Responsibilities
	<ul style="list-style-type: none"> Review HSE standards and plans developed for each project to ensure that Future Generation and legislative requirements are met Review overall HSE performance and report to the project Management and Corporate HSE Manager Interface with major subcontractors and Snowy Hydro management, Regulatory and with HSE personnel as required regarding HSE matters Coordinate third party certification audits Specify resources to enable execution of HSE activities on site Specify resources to enable execution of emergency response systems on site Arrange for and participate in HAZID workshops Provide HSE Advisors, project line management and subcontractor with feedback on HSE performance Participate in the Target Zero commitment workshop Implement and coordinate Target Zero activities and strategies

Role	Authority, Responsibilities and Accountability
	<ul style="list-style-type: none"> • Receive and circulate relevant HSE information • Coordinate and participate in scheduled HSE audits and reviews • Statistical analysis and incident trend reviews • Develop training and induction schedules and content • Attend and participate in HSE meetings as required • Coordinate and participate in workplace inspections • Record, monitor and follow up close out of action items in InControl.
	Accountability <ul style="list-style-type: none"> • Delivering the HSE aspects of the project in accordance with contract and legislative requirements. • Communication of HSE requirements to the Project Management and HSE Teams.
Environmental Manager	Authority <ul style="list-style-type: none"> • Management and direction of the Environment Team.
	Responsibilities <ul style="list-style-type: none"> • Ensuring environmental approvals are obtained and in place prior to commencement of the relevant works • Ensuring implementation of the EMS and Future Generation management plans • Review, and where required, revise environmental management documents • Specifying resources to enable execution of environmental activities on site • Specifying resources to enable execution of emergency response systems on site • Arranging for and participating in HAZID workshops • Providing environmental coordinators, project line management, and Future Generation with feedback on environmental performance • Participating in the Target Zero commitment workshop • Receiving and circulating relevant environmental information • Coordinating and participating in scheduled environmental audits and reviews • Performing statistical analysis and environmental incident trend reviews • Developing training and induction content • Attending and participating in environmental meetings as required • Coordinating and participating in workplace inspections • Recording, monitoring and following up close out of action items in InControl • Taking responsibility for the overall environmental performance of the site • Providing leadership in the implementation of all environmental initiatives • Specifying and making available resources to enable execution of environmental activities.
	Accountability <ul style="list-style-type: none"> • Implementation and delivery of the environmental requirements of the project • Communication of environmental requirements to the Project Management and Environmental Teams
	Authority <ul style="list-style-type: none"> • Management and direction of the Design Team
	Responsibilities <ul style="list-style-type: none"> • Ensuring detailed design progressively addresses all relevant environmental obligations • Ensuring works are designed to fulfil the requirements and objectives of this EMS

Role	Authority, Responsibilities and Accountability
	<ul style="list-style-type: none"> • Liaising with the Client's Representative, Construction Manager, Environmental Manager, and design consultants on environmental issues.
	Accountability
	<ul style="list-style-type: none"> • Delivering the design aspects of the project in accordance with contract and other requirements.
Site / Construction Manager	Authority
	<ul style="list-style-type: none"> • Management and direction of the Site / Construction Team, including Superintendents and Supervisors.
	Responsibilities
	<ul style="list-style-type: none"> • Ensuring resources are specified to eliminate or minimise environmental hazards • Participating in incident investigations and review all incident reports • Arranging for and participating in HAZID workshops • Participating in workplace inspections • Reviewing audit findings and close out reports • Reviewing overall project environmental performance • Attending and participating in environmental meetings as appropriate • Participating in Target Zero commitment workshop • Reviewing work planning requirements • Remaining abreast of all relevant environmental laws, permits and standards • Providing construction and field management and supervisors with environmental information current to their requirements • Ensuring environmental standards developed for each activity meet with Future Generation requirements • Scheduling and coordinating site-based environmental activities • Interfacing with client environmental personnel during their site visits • Conducting periodic drills and reviews of emergency response systems and procedures • Providing project line management with feedback on environmental performance
	Accountability
	<ul style="list-style-type: none"> • Delivery of the construction aspects of the project • Ensuring subcontractors conduct their environmental responsibilities as required in the Contract
Environmental Coordinators / Advisors	Authority
	<ul style="list-style-type: none"> • Advise Supervisors and Superintendents of environmental assignments or actions which are required to occur
	Responsibilities
	<ul style="list-style-type: none"> • Conducting workplace inspections • Recording, monitoring and following up close out of action items • Ensuring corrective actions are implemented • Participating in Target Zero workshops • Complying with statutory requirements, including duty of care • Liaising with supervisors on relevant environmental issues • Attending and participating in environmental meetings • Reporting and investigating all environment incidents in the area of control • Reviewing and closing out environmental incident reports

Role	Authority, Responsibilities and Accountability
	<ul style="list-style-type: none"> • Providing support and direction to all supervisors through positive discussions on environmental initiatives • Conducting weekly workplace inspections • Supporting employees to perform their work in an environmentally conscious manner • Reporting all incidents and hazards to management • Monitoring the use and maintenance of spill kits at all work sites • Ensuring work group employees participate in relevant environmental activities
	Accountability
	<ul style="list-style-type: none"> • Communication of environmental requirements to project personnel including Superintendents and Supervisors • Being accountable for ongoing development and implementation of project environmental activities and practices
Superintendents	Authority
	<ul style="list-style-type: none"> • Direct Supervisors and project personnel to undertake works
	Responsibilities
	<ul style="list-style-type: none"> • Participating in HAZID workshops and audits • Motivating employees to report all environmental incidents • Participating in Target Zero workshops • Conducting inspections of their work area per the Audit and Inspection Schedule • Planning for and incorporating environmental management into all work plans and activities • Opening and maintaining external communication during emergencies • Maintaining a log of communications sent and received during an emergency • Reporting all incidents and hazards to management • Complying with statutory requirements, including duty of care • Reporting hazardous conditions • Participating in any relevant environmental training • Providing suggestions to improve environmental management on the project • Reporting any near miss or environmental incidents • Participating in site environmental meetings as required
	Accountability
	<ul style="list-style-type: none"> • Works undertaken by project personnel and at the direction of Supervisors
Supervisors	Authority
	<ul style="list-style-type: none"> • Direct works undertaken by project personnel
	Responsibilities
	<ul style="list-style-type: none"> • Planning for, and incorporating environmental management into all work plans and activities • Participating in workplace inspections • Ensuring that instructions are issued and adequate information provided to field-based employees which relate to environmental risks on site • Participating in any relevant environmental training • Reporting any near miss or environmental incidents • Providing suggestions to improve environmental management on the project
	Accountability
	<ul style="list-style-type: none"> • Works undertaken by project personnel

Role	Authority, Responsibilities and Accountability
All Personnel, Including Subcontractor	Authority
	<ul style="list-style-type: none"> Undertaking works in accordance with the EMS and management plans
	Responsibilities
	<ul style="list-style-type: none"> Undertaking works in accordance with the EMS and management plans Participating in any relevant environmental training Reporting any near miss or environmental incidents to their Supervisors Providing suggestions to improve environmental management on the project.
	Accountability
	<ul style="list-style-type: none"> Works undertaken at the direction of their relevant supervisor

Specialist and other environmental resources

Specialist consultants and subcontractors are engaged for environmental support roles such as:

- water quality specialist for assistance with the Water Management Plan, Surface Water Management Plan, monitoring program and technical advice;
- groundwater quality specialist for assistance with the Groundwater Management Plan, monitoring program and technical advice;
- soil conservationist for assistance with implementation of erosion and sediment control measures, and ongoing inspections and advice;
- ecologists for assistance with the Biodiversity Management Plan, pre-clearing inspections and ongoing advice throughout construction;
- heritage consultants and archaeologists for assistance with the Heritage Management Plan, archival recording and salvage works required for Aboriginal heritage and Historic heritage items;
- noise specialists for review of the Construction Noise Management Plan, noise modelling and ongoing advice throughout construction as required;
- NATA-certified laboratories for soil and water quality analysis;
- GIS, database and other software as required during the course of the project; and
- environmental monitoring hardware.

Subcontractors and suppliers

All subcontractors will work under this EMS, sub-plans and relevant procedures in the BMS.

Subcontractors will not normally be required to prepare and implement a separate EMP in addition to this EMS, except where the risk of environmental harm from the subcontractor's activities is assessed as significant or the subcontractor has control of a specific project area.

Where the subcontractor is required to prepare its own EMP, that EMP shall address the specific section of the project area/activities and shall be submitted for the approval of the Future Generation Environmental Manager within four weeks of appointment and prior to commencement on site (whichever is the earlier). This period is to allow Future Generation to review the Subcontractor's EMP and to discuss it with key stakeholders (as applicable). Future Generation will ensure that each such plan assesses the level of environmental risk and develops appropriate

management controls for the section's full scope of work to a standard at least consistent with this EMS.

Subcontractors are required to carry out their work in accordance with contract instructions and in an environmentally sound manner.

All subcontractor personnel are required to attend a project induction, which includes an environmental component and task-specific training (if relevant) before they commence any work on site. The Environmental Manager or delegate will confirm and implement requirements for effective subcontractor control based on known project risks and demonstrated subcontractor performance or the contrary.

4.3. Environmental Risk Management

4.3.1. Risk and Hazard Management Approach

Future Generation operates a risk management approach consistent with AS/NZS ISO 31000:2009 Australian Standard Risk Management. Over the life of the project, risks will be identified, assessed and controlled through the use of a number of different risk management tools, primarily risk assessments.

A risk management approach will be used to determine the severity and likelihood of an activity's impact on the environment and to prioritise its significance.

The objectives of the risk assessment are to:

- identify activities/aspects, events or outcomes that have the potential to adversely affect the local environment and/or human health/property;
- qualitatively evaluate and categorise each risk item;
- assess whether risk issues can be managed by environmental protection measures;
- qualitatively evaluate residual risk with implementation of measures; and
- eliminate or reduce to as low as reasonably practicable (ALARP) all hazards and risks.

4.3.2. Environmental Risk Register

An environmental risk assessment is included in Appendix A4 – Environmental aspects and impacts register. This risk assessment details the environmental aspects identified for the project, the initial risk category prior to appropriate management strategies, and reference to the appropriate document which detailing proposed mitigation strategies.

Aspects and impacts were identified for all construction activities that contribute to harm or impact on the environment including, air, noise, water, heritage, waste and biodiversity.

The ongoing determination of environmental aspects and impacts will be achieved through the risk management processes outlined above, which results in the maintenance of a list of environmental risks (aspects and impacts), corresponding risk mitigation strategy and risk ranking for each risk. Each environmental risk is categorised, based on the following:

- the environmental aspect;
- type of potential impact (or consequence); and
- likelihood of occurrence.

A risk matrix for the initial environmental risk assessment is provided below Table 4-7.

Table 4-7: Risk matrix

Consequence	Likelihood				
	1	2	3	4	5
	Rare	Unlikely	Possible	Likely	Almost Certain
5 - Severe	5 - Medium	10 - High	15 - High	20 - Extreme	25 - Extreme
4 - Major	4 - Medium	8 - Medium	12 - High	16 - High	20 - Extreme
3 - Moderate	3 - Low	6 - Medium	9 - Medium	12 - High	15 - High
2 - Minor	2 - Low	4 - Low	6 - Medium	8 - Medium	10 - Medium
1 - Negligible	1 - Low	2 - Low	3 - Low	4 - Low	5 - Medium

The descriptions in Table 4-8 were used to determine the likelihood and consequence of an event.

Table 4-8: Likelihood and consequence table

Likelihood	Description
Almost certain	Historically, the event has been known to occur very frequently, based on comparisons with similar projects conducted under similar conditions. Based on current project circumstances, the event is expected to occur over the course of this project.
Likely	Historically, the event has been known to occur frequently, based on comparisons with similar projects conducted under similar conditions. Based upon current project circumstances, were it to occur over the course of this project, the event would be considered unremarkable.
Possible	Historically, the event has been known to occur, based on comparisons with similar projects conducted under similar conditions. Based upon current project circumstances, it is plausible for this event to occur over the course of this project.
Unlikely	Historically, the event has been known to occur infrequently, based on comparisons with similar projects conducted under similar conditions. Based upon current project circumstances, were it to occur over the course of this project, the event would be considered remarkable.
Rare	Historically, the event has occurred very infrequently, based on comparisons with similar projects conducted under similar conditions. Based upon current project circumstances, were the event to occur over the course of the project, the event would be considered exceptional.
Consequence	Description
Negligible	Promptly reversible/trivial impact on air, water, soil, flora, fauna, habitat or heritage.
Minor	Short term (1-3 year) impact on population of native flora or fauna. Short term impacts on soil, air, water quality or habitat. Impact mostly confined to work area but potential short term off-site impacts. Adverse impact to significant (e.g. category A and B) heritage items. Visual, noise or airborne dust impacts with potential for credible stakeholder/public complaint.
Moderate	Medium term (3-10 year) impact on population of native flora or fauna. Medium term impacts on soil, air, water quality or habitat. Potential for medium term off- site impacts. Loss of a significant (e.g. Category A and B) heritage items. Visual, noise or airborne dust impacts with potential for regular response.
Major	Long term (>10 years) impact on population of significant (e.g. threatened) flora or fauna. Long term impacts on soil, air, water quality. Potential for long term offsite impacts. Loss of numerous significant heritage items.
Severe	Permanent impact on the populations of the significant (e.g. threatened) flora or fauna. Permanent unconfined impact on previously undisturbed ecosystem.

Future Generation will maintain the environmental risk register in the project files (separate to this EMS). Risks will be reviewed on a regular basis.

5. TRAINING AND AWARENESS

Environmental training and awareness is an important means to positively influence the attitude of workers engaged in the project whilst ensuring they are aware of their obligation and the requirements of this EMS. Internal and on-the-job training will be provided by Future Generation on a regular basis for all employees and subcontractors.

The main forms of training will be provided on site will include the site induction, toolbox training and environmental awareness training, and daily pre-start briefs.

Records of induction and training will be kept on site within databases held by Future Generation. Inductees will be required to sign-off that they have been informed of the environmental issues and that they understand their responsibilities.

5.1. Site Induction

All personnel (including sub-contractors) will be required to attend a compulsory site induction that includes an environmental component prior to commencement on-site. This is done to ensure all personnel involved in the project are aware of the requirements of the EMS and to ensure the implementation of environmental management measures. The Future Generation Environmental Manager (or delegate) will prepare the environmental component of the site induction.

The environmental component will include an overview of the following elements:

- relevant details of the EMS;
- relevant conditions of environmental licences, permits and approvals;
- key environmental issues, i.e. protection of Kosciuszko National Park, heritage sites and water management;
- information relating to the location of environmental constraints;
- relevant environmental management requirements and responsibilities;
- management measures for the control of environmental issues;
- notification and response requirements in the event of unexpected finds (i.e. for heritage, contaminated land or threatened species);
- regulatory penalties and consequences of non-compliance;
- incident response and reporting; and
- emergency response and evacuation (fire and flooding).

A record of all environment inductions will be maintained and kept on-site by Future Generation. Amendments to the induction may be made at any time as a result of work modifications or amendments to this EMS or related documentation.

5.2. Short-Term Workers Induction

Personnel working on the project for fewer than two days, where their tasks do not have significant risk of environmental harm, will undertake a short-term workers induction which includes a briefing of their responsibilities as contained in the full induction, a site-specific induction for the work scope they are required to undertake and review of relevant JHAs.

Short-term visitors, not conducting physical work, will be required to be accompanied by inducted personnel at all times.

5.3. Toolbox Talks and Environmental Awareness

Toolbox talks, environmental awareness training and construction methodology briefings will be delivered by Future Generation as necessary to achieve a suitable level of workforce awareness and competence appropriate to the activities.

Toolbox talks will be tailored to specific environmental issues relevant to upcoming works or previous incidents and will include general and specific discussion of the key environmental aspects of the project.

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact.

5.4. Daily Pre-start Meetings

Daily pre-starts will be conducted by the Future Generation Supervisors prior to the start of work each day to inform workers of key safety, environmental and activity coordination considerations and other information that may be relevant in the performance of the day's work. Records of pre-starts meetings will be maintained and be available on site.

6. COMMUNICATION AND COMPLAINTS MANAGEMENT

6.1. Communication

Snowy Hydro and Future Generation are committed to ensuring effective communication is undertaken on a regular basis at all levels of the project. A high level of communication is an important factor in the successful and correct delivery of environmental outcomes on the project and it will ensure environmental performance is continually communicated, understood and improved.

6.1.1. Internal Communication

The methods of internal (on site) communication will include:

- inductions;
- toolbox talks;
- pre-start meetings;
- alerts, bulletins and / or initiatives; and
- Work Packs.

Future Generation will discuss environmental issues as a regular component of their toolbox and site meeting agenda.

Future Generation will present environmental communications to its workforce on a minimum weekly basis. This will include information on the management of environmental risks or key site environmental issues as required. Records of the topics, attendance and presenter's name will be maintained.

6.1.2. External Communication

Stakeholder

External communication with stakeholders such as government agencies is often required during project delivery. Communication can be for various matters including:

- organising government agency site inspections;
- through consultation on management plans; or
- through notification of relevant incidents.

External stakeholders for the project include:

- NPWS;
- Environment Protection Authority (EPA);
- Department of Agriculture, Water and Environment;
- DPIE;
- Biodiversity and Conservation Division;
- DPI Fisheries;
- Water Group;
- Natural Resources Access Regulator;

- Snowy Valleys Council;
- Snowy Monaro Shire Council;
- Transport for NSW;
- NSW Police;
- Heritage Council;
- Registered Aboriginal Parties;
- Yala Ngurumbang Yindymarra Expert Advisory Committee;
- Southern Snowy Mountains Aboriginal Community MOU Group; and
- relevant recreational fishing groups.

Consultation with these stakeholders will occur for the development of the relevant management plans as detailed within the Infrastructure Approval. Additional consultation will occur as required during delivery of the project.

Reporting to EPA will occur in accordance with the requirements of the POEO Act and the EPL as detailed within Section 8.4.

Community communication

Communication tools which will be used by the project to inform stakeholders and the community will include:

- notifications of construction activities;
- written correspondence (letters / emails);
- advertisements (as required);
- fact sheets;
- newsletters (as required);
- meetings / doorknocks;
- targeted presentations (as required);
- the project website; and
- enquiries and complaints line.

Relevant information which is required by Snowy Hydro for communications activities (such as for notifications, fact sheets, maintaining the website etc) will be provided by Future Generation.

6.2. Complaint Management

A complaints management system including the complaints register will be maintained by Snowy Hydro and Future Generation.

The complaints management system will include a process to manage complaints including receiving, recording, tracking and responding to complaints within a defined timeframe. If a complaint cannot be responded to immediately, a follow up phone call or verbal response will be made to the complainant in accordance with the timeframes detailed below.

The key processes involved in recording complaints and enquiries are as follows:

- all enquiries / complaints will be recorded in a complaints register;

- complaints received for the duration of the project will be acknowledged verbally within 2 hours from the time of complaint unless the complainant agrees otherwise. Any received out of hours will be responded to on the next working day;
- complaints received via email will be acknowledged within 24 hours;
- complaints received via letters will be acknowledged within 5 days of receipt. Where a phone number or email address is supplied, a response will be provided within 24 hours.

The community and stakeholder engagement staff will attend to enquiries and complaints received through the enquiries and complaints 1800 information line, project email address, from letters mailed to the project team, during community meetings or through construction / site staff.

The project enquiries and complaints 1800 number will be included on project communications, including notifications, advertisements, and on the Snowy Hydro website.

All complaints will be investigated and dealt with impartially. All correspondence, agreements, resolutions and other relevant information will be recorded in Darzin (the complaints management program). If a complainant is not satisfied with the resolution provided, the complaint can be escalated, and alternative offers of resolution can be discussed.

6.2.1. Dispute Resolution

Wherever possible, complaints will be resolved directly between Future Generation and the stakeholder.

If a complaints management process has been followed and the issue cannot be resolved, the complaint will be referred to Future Generation's Senior Management and Snowy Hydro's Representative for further review. The escalated review process will include an assessment of the details of the complaint received, any findings of the investigation undertaken in response to the complaint, and any further matters raised by the complainant.

If a complaint requires referral to senior management and Snowy Hydro, the complainant will be informed of this and the outcome of the review process.

7. INCIDENTS AND EMERGENCIES

7.1. Environmental Incidents

Environmental incidents will be managed and reported using the Future Generation Incident Notification, Investigation and Review Procedure. The procedure flowchart is presented in Appendix A5. The Future Generation procedure is consistent with Snowy Hydro Quality Management System procedure 'QP14-07 - Incident Management Procedure' (Procedure).

Environmental incidents and regulatory compliance incidents may include the following events caused by the works:

- chemical spills and leaks (including hydrocarbons);
- unauthorised discharge of contaminated waters to the environment;
- clearing or damage to vegetation outside of the designated clearing areas;
- unauthorised damage or interference to threatened species, endangered ecological communities or critical habitat;
- unauthorised death or injury of native fauna;
- unauthorised impact to heritage items, artefacts or sites;
- any potential breach of legislation, including a potential breach of a safeguard;
- unauthorised dumping of waste; and
- fires which result from project works.

All efforts will be undertaken to avoid and reduce impacts of incidents. A decision may need to be made by the supervisor and/or manager to suspend work. A supervisor/manager may request additional staff be deployed to the site to provide additional capacity or capability to manage the incident.

An emergency spill response procedure is provided as an Appendix to the Surface Water Management Plan. This procedure will be used in the event of an oil, fuel or chemical spill on land or water.

7.2. Incident Reporting

All workers (employees and contractors) are responsible for ensuring timely and effective initial internal reporting of incidents that they are involved in, or witness.

Information provided must be facts only, not statements of opinion or assumptions.

7.2.1. Incident Reporting in accordance with the Infrastructure Approval

Incidents are defined in the Infrastructure Approval as being '*An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.*'

Future Generation will immediately notify Snowy Hydro of an incident which arises through the Infrastructure Approval. The notification will set out the location and nature of the incident.

Snowy Hydro will then notify DPIE and NPWS, via the NSW Major Projects portal, immediately after becoming aware of an incident on site.

Where the incident results in a non-compliance with the Infrastructure Approval, within 7 days after becoming aware of the non-compliance, Future Generation will notify Snowy Hydro of the non-compliance. The notice will set out:

- the non-compliance;
- the reasons for the non-compliance (if known); and
- what actions have been taken, or will be taken, to address the non-compliance.

Snowy Hydro are to notify DPIE (within the 7 day period) of the non-compliance via the Major Projects Portal, with the notification including the details provided above.

Non-conformances will be reported in accordance with Section 8.5 of this EMS.

All written requirements of the Planning Secretary or relevant public authority, which may be given at any point in time, to address the cause or impact of an incident must be complied with, within any timeframe specified by the Planning Secretary or relevant public authority.

7.2.2. Incident Reporting in accordance with the POEO Act

Future Generation will notify Snowy Hydro of pollution incidents on or around the site. Snowy Hydro or Future Generation will notify EPA via the EPA Environment Line (telephone 131 555) in accordance with Part 5.7 of the POEO Act.

The circumstances where this will take place include:

- if the actual or potential harm to the health or safety of human beings or ecosystems is not trivial;
- if actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds \$10,000.

7.2.3. Incident Reporting in accordance with the EPBC Act

Snowy Hydro or Future Generation is to notify DAWE in writing of any incident as soon as practicable after becoming aware of the incident and no later than two business days. The notification must specify:

- a short description of the incident; and
- the location (including co-ordinates), date, and time of the incident. In the event the exact information cannot be provided, provide the best information available.

DAWE will be provided, in writing, the details of any incident or non-compliance with the conditions or commitments made in plans (as defined under the EPBC Act Approval) within 10 business days after becoming aware of the incident or non-compliance, specifying:

- any condition that is or may be in breach;
- any corrective action or investigation which has already occurred or intends to occur in the immediate future;
- the potential impacts of the incident or non-compliance on protected matters; and
- the method and timing of any remedial action that will be undertaken by the approval holder.

7.2.4. Management Actions

Management actions that will be implemented in response to an incident are detailed below in Table 7-1.

Table 7-1: Environmental incident management actions

Management Action	Responsibility
Environmental incidents will be reported to Snowy Hydro.	Future Generation

Management Action	Responsibility
Incidents that require notification to DPIE and NPWS will be reported in accordance with the requirements of the Infrastructure Approval.	Future Generation and Snowy Hydro
Incidents that require notification to EPA will be reported in accordance with the requirements of the POEO Act.	Future Generation and Snowy Hydro
The cause will be investigated as soon as reasonably practicable.	Future Generation
Any required response actions will be undertaken.	Future Generation

7.3. Environmental Emergencies

A Natural Hazard Management Plan (S2-FGJV-ENV-PLN-0050) has been prepared for the project in accordance with condition 61 of Schedule 3. The plan includes measures that will be implemented to respond to and minimise the risk of bushfires, flood risks and landslips.

The project also has in place an Emergency Response Management Plan (ERMP) (S2-FGJV-HSA-PLN-0002). An emergency is an event that injures people, adversely affects the environment, or damages assets, and requires a coordinated deployment of emergency resources to provide a first response.

The ERMP will be implemented in the event of an environmental emergency arising during construction.

The Natural Hazard Management Plan will be implemented in the event of an emergency which is a bushfire, flood or landslide.

An emergency spill response procedure is provided within the Surface Water Management Plan (S2-FGJV-ENV-PLN-0011). This procedure will be used in the event of an oil, fuel or chemical spill on land or water.

8. INSPECTIONS, MONITORING AND AUDITING

8.1. Environmental Inspections

Implementation of a regular program of inspections is an essential part of the success of work activities. The effectiveness of environmental protection measures described in this EMS and management plans will be inspected and assessed on a weekly basis through the use of a weekly checklist. The purpose of the checklist is to:

- provide a surveillance tool to ensure that safeguards are being implemented;
- identify where problems might be occurring;
- identify where sound environmental practices are not being implemented; and
- facilitate the identification and early resolution of problems.

Deficiencies and required actions will be analysed and prioritised at the completion of the inspection and timeframes for implementation of corrective actions agreed. Any non-conformances identified through the checklist process will be highlighted and an environmental inspection report (minor issues) or an environmental incident report completed.

The issue will remain 'open' until:

- the issue has been resolved;
- a new or revised procedure has been established and implemented; or
- training has been provided to relevant personnel / subcontractors.

The findings of inspections will be discussed at toolbox meetings and concerns raised will be considered by the Future Generation project management team for review or improvement of the environment procedures.

In addition to the weekly inspections, the Future Generation environmental staff and Snowy Hydro environment staff will jointly undertake regular inspections of work sites, and in particular critical activities throughout construction of the project. Stakeholders such as DPIE, NPWS and EPA will be invited to attend relevant inspections.

An inspection schedule is provided in Table 8-1.

Table 8-1: Inspection schedule

Activity	Frequency	Responsibility	Record
Environmental site Inspection	Weekly	Future Generation Environmental Manager or nominated representative. Snowy Hydro to be invited at the discretion of Future Generation.	Site inspection checklist

8.2. Monitoring

8.2.1. Monitoring Programs

Monitoring will be undertaken for environmental aspects of the project to confirm the adequacy of implementation of the management measures. Specific monitoring programs have been developed for high risk aspects of the project and are included within the relevant management plans.

The monitoring programs have been developed to address the requirements of the Infrastructure Approval. In general, these require:

- parameters to be monitored, location and frequency;
- the reporting of monitoring and analysis results against relevant criteria;
- methods that will be used to analyse the monitoring data;
- procedures to identify and implement additional mitigation measures where results of monitoring are unsatisfactory.

The timing, frequency, methodology, locations and responsibilities for the proposed environmental monitoring programs are specified in the respective management plans and summarised in Table 8-2. The monitoring programs range from those involving formal sample collection, analysis and measurement, to those involving a more qualitative assessment.

Where authorised under an approved management plan and required under the conditions of the Infrastructure Approval, in accordance with condition 5 of schedule 4, the monitoring may be undertaken outside of the construction envelope.

Table 8-2: Environmental monitoring summary

Activity	Management Plan	Frequency	Responsibility	Record	Timing
Water monitoring					
Receiving surface water monitoring (in accordance with EPL 21266)	Surface Water Management Plan (SWMP)	In accordance with the approved SWMP	Future Generation / Snowy Hydro	Field sampling and testing records and laboratory tests reports	In accordance with the approved SWMP
Wet weather and TARP monitoring	Surface Water Management Plan	In accordance with the approved SWMP	Future Generation / Snowy Hydro	Field sampling and testing records and laboratory tests reports	In accordance with the approved SWMP
Groundwater quality monitoring (in accordance with EPL)	Groundwater Management Plan (GMP)	In accordance with the approved GMP	Future Generation / Snowy Hydro	Field sampling and testing records and NATA tests reports	In accordance with the approved GMP
Groundwater level monitoring	Groundwater Management Plan	In accordance with the approved GMP	Future Generation	Monthly groundwater reports	In accordance with the approved GMP
Groundwater inflow monitoring	Groundwater Management Plan	In accordance with the approved GMP	Future Generation	Monthly groundwater reports	In accordance with the approved GMP
Biodiversity monitoring					
Groundwater Dependant Ecosystem monitoring	Groundwater Management Plan	In accordance with the approved GMP	Snowy Hydro	Field records	In accordance with the approved GMP
Biodiversity monitoring	Biodiversity Management Plan (BMP)	In accordance with the approved BMP	Snowy Hydro	Field records	In accordance with the approved BMP
Weeds	Biodiversity Management Plan	In accordance with the approved BMP	Future Generation / Snowy Hydro	Field records	In accordance with the approved BMP
Feral Animals	Biodiversity Management Plan	In accordance with the approved BMP	Future Generation / Snowy Hydro	Field records	In accordance with the approved BMP
Spoil monitoring					
Excavated rock	Spoil Management Plan (SMP)	In accordance with the approved SMP	Future Generation	Inspection report Laboratory test report	In accordance with the approved SMP
Other monitoring					
Heritage - natural heritage monitoring (Tufa deposits, boulder streams)	Heritage Management Plan (HMP)	In accordance with the approved HMP	Future Generation / Snowy Hydro	Field record / report	In accordance with the approved HMP
Noise	Construction Noise Management Plan – Rock Forest (CNMP)	In accordance with the approved CNMP	Future Generation	Field record	In accordance with the approved CNMP

8.2.2. Monitoring Results Outside of Expected Range

Irrespective of the type of monitoring conducted, the results will be used to identify potential or actual problems arising from construction processes. Where monitoring results are outside of the expected range, the process described below will be implemented:

- the results will be analysed by the Future Generation Environmental Manager or Environmental Coordinator with the view of determining possible causes for the exceedance including a review of the potential construction activities impacting that site of the exceedance;
- a site inspection will be undertaken;
- relevant personnel will be contacted and advised of the problem;
- an agreed action will be identified; or
- action will be implemented to rectify the problem.

The Snowy Hydro Environmental Manager will be advised of any exceedances and implemented actions within the monthly report.

Any exceedances which result in a non-compliance of the conditions, will be reported in the relevant Compliance Report and as required within Section 8.4 and 8.5 of the EMS.

Monitoring outcomes which exceed certain thresholds may be subject to the implementation of a trigger action response plan (TARP). These have been developed and provided within the relevant management plans to allow prompt identification of unpredicted impacts and to guide the implementation additional management measures and corrective actions should certain conditions arise. They provide potential indicators to the exceedances beyond those predicted, assigning a hierarchy of alarms or trigger levels to each potential indicator, specifying appropriate responses and when these should be applied.

8.3. Auditing

The purpose of auditing is to assess compliance with the EMS and associated management plans, the Approval and any relevant legal and other requirements (e.g. licences, permits, regulations, contract documentation).

8.3.1. Internal Audits

Internal auditing will be undertaken during construction with the documents and environmental aspects audited based on the stage of the project and environmental risk. Future Generation will prepare an audit schedule outlining the proposed items for auditing. The audit schedule will be maintained by the Future Generation for the duration of the project and updated on minimum six-monthly basis or when any change is made to the schedule.

8.3.2. External Audits

An independent environmental audit will be commissioned by Snowy Hydro and conducted within one year of the commencement of construction of Main Works and every three years thereafter, unless the Planning Secretary directs otherwise. The audit is to be carried out by a suitably qualified, experienced and independent team of experts including a lead auditor, whose appointment has been endorsed by the Planning Secretary.

Within 12 weeks of commissioning this audit, or as otherwise agreed by the Planning Secretary, Snowy Hydro must submit a copy of the audit report to DPIE via the Major Projects Portal, together with a response to any recommendations and a copy of the proposed audit action plan.

In accordance with the EPBC Act Approval, the Australian Government Minister may request that independent audits occur. For each audit of the EPBC Act Approval, the name and qualifications of the independent auditor, and the draft criteria are to be provided to DAWE. The audit cannot commence until the audit criteria have been approved in writing, and the audit report must be submitted to DAWE within the timeframe specified in the approved audit criteria.

8.4. Reporting

8.4.1. Reporting Non-compliances

Infrastructure Approval non-compliances

Future Generation is to notify Snowy Hydro within 7 days of becoming aware of a non-compliance. The notice will be prepared in accordance with condition 7 of schedule 4 and will set out:

- the non-compliance;
- the reasons for the non-compliance (if known); and
- what actions have been taken, or will be taken, to address the non-compliance.

Snowy Hydro are to notify DPIE (within the 7 day period) of the non-compliance via the Major Projects Portal, with the notification including the details provided above.

EPBC Act Approval non-compliances

DAWE will be provided, in writing, the details of any non-compliance with the conditions or commitments made in plans (as defined under the EPBC Act Approval) within 10 business days after becoming aware of the non-compliance, specifying:

- any condition that is or may be in breach;
- any corrective action or investigation which has already occurred or intends to occur in the immediate future;
- the potential impacts of the incident or non-compliance on protected matters; and
- the method and timing of any remedial action that will be undertaken by the approval holder.

8.4.2. EPBC Act Approval compliance reporting

Snowy Hydro and / or Future Generation will prepare a compliance report in accordance with condition 33 of the EPBC Act Approval, for each 12 month period following the date of commencement of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister.

In undertaking compliance reporting, the following is to occur:

- each compliance report is to be published on the project website within 60 business days following the relevant 12 month period;
- DAWE is to be notified by email that a compliance report has been published on the website and provide the weblink for the compliance report within five business days of the date of publication;
- all compliance reports are to be publicly available on the website until the EPBC Act Approval expires, unless otherwise agreed to in writing by the Minister;
- sensitive ecological data is to be excluded or redacted from compliance reports published on the website; and

- where any sensitive ecological data has been excluded from the version published, the full compliance report is to be submitted to DAWE within five business days of publication.

8.4.3. Reporting Notification of Works Commencement

The commencement of certain stages of works are required to be reported in accordance with condition 6 of schedule 4. Notification will be provided to DPIE, NPWS and NSW DPI via the Major Projects Portal at least one week prior to the following:

- commencement of the development of Main Works;
- commencement of development on the following sites:
 - Marica site;
 - Plateau site;
 - Tantangara site; and
 - Rock Forest site;
- commencement and completion of the required road upgrades;
- commencement and completion of construction;
- commencement of commissioning and testing the power station;
- completion of the initial rehabilitation of the site following construction;
- completion of the ecological rehabilitation of the site, apart from the areas used for operations;
- commencement and completion of operations;
- commencement of decommissioning the development;
- completion of the final rehabilitation of the site; and
- completion of the ecological rehabilitation of the areas used for operations.

In accordance with condition 28 of the EPBC Act Approval, Snowy Hydro are to notify DAWE in writing of the date of commencement of the action, within 10 days after the date of commencement of the action.

8.4.4. Other Reporting

Future Generation are required to prepare and submit various reports to Snowy Hydro and to undertake reporting required under the Infrastructure Approval. A summary of these reports is provided in Table 8-3. This table will be updated as required by Future Generation during the progress of the project.

Compliance reporting for the Exploratory Works project will continue in accordance with the relevant *Compliance Reporting* requirements (DPE 2018) until surrender of the Exploratory Works Infrastructure Approval.

Table 8-3: Other reporting requirements

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Monthly environmental report	For incorporation in project Monthly Reports	Monthly	Future Generation Environmental Manager	Snowy Hydro

No.	Report	Requirement	Timing	Responsibility	Recipient
2	EPL Monthly Report	As required by the EPL	As required by the EPL	Snowy Hydro	Public
3	EPL Annual Return		Annual based on date of EPL issue	Snowy Hydro	EPA
4	Snowy Hydro and/or agency environmental inspection reports	Response to items raised in Snowy Hydro and/or agency site inspections.	Timing of close out of actions dependent on risk.	Future Generation Environmental Manager, Environmental Coordinators	Snowy Hydro
5	Website updates	Provide regular reporting on the environmental performance of the project on the website	In accordance with the reporting requirements in any strategies, plans or programs or at least monthly	Snowy Hydro	Public

8.4.5. Project Website

A website will be maintained that includes the following information:

- the documents referred to in the definition of the Exploratory Works and Main Works. As required by these definitions, this would include:
 - the Exploratory Works EIS;
 - the *Response to Submissions Exploratory Works for Snowy 2.0* dated October 2018 and additional information provided to the Department on 17 October 2018, 19 November 2018 and 23 January 2019;
 - the *Modification Report* (Modification 1) dated 6 June 2019, associated *Submissions Report* dated 2 September 2019 and amendment letter dated 4 October 2019;
 - the *Modification Report* (Modification 2) dated 17 October 2019 and associated *Submissions Report* dated 10 January 2020
 - the Main Works EIS;
 - the *Snowy 2.0 Main Works – Response to Submissions* dated February 2020;
 - additional information provided to the Department by EMM on 24 March 2020 and 7 April 2020;
- current statutory approvals for the development;
- approved strategies, plans or programs;
- a comprehensive summary of the monitoring results of the development, reported in accordance with the requirements in the Infrastructure Approval, or any approved strategies, plans or programs;
- a monthly summary of complaints;
- a record of all incidents and non-compliances;
- any independent environmental audit, and the Proponent's response to the recommendations in any audit;

- any approved audit action plan; and
- any other matter required by the Planning Secretary.

In accordance with condition 31 of the EPBC Act Approval, management plans which are required to be consulted with DAWE are to be published on the project website within 20 business days of the date of approval of the plan.

As required by condition 8 of schedule 4, regular reporting of the environmental performance of the development will be provided on the project website in accordance with the requirements of any of the approved strategies, plans or programs. The regular reporting will include information relating to:

- spoil management;
- rehabilitation (following approval of the Rehabilitation Management Plan and commencement of rehabilitation on site);
- biodiversity monitoring;
- biosecurity risk management (following approval of the Biosecurity Risk Management Plan);
- threatened fish management (following approval of the Threatened Fish Management Plan);
- recreational fishing management (following approval of the Recreational Fishing Management Plan);
- surface water monitoring;
- groundwater monitoring;
- heritage management, archival records and the findings of any excavations and salvage works undertaken as part of the Heritage Management Plan (following completion of archival recording and salvage works and preparation of a report);
- implementation of the Recreation Management Plan (following approval);
- effectiveness of the transport management measures;
- effectiveness of the construction noise management measures at Rock Forest.

8.5. Non-conformance, Corrective and Preventative Action

A non-conformance is the failure to comply with the requirements of this EMS and supporting documentation. Where a non-conformance has been identified, a correction action/preventative action will be developed and implemented to minimise the potential for recurrence.

In the event of a non-conformance the following will occur:

- the nature of the event will be investigated;
- advice may be sought from a specialist;
- monitoring may be undertaken;
- the effectiveness or need for new/additional controls will be reviewed;
- an appropriate preventative and corrective action will be implemented;
- environmental documentation will be reviewed and revised; and

- the activities may be stopped, if necessary, by the Future Generation Environmental Manager in consultation with the Project Director and Project HSE Manager. A hold will be placed on the area until appropriate actions have been undertaken.

Corrective actions may be generated from a number of sources, including but not limited to incidents, audits, inspections and management reviews. Corrective actions will be systematically managed to ensure issues raised are recorded and closed out in a timely manner.

Corrective/preventative actions will be entered into Future Generation's quality system database and include details of the issue raised, the action required, and timing and responsibilities. The database will be reviewed regularly to ensure actions are closed out as required. The close out details shall include the date closed and the name of the person verifying completion of the required action.

9. DOCUMENTATION

9.1. Records

The Future Generation Environmental Manager is responsible for maintaining all environmental management documents. The following records are those that will be generated through delivery of the project:

- monitoring and inspection records;
- correspondence with public authorities;
- induction and training records;
- site specific records such as those prepared for dewatering and water management, out of hours works, clearing, unexpected finds etc;
- waste classification records, waste disposal and recycling records;
- plans, strategies and reports, and revisions thereof, to ensure compliance with the Infrastructure Approval;
- reports on environmental incidents, environmental non-conformances, and corrective actions;
- audit reports.

All environmental management documents are subject to ongoing review and continual improvement.

9.2. Document and Data Control

Future Generation will coordinate the preparation, review and distribution, as appropriate, of the environmental documents. During construction, environmental documents will be stored electronically at the site office or on the project document control system (Aconex).

Aconex is used to control the flow of documents and data within the Future Generation teams and between Future Generation, Snowy Hydro and stakeholders.

Controlled documents and data will be uniquely identified and will bear a defined revision number recorded on each page of the document.

APPENDIX A1 – SITE LAYOUT

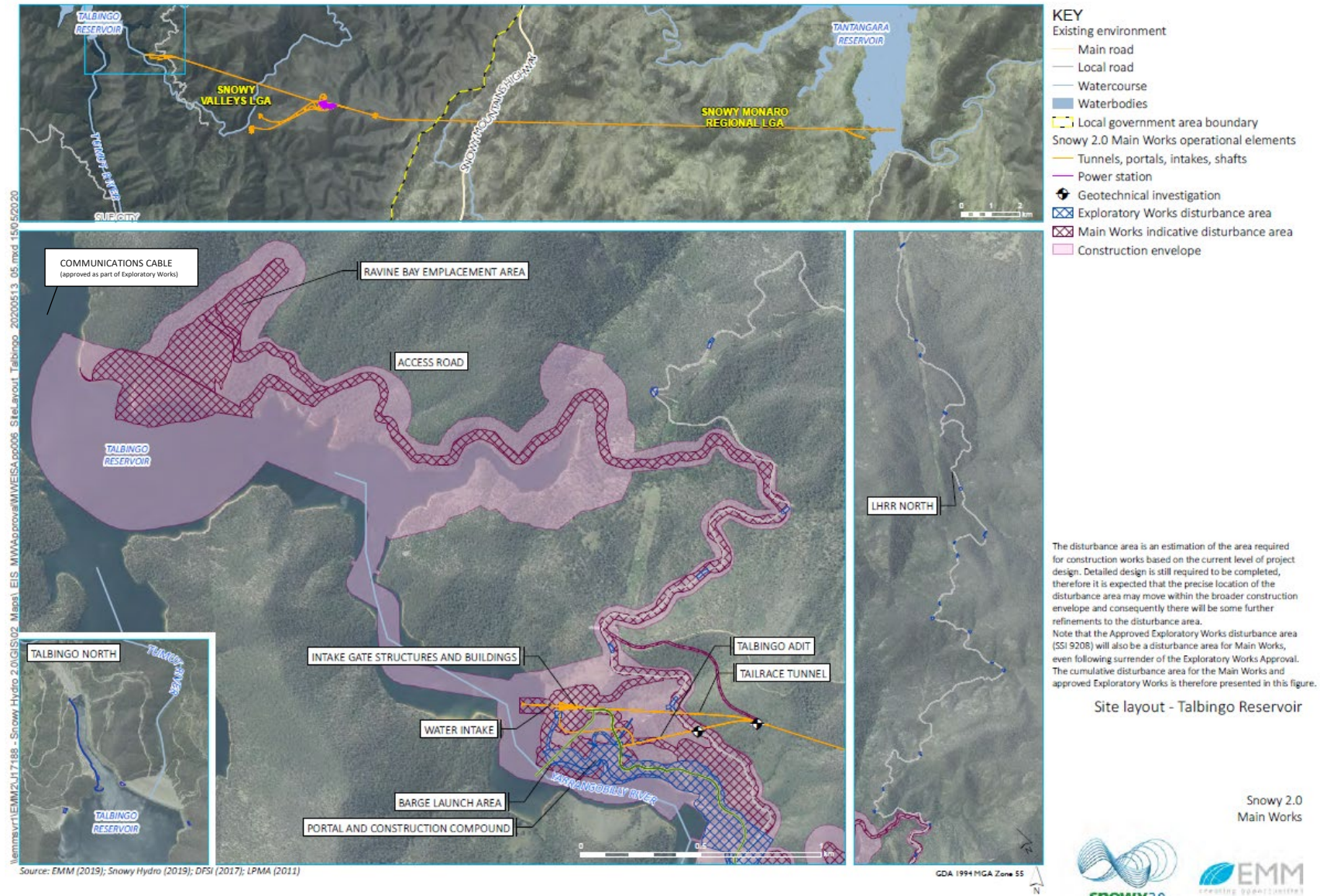


Figure A5-1: Site layout – Talbingo Reservoir (Figure 2-1 of the Approval)

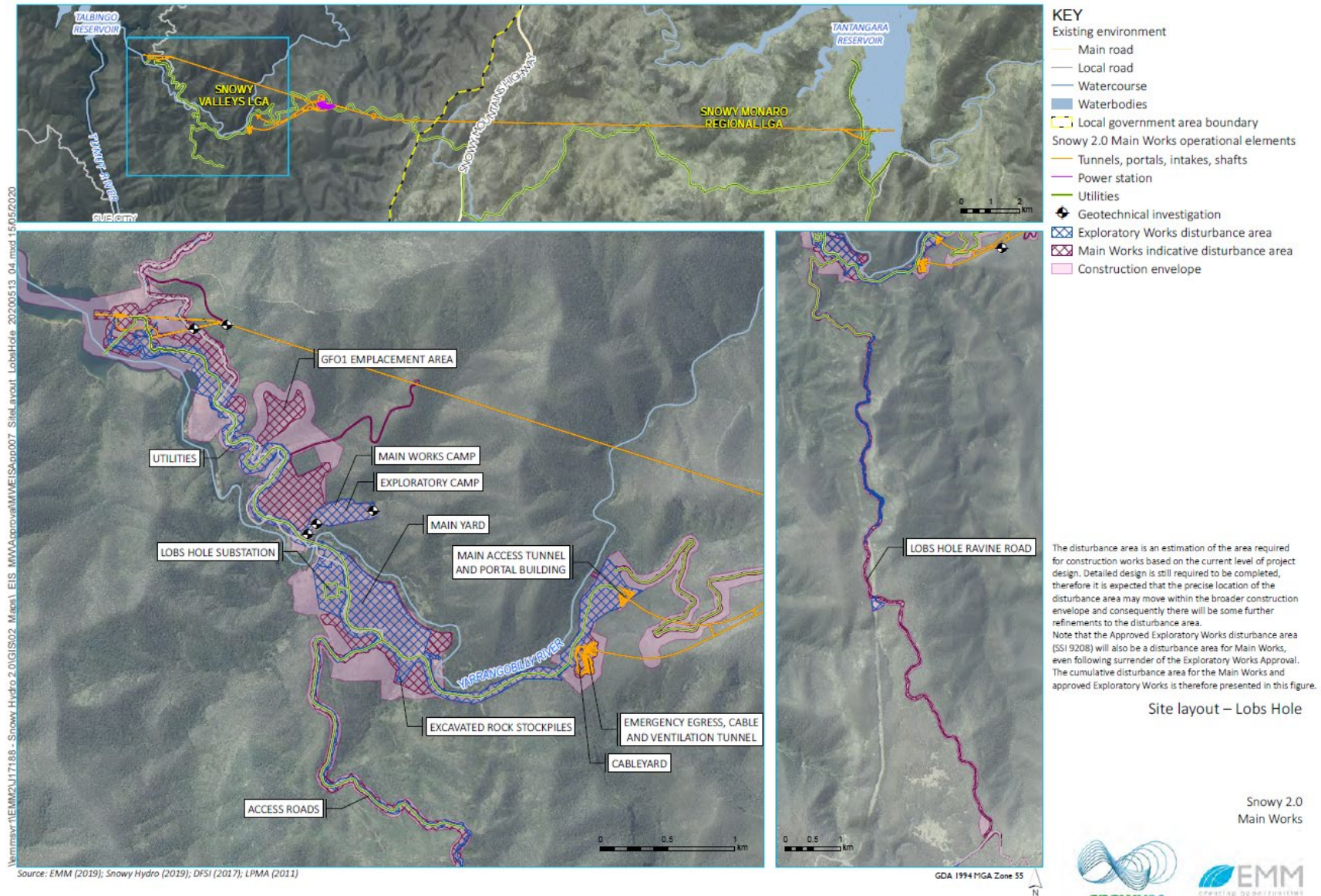


Figure A5-2: Site layout – Lobs Hole (Figure 2-2 of the Approval)

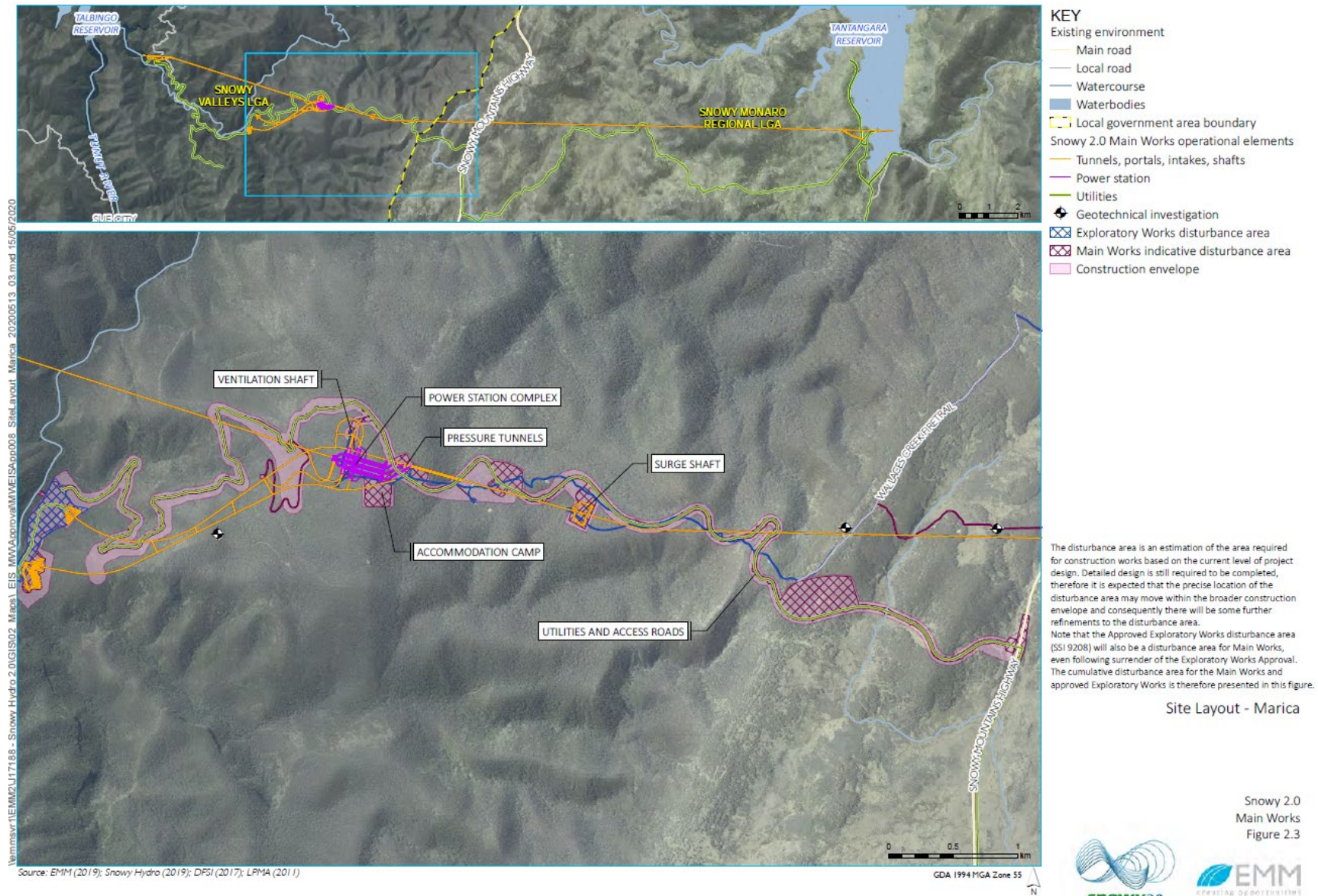


Figure A5-3: Site layout – Marica (Figure 2-3 of the Approval)

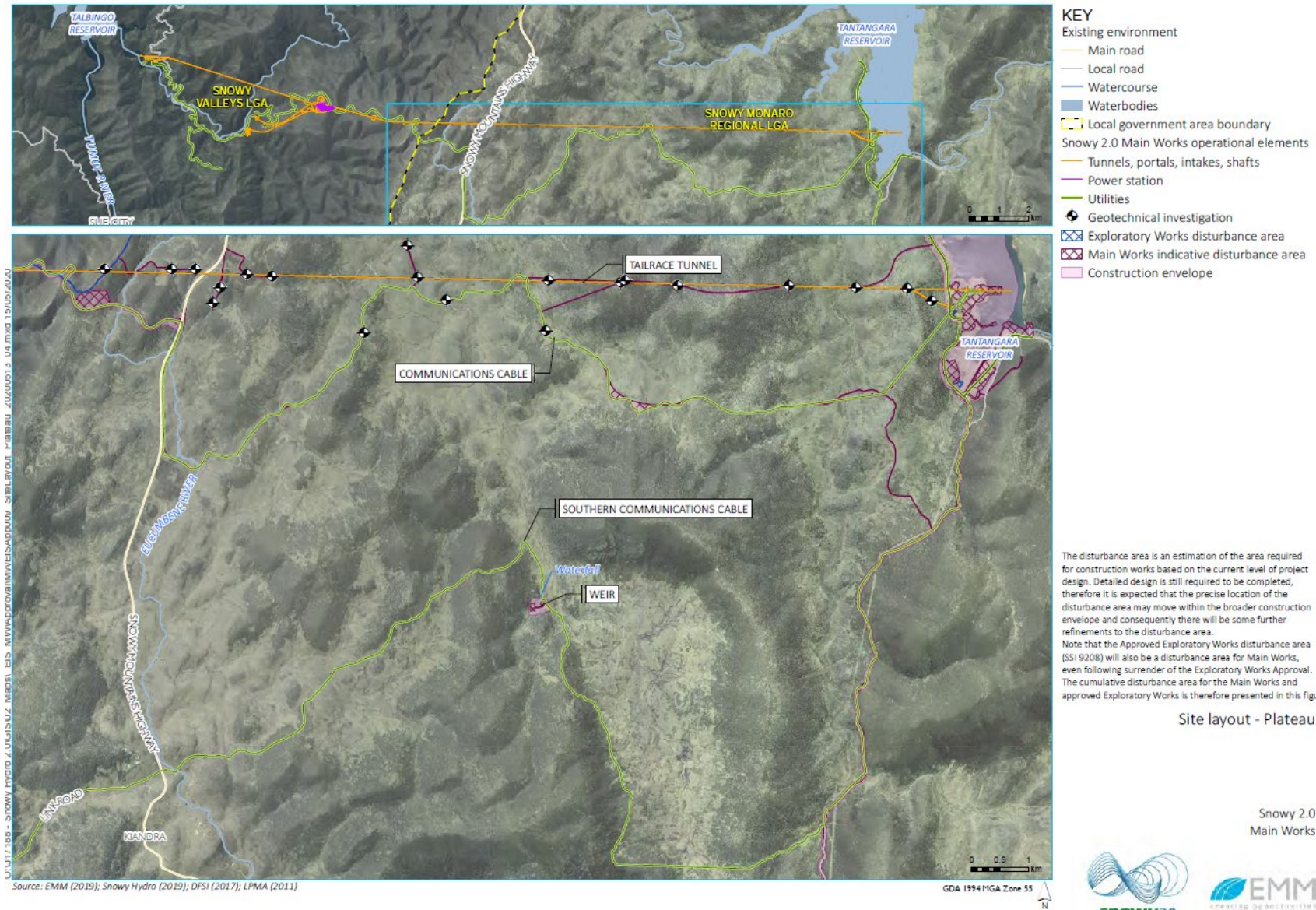


Figure A5-4: Site layout – Plateau (Figure 2-4 of the Approval)



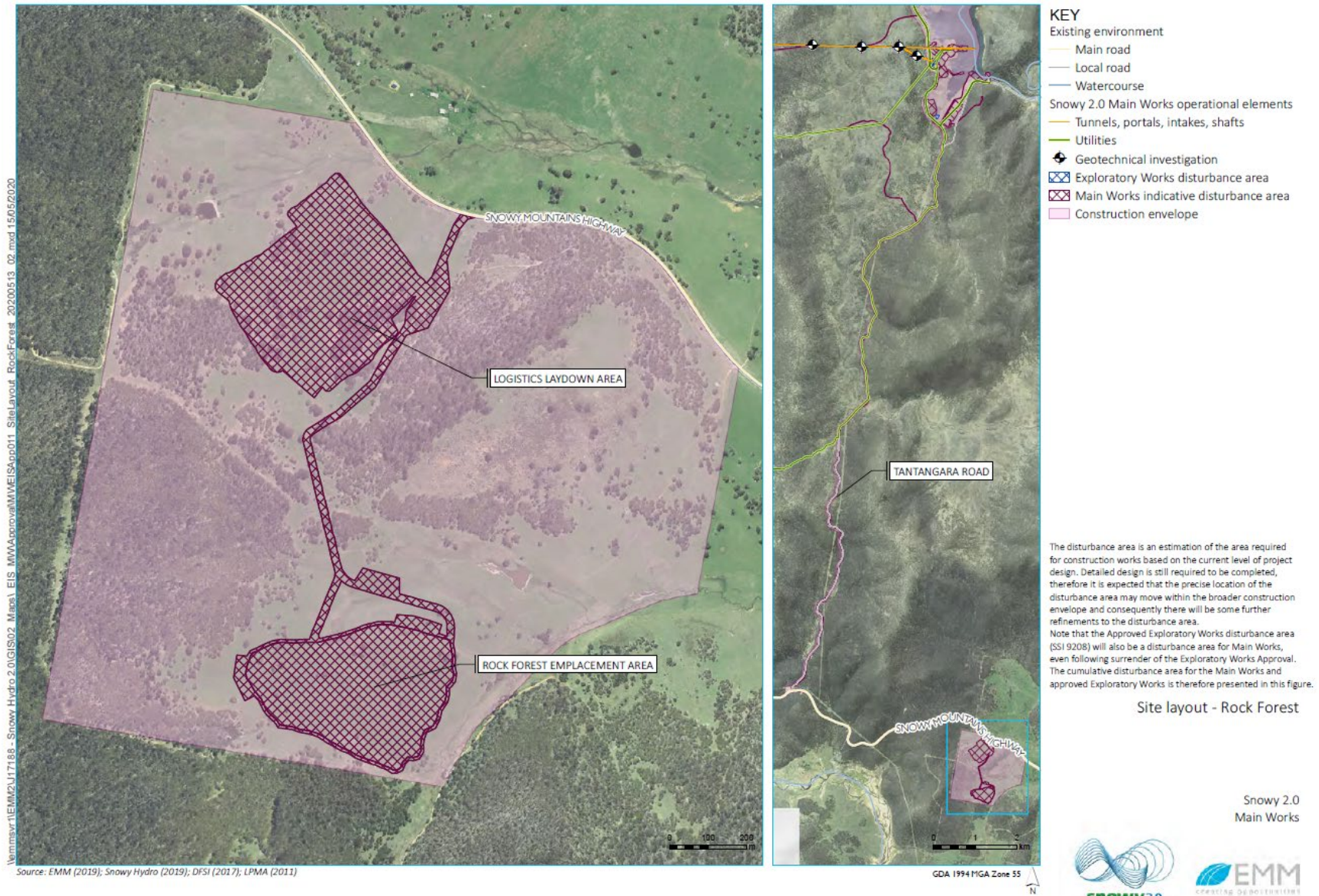


Figure A5-6: Site layout – Rock Forest (Figure 2-6 of the Approval)

APPENDIX A2 – LEGAL AND OTHER REQUIREMENTS

Legislation

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
General					
<i>Environmental Planning and Assessment Act 1979</i>	All	Section 5.19	Approval of the Minister required to carry out State significant infrastructure (SSI). Comply with the Conditions of the Infrastructure Approval and the revised environmental management measures from the Submissions Report.	Snowy Hydro	<p>Yes</p> <p>Snowy 2.0 Main Works is declared to be critical State significant infrastructure (CSSI) with the declaration coming into effect on 9 March 2018. Snowy 2.0 Main Works may be carried out without development consent under Part 4 of the EP&A Act, however application for approval of the CSSI is to occur.</p> <p>The <i>Snowy 2.0 Main Works - Environmental Impact Statement</i> was submitted to Department of Planning, Industry and Environment in September 2019 and publicly exhibited between 26 September 2019 and 7 November 2019. In February 2020, the response to submissions was prepared (<i>Snowy 2.0 Main Works – Response to Submissions</i>).</p> <p>Approval for the Snowy 2.0 Main Works project was granted by the Minister for Planning and Public Spaces on 20 May 2020.</p>
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Proposed action	Section 28	A person must not take an action that has, will have or is likely to have a significant impact on any of the matters of national environmental significance without approval.	-	<p>Yes</p> <p>The <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) aims to protect matters of national environmental significance (MNES) including national heritage places.</p> <p>Following referral of the project to Department of Environment, Agriculture and Water, the project was determined on 5 December 2018 to be a controlled action, and therefore required further assessment and approval under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>. The referral number is EPBC 2018/8322.</p> <p>The relevant controlling provisions are:</p> <ul style="list-style-type: none"> National Heritage places (sections 15B and 15C); Listed threatened species and communities (sections 18 and 18A); Listed migratory species (sections 20 and 20A); Commonwealth action (section 28).

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
<i>National Parks and Wildlife Act 1974</i>	Kosciuszko National Park		All activities on reserved land must be consistent with the objects and purpose of the NPW Act. All activities within KNP must be consistent with the KNP Plan of Management in accordance with Part 5 of the <i>National Parks and Wildlife Act 1974</i> .	Snowy Hydro	Yes The KNP PoM incorporates the Snowy Management Plan, which is set out in Schedule 2 of the Snowy Management Plan Procedures Agreement dated 3 June 2002. Snowy Hydro is required, under Part 4 of the <i>National Parks and Wildlife Regulation 2009</i> , to comply with the environmental management obligations imposed on the company under the Snowy Management Plan.
<i>Snowy Hydro Corporatisation Act 1997</i>	All	Section 37	Section 37(2) of the <i>Snowy Hydro Corporatisation Act 1997</i> entitles Snowy Hydro to grant a lease, licence, easement or right of way over KNP, for the purposes of the existing Snowy Scheme development.	Snowy Hydro	Yes The Snowy Park Lease was granted to Snowy Hydro in 2002 and has a term of 75 years. The lease covers land where surface infrastructure associated with Snowy Hydro has been constructed. Section 41(5) of the <i>Snowy Hydro Corporatisation Act 1997</i> provides that development that is for a purpose for which a lease has been granted under Part 6 of the Act, is taken to be authorised under the <i>National Parks and Wildlife Act 1974</i> .
	Water use	Section 23	Part 5, Section 23 of the <i>Snowy Hydro Corporatisation Act 1997</i> provides rights for Snowy Hydro to collect water from rivers, streams and lakes within the Snowy water catchment; to divert water; to store that water and to use water to generate electricity. The Snowy Water Licence is a statutory instrument issued under Part 5 of the <i>Snowy Hydro Corporatisation Act 1997</i> .	-	The rights are subject to section 32 of the <i>Snowy Hydro Corporatisation Act 1997</i> and Part 1 of Chapter 3 of the <i>Water Management Act 2000</i> . Section 32 states that a person may be granted an access licence, water use approval or water supply work approval under the <i>Water Management Act 2000</i> in relation to water authorised by the Snowy water licence. Part 1 of Chapter 3 of the <i>Water Management Act 2000</i> relates to basic landholder rights including domestic and stock rights, harvestable rights and native title rights. These are not applicable to the Main Works project.
<i>Protection of the Environment Operations Act 1997</i>	Scheduled activity	Section 47 Section 48	Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA.	Snowy Hydro	EPL 21266 has been issued for the project for the scheduled activity of extractive activities for the Exploratory Works phase. The premises boundary for the Exploratory Works EPL will be expanded to encompass both Exploratory Works and Main Works activities and the governing scheduled activity for Main Works will be Electricity Generation.

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
					<p>In accordance with Schedule 1 of the POEO Act, additional scheduled activities which may be relevant to the Snowy 2.0 Main Works include:</p> <p>9 Chemical storage</p> <p>In the event that:</p> <ul style="list-style-type: none"> General chemicals storage – capacity to store more than 20 tonnes of pressurised gases, 200 tonnes of liquified gases or 2000 tonnes of chemicals is stored; On-site generated chemical waste storage – storing on site at any time more than 5 tonnes of any chemical substance produced on site that is prescribed waste; Petroleum products storage – capacity to store more than 200 tonnes (liquified gases) or 2000 tonnes (chemicals in any other form); <p>an EPL would be required for the scheduled activity of chemical storage.</p> <p>In the event that chemicals or petroleum products above this amount is required, an application will be made to include chemical storage on the EPL.</p> <p>13 Concrete works</p> <p>Required if more than 30,000 tonnes per year of concrete product is produced. Includes the production of concrete products but does not apply to concrete batching.</p> <p>15 Contaminated soil treatment</p> <p>Required if treating and storing more than 30,000 cubic metres of contaminated soil or disturbing more than 3 ha of contaminated soil.</p> <p>15A Contaminated groundwater treatment</p> <p>Groundwater from the tunnelling works will be treated as required, however any analytes / parameters which required treatment would likely be due to the naturally high background levels (and not due to contaminated groundwater).</p> <p>Should the treatment of contaminated groundwater occur, with the system having a capacity of more than 100 megalitres per year of contaminated water, then an EPL will be applied for.</p>

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
					<p>16 Crushing, grinding or separating</p> <p>Required if there is a capacity to process more than 150 tonnes of material per day or 30,000 tonnes per year. This does not however apply to an activity declared to be a scheduled activity by road construction.</p> <p>19 Extractive activities</p> <p>Land-based extractive activity - means the extraction, processing or storage of extractive materials, either for sale or re-use, by means of excavation, blasting, tunnelling, quarrying or other such land-based methods.</p> <p>Extraction on land is not occurring for the purpose of sale or re-use.</p> <p>36 Sewage treatment</p> <p>Relates to the operation of sewage systems and applies if the system has a processing capacity that exceeds 2500 persons equivalent or 750 kilolitres per day whichever is the greater.</p>
	Harming the environment	Section 115 Section 116 Section 117	<p>Do not risk harming the environment by wilfully or negligently:</p> <ul style="list-style-type: none"> • disposing of waste unlawfully. • causing any substance to leak, spill or otherwise escape (whether or not from a container); or • causing any controlled substance to be emitted into the atmosphere. 	Future Generation	<p>Yes</p> <p>Management measures included within the Surface Water Management Plan, the Waste Management Plan and the Air Quality Management Plan.</p>
	Notification of pollution incidents	Section 148	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	Snowy Hydro / Future Generation	<p>Yes</p> <p>Included within Section 7 of the EMS.</p>
	PIRMP prepared if EPL required	Section 153A-F	Requires the holder of an EPL to prepare a pollution incident response management plan (PIRMP)	Snowy Hydro / Future Generation	A PIRMP will be prepared as part of the EPL.

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
	Control equipment	Section 167	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	Future Generation	Yes Included within the relevant management plans, such as the Surface Water Management Plan.
<i>Roads Act 1993</i>	Road use	Section 138	Road occupancy licences (ROLs) required for any activity likely to impact on traffic flow	Future Generation	Yes ROLs will be obtained as required.
<i>Rural Fires Act 1997</i>	Bushfire prone land	Section 100B	Bush fire safety authority	-	No Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring approvals under section 100B of the <i>Rural Fires Act 1997</i> .
<i>Environmentally Hazardous Chemicals Act 1985</i>	Hazards and risks	Section 28	<p>The legislation aims to minimise the risks to human health and the environment from hazardous industrial chemicals.</p> <p>Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.</p>	Future Generation	<p>Prescribed activities are activities which, by reason of a chemical control order, may lawfully be carried on only under the authority of a licence. Prescribed activity is defined in the <i>Environmentally Hazardous Chemicals Act 1985</i> as 'in relation to a chemical or any chemical waste, means the act of manufacturing, processing, keeping, distributing, conveying, using, selling or disposing of the chemical or waste or any act related to any such act.'</p> <p>A licence to carry out an activity prohibited by a chemical control order must be obtained from EPA.</p> <p>EPA currently have five chemical control orders in place for:</p> <ul style="list-style-type: none"> aluminium smelter wastes containing fluoride and / or cyanide; dioxin-contaminated waste materials; organotin waste materials; polychlorinated biphenyl compounds; scheduled chemical wastes. <p>There is no known handling of these substances which would occur, however should the requirements of the <i>Environmentally Hazardous Chemicals Act 1985</i> be triggered, then a licence may be required.</p> <p>Should the requirements of this legislation be triggered, licences to carry out an activity prohibited by a chemical control order will be obtained from EPA.</p>

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
<i>Dangerous Goods (Road and Rail Transport) Act 2008</i>	Hazards and risks	Section 9	Ensure that dangerous goods are transported in a safe manner.	Future Generation	Dangerous goods are required to be transported in a safe manner. Vehicles that transport dangerous goods are required to be licensed. Drivers transporting dangerous goods are required to be licensed. Licences to transport dangerous goods will be obtained if required.
<i>Pesticides Act 1999</i>	Hazards and risks	Section 12 Section 13 Section 14 Section 15 Section 17	Use pesticides in an environmentally sensitive manner. Do not use an unregistered pesticide without a permit. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act. Compliance with pesticide codes of practice is required.	Future Generation	Works are required to be undertaken in accordance with relevant legislative requirements including (if required), the application of pesticides in accordance with the <i>Pesticides Act 1999</i> . In the event that an unregistered pesticide is used, a permit will be required to be obtained.
<i>National Greenhouse and Energy Reporting Act 2007 and Regulations 2008</i>	Greenhouse gas emissions	-	Accounting and reporting of greenhouse gases produced and energy consumed during construction.	Snowy Hydro / Contractor	Yes Applicability dependent on thresholds.
Water					
<i>Protection of the Environment Operations Act 1997</i>	Water pollution	Section 120 Section 122	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of any EPA licence.		Yes Management measures have been incorporated within the Surface Water Management Plan.
<i>Water Management Act 2000</i>	Water access licence	Section 60A	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the	Snowy Hydro	Yes The <i>Water Management Act 2000</i> applies to areas of New South Wales that have a water sharing plan. The project area is subject to the following water sharing plans:

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
			ground and includes coastal waters) without an access licence.		<ul style="list-style-type: none"> • <i>Water sharing plan for the Murrumbidgee unregulated and alluvial water sources 2012</i>, Upper Tumut surface water source; • <i>Water sharing plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011</i>, Lachlan Fold Belt Murray Darling Basin Groundwater Source; and • <i>Water sharing plan for the South Coast Groundwater Sources 2016</i>, Lachlan Fold Belt Coast Groundwater Source. <p>Section 60A of the <i>Water Management Act 2000</i> requires that a water access licence (WAL) be obtained to extract water from a water source.</p> <p>Section 21 and Schedule 4 of the <i>Water Management (General) Regulation 2018</i> does however provide exemptions for the requirement to obtain water access licences.</p> <p>Relevant exemptions from Part 1 of Schedule 4 are detailed below:</p> <ul style="list-style-type: none"> • clause 7 provides an exemption for water taken in the course of certain aquifer interference activities (in relation to taking up to 3 ML of groundwater from a groundwater source); • clause 11 exempts a person engaged in the operation of hydro-electric station in relation to the water required for the purpose of generating hydro-electric power but only if the water is returned to the same water source and the returned water is of the same quality; • clause 17A provides exemption for the taking of groundwater for excavation works where they are a holder of a water supply work authority in relation to taking of more than 3 ML of groundwater. <p>Water access licences are therefore not required for certain aquifer interference activities (in relation to taking up to 3ML of groundwater); or taking of greater than 3ML of groundwater for excavation works where a water supply work approval is held.</p> <p>Any other water required for construction purposes would however require a water access licence. This includes extraction for:</p> <ul style="list-style-type: none"> • interception activities (i.e. intercepted groundwater during tunnelling); • potable uses for human consumption associated with the accommodation camp; and

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
					<ul style="list-style-type: none"> process water via the services pipeline from Talbingo and Tantangara Reservoirs for tunnelling and construction activities. <p>Snowy Hydro have secured three Water Access Licences for the project:</p> <ul style="list-style-type: none"> WAL42408 – Groundwater licence; WAL42960 – Groundwater licence; and WAL42407 – Surface water licence. <p>The three licences allow for direct and indirect take of groundwater from the Lachlan Fold Bent (LFB) Murray Darling Basin (MDB) groundwater source and direct take from the Upper Tumut water source (from within Talbingo Reservoir).</p> <p>Snowy Hydro is also in the process of applying for additional groundwater licences via the Controlled Allocation Order for additional share entitlement from the LFB MDB groundwater source (RO13-19-093), and new share entitlements from the LFB South Coast groundwater source (RO13-19-192). The additional groundwater licence shares cover the peak predicted annual take modelled in the Main Works EIS.</p>
	Water use approval	Section 89	A water use approval confers a right on its holder to use water for a particular purpose at a particular location.	-	<p>No</p> <p>Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring a water use approval under section 89.</p>
	Water management works approval	Section 90	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	-	<p>No</p> <p>There are three kinds of water management work approvals, namely, water supply work approvals, drainage work approvals and flood work approvals:</p> <ul style="list-style-type: none"> a water supply work approval authorises its holder to construct and use a specified water supply work at a specified location; a drainage work approval confers a right on its holder to construct and use a specified drainage work at a specified location; and a flood work approval confers a right on its holder to construct and use a specified flood work at a specified location.

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
					<p>Certain approvals and authorisations are not required for approved SSI projects.</p> <p>In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring a water management work approval under section 90.</p>
	Activity approvals	Section 91 Section 91E Section 91F	Controlled activity approvals and aquifer interference approvals.	-	<p>In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring an activity approval under section 91 (other than an aquifer interference approval).</p> <p>An activity approval is therefore not required, however an aquifer interference licence may be required when an activity involves any of the following:</p> <ul style="list-style-type: none"> (a) the penetration of an aquifer, (b) the interference with water in an aquifer, (c) the obstruction of the flow of water in an aquifer, (d) the taking of water from an aquifer in the course of carrying out mining, or any other activity prescribed by the regulations, (e) the disposal of water taken from an aquifer as referred to in paragraph (d). <p>If aquifer interference is expected to occur through excavation, deep excavations, and dewatering then an aquifer interference licence will be required. Caverns, tunnels, cuttings and pipelines are considered minimal impact if a water access licence is not required.</p> <p>If aquifer interference is expected to occur through excavation, deep excavations and dewatering then an aquifer interference licence may be required.</p>
Water Act 1912 Note that this Act is being progressively repealed by the <i>Water Management Act 2000</i>	Surface water	Section 21B	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water	-	<p>The <i>Water Act 1912</i> does not apply to areas where a water sharing plan is in place.</p> <p>The project is subject to the following water sharing plans:</p> <ul style="list-style-type: none"> • <i>Water sharing plan for the Murrumbidgee unregulated and alluvial water sources 2012</i>, Upper Tumut surface water source; • <i>Water sharing plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011</i>, Lachlan Fold Belt Murray Darling Basin Groundwater Source; and • <i>Water sharing plan for the South Coast Groundwater Sources 2016</i>, Lachlan Fold Belt Coast Groundwater Source.

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
	Groundwater	Section 112 Section 121A	Obtain a licence where interference with groundwater is likely to occur.	-	The EIS advises that in Section 4.4.4 that monitoring bore licences are required under the <i>Water Act 1912</i> .
	Floodplains	Section 180	Obtain an approval for controlled works. These include works which occur on a designated floodplain, which can prevent land from being flooded or which can affect water flow to or from a river or lake.	-	The <i>Water Act 1912</i> does not apply to areas where a water sharing plan is in place. As the project is subject to water sharing plans, the project works are governed by the <i>Water Management Act 2000</i> .
Biodiversity					
<i>Biodiversity Conservation Act 2016</i>	Flora and fauna		Legislation responsible for the conservation of biodiversity in NSW through the protection of threatened flora and fauna species, populations and Endangered Ecological Communities (EECs). The <i>Biodiversity Conservation Act 2016</i> , together with the <i>Biodiversity Conservation Regulation 2017</i> , established the Biodiversity Offsets Scheme.	Snowy Hydro	Yes
<i>Biosecurity Act 2015</i>	Weed management	Section 22	Under Part 3 of the <i>Biosecurity Act 2015</i> , landowners or land managers have a general biosecurity duty to prevent, eliminate or minimise the biosecurity risk posed or likely to be posed by priority weeds. A biosecurity risk exists where priority weeds have the potential to negatively impact on agriculture, industry, the liveability of our city, human health or the environment. Invasive weeds are known as 'Biosecurity Matter' or 'Priority Weeds'.	Future Generation	Yes A Weed, Pest and Pathogen Management Plan will be prepared and implemented for the project.

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
<i>Fisheries Management Act 1994</i>	Taking or possessing fish or marine vegetation	Section 37	Permit to take and possess fish or marine vegetation	Snowy Hydro Future Generation	A section 37 permit is required for any activity that involves taking or possessing fish or marine vegetation that would otherwise be unlawful under the <i>Fisheries Management Act 1994</i> including any collecting activities. There is currently no proposal to take and possess fish or marine vegetation, however in the event that this is required, a permit would be applied for.
	Dredging or reclamation	Section 199 Section 201	Provide the Minister for Primary Industries 28 days' notice of planned dredging or reclamation work.	Future Generation	Yes Section 201 requires a person to obtain a permit for dredging or reclamation. Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring approvals under section 201 of the <i>Fisheries Management Act 1994</i> . Section 5.23 of the EP&A Act is silent on s199 and therefore the requirement for notification remains. Section 199 requires a government authority to give notice of dredging or reclamation.
	Mangroves, seagrasses and marine vegetation	Section 205	Do not harm any mangroves, seagrasses or other marine vegetation on public water land protected by the regulations without a permit.	Not applicable	No Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring approvals under section 205 of the <i>Fisheries Management Act 1994</i> .
	Fish passage	Section 219	Do not block fish passage without a permit	Not applicable	No Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring approvals under section 219 of the <i>Fisheries Management Act 1994</i> .
Heritage					
<i>Heritage Act 1977</i>	Heritage	Section 57	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	Not applicable	No Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring approvals under Part 4 of the <i>Heritage Act 1977</i> . Section 57 is within Part 4 of the <i>Heritage Act 1977</i> .

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
		Section 139	An excavation permit is required under certain circumstances. A person must not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or a person must not disturb or excavate land on where a relic has been discovered or exposed.	Not applicable	No Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring approvals under section 139 of the <i>Heritage Act 1977</i> .
		Section 146	Notify the heritage Council on discovery of a relic.	Future Generation / Snowy Hydro	Yes A person who is aware or believes that he or she has discovered or located a relic must within a reasonable time notify the Heritage Council of the location of the relic, unless he or she believes on reasonable grounds that the Heritage Council is aware of the location of the relic, and within the period required by the Heritage Council, furnish the Heritage Council with such information concerning the relic as the Heritage Council may reasonably require. Notification requirements are included within the Heritage Management Plan.
<i>National Parks and Wildlife Act 1974</i>	Aboriginal places and objects	Section 86 Section 90	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent. Section 86 creates the offence and section 90 creates the requirement to obtain a permit to impact an Aboriginal object, place, land, activity or person.	Not applicable	No Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring approvals under section 90 of the <i>National Parks and Wildlife Act 1974</i> .
		S89A	Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	Snowy Hydro / Future Generation	Yes Notification requirements are included within the Heritage Management Plan.

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)	Protection of areas and objects	Section 20	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	Snowy Hydro / Future Generation	Yes
		Section 22	Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	Snowy Hydro / Future Generation	Yes
Contaminated material					
Protection of the Environment Operations Act 1997	Land pollution	Section 142A – Section 142E	Do not cause or permit land pollution other than under authority of a licence or regulation (however it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.)	Future Generation	Yes
Contaminated Land Management Act 1997	Reporting contamination	Section 60	Duty to report contamination.	Snowy Hydro / Future Generation	Yes If project activities have caused land contamination, or a landowner becomes aware of land that is contaminated, there is a legal duty under section 60 of the Contaminated Land Management Act 1997 to notify the EPA. The level of contaminants in the soil is to be above the National Environmental Protection (Assessment of Contamination) Measure 1999; or meet the criterion prescribed by the regulations; or the contaminant has or will enter neighbouring land, the atmosphere, groundwater or surface water.
Noise					
Protection of the Environment Operations Act 1997	Plant maintenance and operation	Section 139	Do not operate plant if it emits noise caused by failure to maintain or operate the plan in a proper and efficient manner.	Future Generation	Yes

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
<i>Protection of the Environment Operations Act 1997</i>	Materials management	Section 140	Do not cause noise by failing to properly and efficiently deal with materials.	Future Generation	Yes
Waste					
<i>Protection of the Environment Operations Act 1997</i>	Littering	Part 5.6A	Do not litter in a public place or an open private place. Do not litter from a vehicle. Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises. Do not deposit advertising material on or in vehicles.	Future Generation	Yes
	Waste and transportation	Part 3.2 Section 47 Schedule 1	Do not undertake a scheduled waste activity unless in accordance with an environment protection licence.	Future Generation	Yes A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the placing of excess fill material onto properties. Section 143 notices should be obtained in accordance with the Waste Management Plan for the application of any waste off site. Any transport of more than 200 kg or litres of trackable waste must be undertaken by a person licensed to transport such waste.
		Section 143	Only transport waste to a facility that can lawfully accept the waste.		Yes Section 143 Notices are to be obtained for waste that is sent to a facility / premise outside of the project boundary in accordance with the Waste Management Plan.
		Section 115	Do not dispose of waste in a manner that harms or is likely to harm the environment.		Yes Relevant management measures have been included in the Waste Management Plan.
<i>Protection of the Environment</i>	Waste and transportation	Regulation cl.49	Comply with general requirements for the transport of waste.	Future Generation	Yes For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
<i>Operations (Waste) Regulation 2005</i>					spillage of waste. For some wastes only, licensed transporters can be used.
		Regulation Part 3	Comply with record keeping requirements in relation to the transport of certain types of waste.	Future Generation	Yes
<i>Local Government Act 1993</i>	Wastewater	Section 68	Section 68 of the LG Act requires approval of the relevant local council to build/install and operate a sewage management system.	Future Generation	The EIS advises that approval from EPA will be required under the <i>Local Government Act 1993</i> prior to the construction of the sewage treatment plant. There will be no connection to council's sewage treatment system, therefore council approval is not considered to be required. Should sewage treatment form a scheduled activity under the POEO Act, approval from EPA will be obtained.
Notification requirements (summarised from the details above)					
<i>Protection of the Environment Operations Act 1997</i>	Notification of pollution incidents	Section 148	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	Future Generation / Snowy Hydro	Yes
<i>Fisheries Management Act 1994</i>	Dredging or reclamation	Section 199 Section 201	Provide the Minister for Primary Industries 28 days' notice of planned dredging or reclamation work.	Future Generation / Snowy Hydro	Yes Section 199 requires a government authority to give notice of dredging or reclamation.
<i>Heritage Act 1977</i>	Notify the Heritage Council on discovery of a relic	Section 146	Notify the Heritage Council on discovery of a relic.	Future Generation / Snowy Hydro	Yes A person who is aware or believes that he or she has discovered or located a relic must within a reasonable time notify the Heritage Council of the location of the relic, unless he or she believes on reasonable grounds that the Heritage Council is aware of the location of the relic, and within the period required by the Heritage Council, furnish the Heritage Council with such information concerning the relic as the Heritage Council may reasonably require. Notification requirements are included within the Heritage Management Plan.
<i>Aboriginal and Torres Strait Islander Heritage</i>	Protection of areas and objects	Section 20	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	Snowy Hydro / Future Generation	Yes

Legislation	Aspect	Reference	Requirement	Responsibility	Applicable
<i>Protection Act 1984</i> (Commonwealth)					
<i>National Parks and Wildlife Act 1974</i>	Aboriginal places and objects	Section 89A	Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	Snowy Hydro / Future Generation	Yes
<i>Contaminated Land Management Act 1997</i>	Reporting contamination	Section 60	Duty to report contamination.	Snowy Hydro / Future Generation	<p>Yes</p> <p>If project activities have caused land contamination, or a landowner becomes aware of land that is contaminated, there is a legal duty under section 60 of the <i>Contaminated Land Management Act 1997</i> to notify the EPA.</p> <p>The level of contaminants in the soil is to be above the <i>National Environmental Protection (Assessment of Contamination) Measure 1999</i>; or meet the criterion prescribed by the regulations; or the contaminant has or will enter neighbouring land, the atmosphere, groundwater or surface water.</p>

AS/NZS ISO 14001:2016 Environmental Management Systems

ISO14001:2016 Elements		Where addressed
Context of the organisation	Understanding the organisation and its context	Section 1.1 and 4.2
	Understanding the needs and expectations of interested parties	Sections 1.6 and 1.7
	Determining the scope of the Environmental Management System	Section 1.4 and 4
	Environmental Management System	Section 4
Leadership	Leadership and commitment	Sections 4.2 and Appendix A3
	Environmental Policy	Appendix A3
	Organisational roles and responsibilities	Section 4.2
Planning	Actions to address risks and opportunities	Sections 4.3
	Environmental objectives and planning to achieve them	Section 1.9.2 and 4.1.2
Support	Resources	Sections 4.2
	Communication	Section 6
	Documented information	Sections 1.9 and 9
Operation	Operational planning and control	Sections 4.1, 4.2, 4.3, and 8
	Emergency preparedness and response	Section 7
Performance evaluation	Monitoring, measurement, analysis and evaluation	Section 8
	Internal audit	Section 8.3.1
	Management review	Section 1.9
Improvement	General	Section 1.9
	Non-conformity and corrective action	Sections 8.4
	Continual improvement	Sections 1.9.2

APPENDIX A3 – POLICY FOR ENVIRONMENT, SUSTAINABILITY AND COMMUNITY

Policy for Environment, Sustainability & Community

Future Generation strives to deliver environmentally sustainable outcomes for energy, materials and water, during all stages of its operations. Future Generation values sustainable development and believes respect for the environment and the community in which it operates is fundamental to business success.

Future Generation ensures human, financial and technological resources are provided for the active management and maintenance of the Future Generation Management System, aligned with the requirements of ISO 14001 to drive continual improvement.

At Future Generation, employees and contractors show their commitment to minimising environment and social impacts and promoting sustainable development by:

- Sharing a belief in a culture of zero harm where harm to people or the environment is unacceptable;
- Stopping work where an activity could harm the environment or community;
- Planning and performing activities to achieve zero harm outcomes; and
- Understanding their roles, responsibilities and behaviours expected of them.

Future Generation engages with clients, partners, communities and other interested parties to understand key social and environmental aspects, and assess potential impacts to ensure that its operations are conducted in accordance with the principles of this policy.

PRINCIPLES

Wherever Future Generation operates the following principles apply to promote sustainable development, in all its operating environments:

- Personal Responsibility – Individuals take personal responsibility to comply with relevant laws and regulations and apply responsible standards as detailed in the Future Generation Management System where laws do not exist.
- Social Responsibility – Future Generation respects the traditional rights of indigenous peoples and values cultural heritage in the areas we work.
- Accountability – Future Generation holds all levels in our organisation accountable for compliance with relevant laws and regulations, regular monitoring, reviewing and reporting on our progress against our targets that enhance performance and promote efficient use of resources.
- Risk Management – Future Generation identifies, assesses and manages risks to the environment and our host communities.
- Learning Culture – Future Generation maintains regular, transparent and effective communication with all employees, interested parties, stakeholders and communities affected by its activities and improves the livelihoods of the communities in which we operate through local employment and training opportunities.
- One Consistent Approach - Design and construct to efficiently use energy and raw materials, minimise waste, reduce and prevent pollution with a focus on sustainable solutions.

Future Generation undertakes to communicate this policy and environmental performance to all persons working for or on its behalf, and to the public or other interested parties as required. The policy will be reviewed every three years to maintain relevance to Future Generation business activities.

The Project Director of Future Generation Limited is accountable to the Board of Directors for ensuring that this Policy is implemented throughout Future Generation's operation.

Signed: 
Name:
Executive Committee Representative
April 2019

Signed: 
Name:
Executive Committee Representative
April 2019

APPENDIX A4 – ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER

No	Activity	Environmental Aspect	Risk	Cause	Possible Outcome	Consequence	Likelihood	Initial Risk Rating	Risk Treatment(s)	Consequence	Likelihood	Residual Risk Rating	Risk Owner
1	Vegetation Clearing	Biodiversity	Injury/mortality of fauna	Removal of occupied habitat, including hollow-bearing trees, shrubs, nests, ground cover, rocks	- Reputational impacts - Potential regulatory action from agencies	3 - Moderate	4 - Likely	12 - High	- Biodiversity Management Plan - Pre-clearing procedure - Ecologists supervision during clearing operations	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
2	Vegetation Clearing	Biodiversity	Removal of vegetation/habitat not permitted to be impacted by the project approval	Vegetation clearing outside of construction envelope	- Unauthorised impact to flora / National Park - Project delays - Financial penalties - Reputational impacts	4 - Major	3 - Possible	12 - High	- Biodiversity Management Plan - Exclusion zones and defined clearing limits and no-go zones - Training of contractors on environmental exclusion zones and consequences - Sensitive Area Plans / GIS mapping	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
3	Vegetation Clearing	Biodiversity	Removal of vegetation/habitat not permitted to be impacted by the project approval	Vegetation clearing that results in impacts additional to the total area in condition 5 of schedule 2	- Unauthorised impact to flora / National Park - Project delays - Financial penalties - Reputational impacts	4 - Major	3 - Possible	12 - High	- Biodiversity Management Plan - Exclusion zones, defined clearing limits and no-go zones - Training of contractors on environmental exclusion zones and consequences - Sensitive Area Plans / GIS mapping	3 - Moderate	2 - Unlikely	6 - Medium	Snowy Hydro
4	Earthworks/Roadworks	Biodiversity	Removal of vegetation/habitat not permitted to be impacted by the project approval	Vegetation clearing outside of construction envelope	- Unauthorised impact to flora / National Park - Project delays - Financial penalties - Reputational impacts	4 - Major	3 - Possible	12 - High	- Biodiversity Management Plan - Spoil Management Plan - Exclusion zones and defined clearing limits and no-go zones - Training of contractors on environmental exclusion zones - Sensitive Area Plans / GIS mapping	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
5	Earthworks/Roadworks	Biodiversity	Impacts on vegetation/habitat beyond the construction envelope	Improper stockpiling of excavated material and engineered fill	- Unapproved impacts beyond construction envelope - Potential regulatory action from agencies - Project delays - Financial penalties - Reputational impacts	3 - Moderate	3 - Possible	9 - Medium	- Spoil Management Plan - Biodiversity Management Plan - Training of contractors on environmental exclusion zones - Sensitive Area Plans / GIS mapping	3 - Moderate	1 - Rare	3 - Low	Future Generation
6	Construction of waterway crossings	Biodiversity	Loss of aquatic habitat not permitted to be impacted by the construction envelope	Clearing outside the project footprint, plant operation and excavation outside project footprint	- Unapproved impacts beyond construction envelope - Potential regulatory action from agencies - Reputational impacts	3 - Moderate	3 - Possible	9 - Medium	- Biodiversity Management Plan - Exclusion zones and defined clearing limits and no-go zones - Training of contractors on environmental exclusion zones and consequences - Sensitive Area Plans / GIS mapping	3 - Moderate	1 - Rare	3 - Low	Future Generation
7	Construction of waterway crossings	Biodiversity	Injury/mortality of aquatic fauna	Earthworks/clearing and construction at waterway crossings without proper ecological supervision and procedures.	- Unauthorised impact to fauna (and potentially threatened fauna) - Potential regulatory action from agencies	3 - Moderate	3 - Possible	9 - Medium	- Biodiversity Management Plan - Pre-clearance procedure - Ecologist supervision during clearing - Exclusion zones and defined clearing limits and no-go zones - Training of contractors on environmental exclusion zones and consequences - Sensitive Area Plans / GIS mapping	2 - Minor	2 - Unlikely	4 - Low	Future Generation
8	Construction of Barge Access Infrastructure	Biodiversity	Injury/mortality of aquatic fauna	Earthworks/Clearing in riparian habitats adjacent to the Talbingo Reservoir	- Unauthorised impact to fauna (and potentially threatened fauna) - Potential regulatory action from agencies	3 - Moderate	3 - Possible	9 - Medium	- Biodiversity Management Plan	2 - Minor	2 - Unlikely	4 - Low	Future Generation
9	Construction of Barge Access Infrastructure	Biodiversity	Loss of aquatic habitat not permitted to be impacted by the project approval	Earthworks/Construction within Talbingo Reservoir beyond the approved construction envelope	- Unauthorised impact to fauna (and potentially threatened fauna) - Unapproved impacts beyond construction envelope - Potential regulatory action from agencies	3 - Moderate	3 - Possible	9 - Medium	- Biodiversity Management Plan - Training for contractors - Sensitive Area Plans / GIS mapping	3 - Moderate	1 - Rare	3 - Low	Future Generation
10	Dredging	Biodiversity	Loss of fish, fish eggs and invertebrates within the dredge area	Hydraulic entrainment of aquatic fauna in the dredge cutter head	- Unauthorised impact to fauna (and potentially threatened fauna) - Impacts to aquatic fauna population - Loss of threatened species within Talbingo Reservoir	3 - Moderate	3 - Possible	9 - Medium	- Dredging Management Plan (for Exploratory Works if required)	4 - Major	1 - Rare	4 - Low	Future Generation
11	Stockpile/spoil emplacement	Biodiversity	Introduction and spread of weeds, pests and pathogens causing native/threatened	Disturbance of natural areas and storage of spoil provides opportunity for weeds to establish and	- Impact to biodiversity in exceedance of the approved Project - Spread of weeds in the National Park - Smothering / impacts to native	3 - Moderate	4 - Likely	12 - High	- Biodiversity Management Plan - Weed, Pest and Pathogen Management Plan	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation

No	Activity	Environmental Aspect	Risk	Cause	Possible Outcome	Consequence	Likelihood	Initial Risk Rating	Risk Treatment(s)	Consequence	Likelihood	Residual Risk Rating	Risk Owner
			species population declines within KNP	spread beyond the project area	vegetation - Long term maintenance requirements								
12	Transport of materials, equipment and personnel	Biodiversity	Frequent Injury/mortality of protected fauna	Driving vehicles on access roads during times of high fauna activity. Excessive speed on access roads. Inattention of drivers on potential for fauna impacts.	- Trigger EPBC Act thresholds for impacts on Commonwealth listed species, including Booroolong Frog and Smoky Mouse - Potential regulatory action from agencies - Financial penalties - Reputational impacts - Personal injury due to collision with large fauna including kangaroos, feral pigs, horses and deer	4 - Major	3 - Possible	12 - High	- Biodiversity Management Plan - Transport Management Plan - Drivers Code of Conduct	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
13	Transport of materials, equipment and personnel	Biodiversity	Introduction and spread of weeds, pests and pathogens causing native/threatened species population declines within KNP	Vehicular movements from disturbed and contaminated areas beyond KNP into undisturbed areas within the project area and surrounding national park	- Impact to biodiversity in exceedance of the approved Project - Spread of weeds in the National Park - Smothering / impacts to native vegetation - Long term maintenance requirements	4 - Major	3 - Possible	12 - High	- Biodiversity Management Plan - Weed, Pest and Pathogen Management Plan - Weed and seed washdown inspections - Washdown facility for plant - Hygiene inspections of vehicles	4 - Major	2 - Unlikely	8 - Medium	Future Generation
14	Vegetation Clearing	Surface water	- Erosion and sedimentation - Contamination of surface water and breach of EPL water quality performance standards	Newly exposed sediment and topsoil carried into catchments and watercourses during rainfall events	- Water pollution - Loss of topsoil - Impacts to aquatic habitat and fauna - Potential regulatory action from agencies - Financial penalties - Reputational impacts	4 - Major	3 - Possible	12 - High	- Water Management Plan - Surface Water Management Plan - Surface Water Monitoring Program - Erosion and sediment control measures - Clean water diversions - Sediment basins and water treatment - Trigger Action Response Plan	4 - Major	2 - Unlikely	8 - Medium	Future Generation
15	Earthworks/ Roadworks	Surface water	- Contamination of surface water - Breach of EPL water quality performance standards - Dispersion of contaminants	Exposed sediment carried into catchments and watercourses during rainfall events	- Water pollution - Loss of topsoil - Impacts to aquatic habitat and fauna - Potential regulatory action from agencies - Financial penalties - Reputational impacts	4 - Major	3 - Possible	12 - High	- Water Management Plan - Surface Water Management Plan - Baseline water quality data - Surface Water Monitoring Program - Erosion and sediment control measures - Clean water diversions - Process and intercepted water management - Sediment basins and water treatment - Trigger Action Response Plan	4 - Major	2 - Unlikely	8 - Medium	Future Generation
16	Spoil emplacement	Surface Water	Contamination of surface water, breach of EPL water quality performance standards	Runoff from spoil stockpiles causes contaminated/polluted stormwater discharge into watercourses due to lack of controls or inadequately installed controls	- Adverse water quality impacts - Loss of amenity - Potential regulatory action from agencies	4 - Major	3 - Possible	12 - High	- Spoil Management Plan - Water Management Plan - Surface Water Management Plan - Erosion and sediment control measures - Clean water diversions - Sediment basins and water treatment - Trigger Action Response Plan	4 - Major	2 - Unlikely	8 - Medium	Future Generation
17	Construction of waterway crossings and barge access infrastructure	Surface water	- Contamination of surface water - breach of EPL water quality performance standards - Dispersion of contaminants	Construction activities in Yarrangobilly Creek and Wallace Creek without controls that prevent siltation and turbidity discharge being carried downstream	- Water pollution - Impacts to aquatic habitat and fauna - Potential regulatory action from agencies - Financial penalties - Reputational impacts	4 - Major	3 - Possible	12 - High	- Water Management Plan - Surface Water Management Plan - Specific management measures implemented for working within creeks, rivers and riparian areas - Surface Water Monitoring Program - Erosion and sediment control measures - Clean water diversions - Process and intercepted water management - Sediment basins and water treatment - Trigger Action Response Plan	4 - Major	2 - Unlikely	8 - Medium	Future Generation
18	Dredging activities	Surface water	Contamination of surface water, breach of EPL water quality performance standards	Disturbance of reservoir bed results in increased turbidity, siltation and dissolved oxygen levels	- Water pollution - Impacts to aquatic habitat and fauna - Potential regulatory action from agencies - Financial penalties - Reputational impacts	4 - Major	3 - Possible	12 - High	- Water Management Plan - Dredging Management Plan (for Exploratory Works if dredging) - Surface Water Management Plan - Trigger Action Response Plan	4 - Major	2 - Unlikely	8 - Medium	Future Generation
19	Transport of materials, equipment and personnel	Surface water	Contamination of surface water, breach of EPL water quality performance standards	Vehicular spills along access road or within Project compounds	- Hydrocarbon pollution - Potential regulatory action from agencies - Financial penalties - Reputational impacts	3 - Moderate	3 - Possible	9 - Medium	- Water Management Plan - Surface Water Management Plan - Spill Response Procedure - Training of drivers and relevant personnel - Trigger Action Response Plan - Refuelling and washdown in designated areas	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation

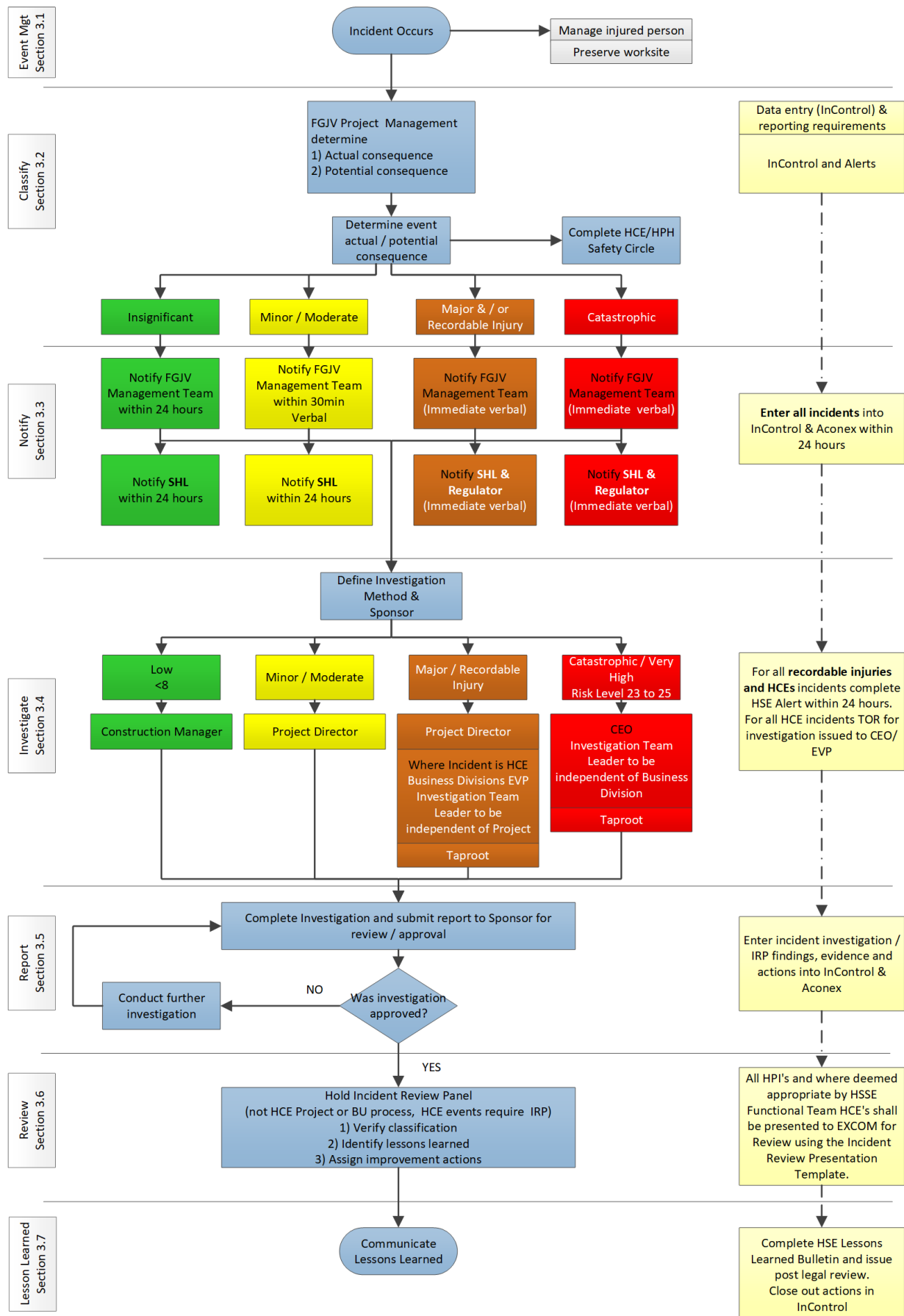
No	Activity	Environmental Aspect	Risk	Cause	Possible Outcome	Consequence	Likelihood	Initial Risk Rating	Risk Treatment(s)	Consequence	Likelihood	Residual Risk Rating	Risk Owner
20	Storage of hazardous materials	Surface water	Contamination of surface water, breach of EPL water quality performance standards	Spill of stored hazardous material escaping containment into waterways	<ul style="list-style-type: none"> - Hydrocarbon pollution - Potential regulatory action from agencies - Financial penalties - Reputational impacts 	4 - Major	3 - Possible	12 - High	<ul style="list-style-type: none"> - Water Management Plan - Surface Water Management Plan - Bunded areas for storage of fuels and oils - Spill Response Procedure - Provision of spill response kits - Trigger Action Response Plan 	4 - Major	2 - Unlikely	8 - Medium	Future Generation
21	Storage of hazardous materials	Groundwater	Contamination of groundwater	Spill or leaks of stored hazardous material dispersing into ground water	<ul style="list-style-type: none"> - Potential for irreparable damage to groundwater quality - Impact to groundwater dependent species or ecosystems - Damage to Karst features 	4 - Major	3 - Possible	12 - High	<ul style="list-style-type: none"> - Water Management Plan - Groundwater Management Plan - Groundwater Monitoring Program - Bunded areas for storage of fuels and oils - Spill Response Procedure - Provision of spill response kits - Trigger Action Response Plan 	4 - Major	2 - Unlikely	8 - Medium	Future Generation
22	Tunnel construction	Groundwater	Contamination of groundwater, ground water level depletion	Interception of groundwater during tunnelling activities provides interface for contamination of groundwater and/or reduction in groundwater levels	<ul style="list-style-type: none"> - Impact to groundwater levels beyond those assessed - Ecological impacts in dependent waterways and groundwater dependent ecosystems including karst features 	3 - Moderate	2 - Unlikely	6 - Medium	<ul style="list-style-type: none"> - Water Management plan - Groundwater Management Plan - Groundwater level and quality monitoring - Groundwater Dependent Ecosystem monitoring 	3 - Moderate	1 - Rare	3 - Low	Future Generation
23	Tunnelling and spoil emplacement	Contamination	Contamination of soils by NOA and acid-forming materials, spread of contamination across the site and surrounds, potential for significant health hazards caused by naturally occurring asbestos	Irresponsible management and movement of contaminated spoil	<ul style="list-style-type: none"> - Potential for significant health hazards - Long term contamination - Potential regulatory action from agencies - Financial penalties - Reputational impacts 	5 - Severe	4 - Likely	20 - Extreme	<ul style="list-style-type: none"> - Spoil Management Plan - Training for all contractors - Geotechnical investigations to aid in predicting NOA presence 	5 - Severe	2 - Unlikely	10 - Medium	Future Generation
24	Earthworks/ Roadworks	Landform	Loss and/or degradation of topsoils and subsoils	Exposed sediment carried into catchments and watercourses during rainfall events due to lack of controls or inadequately installed controls	<ul style="list-style-type: none"> - Adverse water quality impacts - Loss of amenity - Potential regulatory action from agencies 	4 - Major	3 - Possible	12 - High	<ul style="list-style-type: none"> - Water Management Plan - Surface Water Management Plan - Baseline water quality data - Surface Water Monitoring Program - Erosion and sediment control measures - Clean water diversions - Process and intercepted water management - Sediment basins and water treatment - Trigger Action Response Plan 	4 - Major	2 - Unlikely	8 - Medium	Future Generation
25	Clearing and earthworks	Landform	Loss of visual amenity	Earthworks, spoil emplacement and vegetation clearing not adequately remediated following completion of the project.	<ul style="list-style-type: none"> - Amenity impacts to KNP - Loss of amenity for KNP users - Impacts inconsistent with project approval - Reputational impacts 	3 - Moderate	3 - Possible	9 - Medium	<ul style="list-style-type: none"> - Minimise soil and vegetation clearance - Sensitive area plans / GIS mapping - Rehabilitation Management Plan 	3 - Moderate	2 - Unlikely	3 - Low	Future Generation
26	Clearing and earthworks	Landform	Loss of geodiversity features, fossils, boulder screes beyond those assessed in the project approval	Clearing outside the project footprint, plant operation and excavation outside project footprint	<ul style="list-style-type: none"> - Unapproved impacts beyond construction envelope - Loss of geodiversity values - Potential regulatory action from agencies - Reputational impacts 	3 - Moderate	3 - Possible	9 - Medium	<ul style="list-style-type: none"> - Sensitive area plans / GIS mapping - Heritage Management Plan identifies areas of conservation significance - Unexpected finds protocol 	3 - Moderate	2 - Unlikely	3 - Low	Future Generation
27	Spoil emplacement	Landform	Changes to landform and natural water flows	Earthworks, stockpiles, spoil emplacement and structures disrupting existing surface and groundwater regimes	<ul style="list-style-type: none"> - Groundwater level reduced - Surface water flows in waterways cease to flow - Unpredictable water quality impacts from changed water regime 	3 - Moderate	2 - Unlikely	6 - Medium	<ul style="list-style-type: none"> - Spoil Management Plans - Detailed plans for emplacement areas - Water Management Plan - Surface Water Management Plan 	3 - Moderate	1 - Rare	3 - Low	Future Generation
28	Earthworks, vegetation clearing, blasting, transport of plant	Heritage	Damage to heritage items, including culturally significant sites, artefacts and heritage values	Clearing outside the project footprint, plant operation and excavation outside project footprint, relocation of blasting not	<ul style="list-style-type: none"> - Unapproved impacts beyond project boundary - Potential regulatory action from agencies - Financial penalties - Reputational impacts 	3 - Moderate	3 - Possible	9 - Medium	<ul style="list-style-type: none"> - Sensitive area plans / GIS mapping - Heritage Management Plan identifies areas of conservation significance - archival recording and / or salvage of items carried out as required by the Approval 	3 - Moderate	2 - Unlikely	3 - Low	Future Generation

No	Activity	Environmental Aspect	Risk	Cause	Possible Outcome	Consequence	Likelihood	Initial Risk Rating	Risk Treatment(s)	Consequence	Likelihood	Residual Risk Rating	Risk Owner
				assessed for sensitive area/item impacts									
29	Actions of site personnel or members of public	Heritage	Theft of heritage items	Persons entering restricted areas unmonitored and using heritage documentation to locate items of interest	<ul style="list-style-type: none"> - Loss of items of cultural significance - Impacts to relationships with traditional owners - Potential regulatory impacts from agencies - Reputational impacts 	2 - Minor	3 - Possible	6 - Medium	<ul style="list-style-type: none"> - Heritage Management Plan - Archival recording and salvage - Exclusion zones and defined clearing limits 	2 - Minor	1 - Rare	2 - Low	Future Generation
30	Earthworks, vegetation clearing, blasting, transport of plant	Noise and vibration	Increased noise and vibration levels at sensitive receivers, particularly at Rock Forest	Noise levels from construction activates and transport of materials, equipment and personnel exceeds the levels assessed in the approval. Works change from those assessed. The project site is remote from sensitive receivers, noise impacts are more likely an issue at Rock Forest.	<ul style="list-style-type: none"> - Sleep disturbance at sensitive receiver locations - Decreased amenity for KNP users in the locality - Loss of support from local community 	3 - Moderate	3 - Possible	9 - Medium	<ul style="list-style-type: none"> - Construction Noise Management Plan - Traffic Management Plan 	3 - Moderate	1 - Rare	3 - Low	Future Generation
31	Earthworks, blasting, transport of plant	Noise and vibration	Vibratory impacts to heritage items, geodiversity and structures	Vibrations from plant operation, transport, and blasting impacts exceed those assessed and cause structural damage to sensitive items	<ul style="list-style-type: none"> - Loss of items of cultural significance - Impacts to relationships with traditional owners - Potential regulatory impacts from agencies 	2 - Minor	2 - Unlikely	4 - Low	<ul style="list-style-type: none"> - Heritage Management Plan - Archival recording and salvage - Exclusion zones and defined clearing limits 	2 - Minor	1 - Rare	2 - Low	Future Generation
32	Rock crushing/screening	Noise and vibration	Increased noise and vibration levels at sensitive receivers	Rock crushing and screening activities situated too close to sensitive receivers	<ul style="list-style-type: none"> - Sleep disturbance at sensitive receiver locations - Decreased amenity for KNP users in the locality - Loss of support from local community 	3 - Moderate	3 - Possible	9 - Medium	<ul style="list-style-type: none"> - Construction Noise Management Plan - Noise monitoring to evaluate impacts and establish additional mitigation where required 	3 - Moderate	1 - Rare	3 - Low	Future Generation
33	Rock crushing/screening	Air Quality	Increased dust emissions	Rock crushing and screening activities not implementing adequate dust suppression mitigation	<ul style="list-style-type: none"> - Excessive dust emission/deposition in surrounding environment - Air quality impacts exceed the approved project levels - Adverse biodiversity impacts 	3 - Moderate	4 - Likely	12 - High	<ul style="list-style-type: none"> - Dust suppression through use of water cart - Progressive stabilisation of the site 	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
34	Earthworks, blasting, transport of plant	Air Quality	Visible dust plumes and deposition of dust on surfaces	Blasting and plant movements cause dust particle to become airborne and carried in wind to other areas	<ul style="list-style-type: none"> - Excessive dust emission/deposition in surrounding environment - Air quality impacts exceed the approved project levels - Adverse biodiversity impacts 	3 - Moderate	4 - Likely	12 - High	<ul style="list-style-type: none"> - Dust suppression through use of water cart - Progressive stabilisation of the site 	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
35	Vegetation clearing, spoil emplacement	Air Quality	Visible dust plumes and deposition of dust on surfaces, impacts to amenity, Dust generation from exposing of topsoil and sub soil through vegetation removal,	Exposed sediment and stockpiled fines become airborne in strong winds and carried to other areas	<ul style="list-style-type: none"> - Excessive dust emission/deposition in surrounding environment - Air quality impacts exceed the approved project levels - Adverse biodiversity impacts 	3 - Moderate	4 - Likely	12 - High	<ul style="list-style-type: none"> - Dust suppression through use of water cart - Spoil Management Plan - Rehabilitation/stabilisation of cleared areas where possible 	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
36	Spoil management, tunnelling	Air Quality / Waste	Release of airborne fibres from disturbed Naturally Occurring Asbestos (NOA)	Excavated materials containing NOA are not appropriately identified and/or contained following excavation from tunnel	<ul style="list-style-type: none"> - Airborne contamination and deposition to surrounding areas - Potential for significant health hazards - Long term contamination - Potential regulatory action from agencies - Financial penalties - Reputational impacts 	5 - Severe	4 - Likely	20 - Extreme	<ul style="list-style-type: none"> - Spoil Management Plan - Geotechnical investigations to aid in predicting NOA presence 	5 - Severe	2 - Unlikely	10 - Medium	Future Generation

No	Activity	Environmental Aspect	Risk	Cause	Possible Outcome	Consequence	Likelihood	Initial Risk Rating	Risk Treatment(s)	Consequence	Likelihood	Residual Risk Rating	Risk Owner
37	Earthworks, roadworks	Waste	Excess use of natural resources and energy, production of greenhouse gases	Unnecessary operation/ idling of machinery and plant	- Excessive consumption of diesel and other resources - Unnecessary production of greenhouse gases	1 - Negligible	4 - Likely	4 - Low	- Training/instruction to machinery and plant operators to shut down equipment when not required	1 - Negligible	3 - Possible	3 - Low	Future Generation
38	Storage / disposal of hazardous materials	Waste	Contamination of soil and water, unlawful disposal of waste	Inadequate storage of hazardous materials, inadequate spill management practices, improper disposal practices	- Contamination of soil and water in sensitive environment - Potential regulatory action from agencies - Financial penalties - Loss of community support - Reputational impacts	4 - Major	3 - Possible	12 - High	- Surface Water Management Plan to address spills - Spill Management Procedure - Use of licensed disposal contractors for waste disposal which requires licensing - Appropriate bunded storage of hazardous materials	4 - Major	2 - Unlikely	8 - Medium	Future Generation
39	Operation of accommodation camp	Waste	Excess use of natural resources and energy	Inefficient use of resources within the accommodation camp	- Excessive use of water and electricity	2 - Minor	4 - Likely	8 - Medium	- Energy efficient design of site facilities - Water saving devices installed in camp facilities where possible	2 - Minor	2 - Unlikely	4 - Low	Future Generation
40	Operation of accommodation camp	Waste	Odour impacts, contamination of soil and water in sensitive environment, excess waste sent to landfill	Inadequate management of camp waste including sewerage and mixed waste	- Unlawful disposal of waste - Excess waste generation - Contamination of waste streams - Contamination of soil and water - Potential regulatory action from agencies	4 - Major	3 - Possible	12 - High	- Waste facilities available at the camps - Use of licensed waste disposal contractors - Waste tracking - Regular inspection of controls	4 - Major	2 - Unlikely	8 - Medium	Future Generation
41	Transport of materials, equipment and personnel	Waste	Unnecessary production of Greenhouse gases	Materials shipped from distant locations, excessive personal vehicle usage, repeated movements back and forth from site	- Unnecessary production of greenhouse gases - Impacts of the project exceed those assessed in the EIS	2 - Minor	5 - Almost Certain	10 - Medium	- Transport Management Plan implemented - Procurement of local materials to minimise shipping distances where possible - Communal transport to site for personnel (including buses and prohibition of personal vehicle use) where possible - Personnel to remain on site to reduce commute time and transport requirements	2 - Minor	2 - Unlikely	4 - Low	Future Generation
42	Vegetation Clearing	Waste	Excessive production of Greenhouse gases	Excessive clearing of vegetation resulting in increased greenhouse gas emission from released carbon storage in decomposing vegetation	- Unnecessary production of greenhouse gases - Impacts of the project exceed those assessed in the EIS	2 - Minor	3 - Possible	6 - Medium	- Exclusion fencing to identify areas not to be cleared	2 - Minor	1 - Rare	2 - Low	Future Generation
43	Hot works and plant operations	Emergency	Ignition of bushfire	Sparks from machinery or hot work activities ignites combustible vegetation and fire gets out of control	- Significant impact to KNP through bushfire - Potential destruction of project infrastructure and equipment - Potential for fatality/injury to personnel and members of the public - Damage to public property and adjacent properties - Loss of biodiversity - Project delays - Significant reputational impact - Potential regulatory actions from agencies - Financial penalties	5 - Severe	4 - Likely	20 - Extreme	- Natural Hazard Management Plan - Continuous monitoring of fire hazard throughout bushfire season - Suspension of fire risk work on days of elevated fire danger in accordance with the EMP - Fire preparedness mitigation measures implemented on fire danger days - Relevant personnel trained in rapid response to extinguish potential ignitions to prevent bushfire escalation - Provision of firefighting equipment throughout the project site	5 - Severe	3 - Possible	15 - High	Future Generation
44	Working in bushfire prone areas	Emergency	Damage to construction site and works by bushfire	Siting of infrastructure and personnel in bushfire prone areas without appropriate bushfire mitigation in place.	- Damage to construction site and works - Project delays - Safety impacts	3 - Moderate	4 - Likely	12 - High	- Pre-position firefighting equipment - Safety and emergency systems and procedures - Implement preparatory actions of Natural Hazard Management Plan	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
45	Earthworks	Emergency	Localised flooding within construction envelope	Alterations to existing hydrological regime through earthworks, blasting, basin construction, tunnelling and building construction beyond those assessed	- Localised flooding - Damage to project infrastructure - Project access/egress interrupted - Water quality impacts	3 - Moderate	2 - Unlikely	6 - Medium	- Consideration of hydrology throughout detailed design - Location of stockpiles and structures above flood zones where possible	3 - Moderate	1 - Rare	3 - Low	Future Generation

No	Activity	Environmental Aspect	Risk	Cause	Possible Outcome	Consequence	Likelihood	Initial Risk Rating	Risk Treatment(s)	Consequence	Likelihood	Residual Risk Rating	Risk Owner
46	Earthworks/ Roadworks	Traffic	Disturbance / traffic delays to local residents	Roadworks on local roads blocking or excessively delaying traffic movements and thoroughfare.	<ul style="list-style-type: none"> - Traffic delays on local and regional roads - Increased safety hazard - Adverse reputational impacts - Increased noise and air quality impacts 	3 - Moderate	4 - Likely	12 - High	<ul style="list-style-type: none"> - Transport Management Plan - Engagement with community to manage expectations 	3 - Moderate	3 - Possible	9 - Medium	Future Generation
47	Transport of materials, equipment and personnel	Traffic	Increased traffic volumes and congestion, increased road noise, degradation of roadways, traffic delays	Heavy and light vehicles moving in convoys through local towns to the project site.	<ul style="list-style-type: none"> - Traffic delays on local and regional roads - Increased safety hazard - Adverse reputational impacts - Increased noise and air quality impacts 	3 - Moderate	4 - Likely	12 - High	<ul style="list-style-type: none"> - Transport Management Plan - Manage timing of OSOM movements - Driver code of conduct - Engagement with community 	3 - Moderate	3 - Possible	9 - Medium	Future Generation
48	Construction activities	Socio economic and KNP	Loss of public facilities and KNP recreational facilities, loss of access of areas to KNP for public use.	Construction activities inhibiting public access to KNP and reservoir facilities including camping areas and boat ramps to reservoirs	<ul style="list-style-type: none"> - Loss of community support for the project 	3 - Moderate	3 - Possible	9 - Medium	<ul style="list-style-type: none"> - Clearly signposted signage indicated area closures and timeframes - Minimisation of project traffic movements during peak recreational periods 	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
49	Inflow of workforce to local area	Socio economic and KNP	Business impacts, increased housing demand	Workforce size relocating to local area	<ul style="list-style-type: none"> - Housing rental/purchase prices increase due to increased demand - Local services struggle to meet demands - Loss of community support for the project 	2 - Minor	3 - Possible	6 - Medium	<ul style="list-style-type: none"> - Establishment of Pacific Hills development to provide accommodation for workforce - Encourage personnel to purchase local produce and use local business to stimulate positive economic growth in the locality 	2 - Minor	2 - Unlikely	4 - Low	Future Generation
50	Working in bushfire prone areas	Emergency	Damage to construction site and works by bushfire	Siting of infrastructure and personnel in bushfire prone areas without appropriate bushfire mitigation in place.	<ul style="list-style-type: none"> - Damage to construction site and works - Project delays - Safety impacts 	3 - Moderate	4 - Likely	12 - High	<ul style="list-style-type: none"> - Pre-position firefighting equipment - Safety and emergency systems and procedures - Implement preparatory actions of Natural Hazard Management Plan 	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation

APPENDIX A5 – ENVIRONMENTAL INCIDENT PROCESS

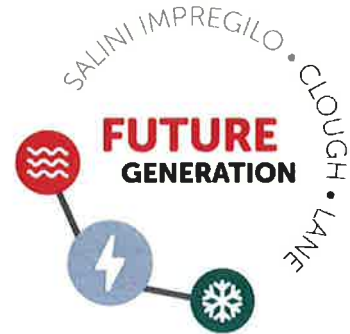


Scale	Definition	Description	Notification/Reporting process
Very High/ Catastrophic	<p>Potential prosecution</p> <p>Guiding factors that will be considered when determining whether there has been 'significant' environmental harm include:</p> <ul style="list-style-type: none"> When there has been actual or potential harm to the health or safety of people or to the environment that is not trivial Actions required to prevent, mitigate or make good the actual or potential environmental harm are likely to exceed \$10,000 	<p>Actual High category incidents will be escalated to the Executive when they have the potential for:</p> <ul style="list-style-type: none"> Regulatory action (e.g. EPA/DPIE Penalty Infringement Notice) and/or Reputational damage (e.g. media coverage) and/or Significant environmental harm. 	<ul style="list-style-type: none"> Incident occurs - construction team make safe and immediately notify supervisor and HSSE Team. Future Generation HSSE Manager/Environmental Manager notify Future Generation Project team, Snowy Hydro immediately Snowy Hydro to notify DPIE/EPA/NPWS immediately after becoming aware of the incident (DPIE and NPWS via the Major Projects Portal and EPA on pollution line 131 555) Future Generation Project Director/HSSE Manager notify Clough Business Division Team within 2 hours Future Generation HSSE project team enters incident report into InControl within 24 hours Future Generation HSSE team notifies Snowy Hydro via Aconex with incident report within 24 hours. Snowy Hydro to provide EPA/DPIE a written report within 7 days where required by the Infrastructure Approval or EPL. The report to DPIE is only required for non-compliances.
Major	<p>Potential breaches of legislation or failures of process that result in actual off-site environmental harm, or residual on-site environmental harm or</p> <p>Any Material Harm pollution incident as defined by Part 5.7 of the <i>Protection of the Environment Operations Act 1997</i> (POEO Act).</p>	<p><u>Pollution Incidents</u></p> <ul style="list-style-type: none"> Unlawful pollution, or potential pollution, of waters Unmanaged vehicle tracking of materials or emissions of dust, offensive odours or noise beyond the site boundary that are not managed in accordance with approval requirements Pollution incidents that threaten harm to the health or safety of people (e.g. uncontrolled releases of hazardous substances) Unauthorised or illegal disposal or transport of waste 	<ul style="list-style-type: none"> Incident occurs - construction team make safe and immediately notify supervisor and HSSE Team. Future Generation HSSE Manager/Environmental Manager notify Future Generation Project team, Snowy Hydro immediately Snowy Hydro to notify DPIE/NPWS/EPA immediately after becoming aware of the incident as required by the Infrastructure Approval or EPL (DPIE and NPWS via the Major Projects Portal and EPA on pollution line 131 555) Future Generation Project Director/HSSE Manager notify Clough Business Division Team within 4 hours

		<ul style="list-style-type: none"> A spill or other incident that causes pollution to land which results in actual off-site environmental harm or residual on-site environmental harm <p><u>Conservation Breaches</u></p> <ul style="list-style-type: none"> Unauthorised harm or damage to native flora and fauna (terrestrial or aquatic/marine) Unauthorised dredging or reclamation works within a watercourse <p><u>Heritage Breaches</u></p> <ul style="list-style-type: none"> Unauthorised harm to Aboriginal objects, Aboriginal places Unauthorised damage to any State or locally significant relic or Heritage item <p><u>Planning and Compliance Breaches</u></p> <p>Failure to comply with the requirements of:</p> <ul style="list-style-type: none"> The <i>Environmental Planning and Assessment Act 1997</i> (EP&A Act), including Conditions of Approval An <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) approval An EPL A CEMP A permit from a regulator NPWS Lease 	<ul style="list-style-type: none"> Future Generation HSSE project team enters incident report into InControl within 24 hours Future Generation HSSE team notifies Snowy Hydro via Aconex with incident report within 24 hours Snowy Hydro to provide EPA/DPIE a written report within 7 days where required by the Infrastructure Approval or EPL. The report to DPIE is only required for non-compliances.
Minor/ Moderate	Failures of process or events that do not result in off-site environmental harm, or residual on-site environmental harm. These incidents may result in temporary on-site environmental harm that can be rectified to pre-existing conditions.	<p>A procedural, administrative or technical breach of environmental requirements, including:</p> <ul style="list-style-type: none"> Failure to prepare or submit required documents, reports or other correspondence Failure to comply with the requirements of: <ul style="list-style-type: none"> The <i>Environmental Planning and Assessment Act 1997</i> (EP&A Act), conditions of approvals An <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) approval An EPL 	<ul style="list-style-type: none"> Incident occurs - construction team make safe and immediately notify supervisor and HSSE Team. Future Generation HSSE Manager/Environmental Manager notify Future Generation Project team, and Snowy Hydro Snowy Hydro to notify DPIE/NPWS/EPA (if required) Future Generation Project Director/HSSE Manager notify Clough Business Division Team within 12 hours

		<ul style="list-style-type: none"> – A management plan – A permit from a regulator – NPWS Lease 	<ul style="list-style-type: none"> • Future Generation HSSE project team enters incident report into InControl within 24 hours • Future Generation HSSE team notifies the Snowy Hydro via Aconex with incident report within 24 hours. • Snowy Hydro to provide EPA/DPIE a written report within 7 days where required by the Infrastructure Approval or EPL. The report to DPIE is only required for non-compliances.
Low/ Insignificant	Failures of process or events that do not result in off-site environmental harm, or residual on-site environmental harm. These incidents may result in temporary on-site environmental harm that can be rectified to pre-existing conditions.	<ul style="list-style-type: none"> • Spills and discharges that do not leave a site boundary and are cleaned up without residual on-site environmental harm, and the area of temporary impact can be restored to pre-existing conditions • Procedural, administrative or technical breach of environmental requirements, including: <ul style="list-style-type: none"> - Failure to prepare or submit required documents, reports or other correspondence - Failure to comply with the requirements of: <ul style="list-style-type: none"> ▪ Environmental work method statement ▪ An internal permit 	<ul style="list-style-type: none"> • Incident occurs - construction team make safe and immediately notify supervisor and HSSE Team. • Future Generation HSSE Manager/Environmental Manager notify Future Generation Project team, and Snowy Hydro within 24 hours • Future Generation HSSE project team enters incident report into InControl within 24 hours • Future Generation HSSE team notifies Snowy Hydro via Aconex with incident report within 24 hours.

APPENDIX A6 – PRE-CONSTRUCTION MINOR WORKS MANAGEMENT PLAN



S2-FGJV-ENV-PLN-0087

SNOWY 2.0 MAIN WORKS – PRE-CONSTRUCTION MINOR WORKS MANAGEMENT PLAN

Approval Record			
Document preparation, review and approval		Name in print	Signature
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Document Revision Table		
Rev.	Date	Description of modifications / revisions
A	25.05.2020	Revision A for Snowy Hydro review
B	5.06.2020	Revised for submission to DPIE
C	10.07.2020	Revised to address DPIE comments
D	19.07.2020	Revised to address DPIE verbal comments. Issued to SHL
E	25.07.2020	Revised to address SHL comments
F	27.07.2020	Revised to address SHL comments. For issue to DPIE
G	11.08.2020	Revised to address DPIE comments.

CONTENTS

ABBREVIATIONS AND DEFINITIONS	4
1. INTRODUCTION	5
1.1. Context	5
1.2. Environmental Management System	5
1.3. Purpose	5
2. ENVIRONMENTAL REQUIREMENTS	6
2.1. Conditions of Approval	6
2.2. Revised Environmental Management Measures	9
2.3. Licences and Permits	12
3. PROPOSED WORKS	13
3.1. Pre-construction minor works	13
4. ASPECTS, IMPACTS AND RISKS	15
4.1. Pre-Construction Activities	15
4.2. Environmental Risk Assessment	15
5. ENVIRONMENTAL MANAGEMENT	16
5.1. Biodiversity management	16
5.1.1. Pre-clearing and clearing	16
5.1.2. Weed Management	17
5.1.3. Unexpected Finds of Threatened Species	17
5.2. Soil and Water Management	17
5.3. Heritage	17
5.4. Traffic Management	19
5.5. Emergency Management	19
5.5.1. Spill Response and Management	20
5.6. Noise Management	20
5.7. Air Quality Management	20
5.8. Waste Management	20
6. COMPLIANCE MANAGEMENT	21
6.1. Monitoring	21
6.2. Inspections	21
6.3. Reporting	21
6.4. Incidents	21
ANNEXURE A – ENVIRONMENTAL MANAGEMENT MEASURES	22
ANNEXURE B – LOCATION OF PRE-CONSTRUCTION MINOR WORKS (Survey units and heritage sites)	27
ANNEXURE C – PRE-CLEARING AND CLEARING PROCEDURE	28
ANNEXURE D – PRIMARY TRANSPORT ROUTES	37
ANNEXURE E – SPILL RESPONSE PROCEDURE	39
ANNEXURE F – HYGIENE DECLARATION FORM	45

TABLE OF TABLES

Table 2-1: Conditions of approval relevant to pre-construction minor works	6
Table 2-2: Main Works revised environmental management measures relevant to pre-construction	10
Table 3-1 Main Works overview of pre-construction activities and methods	13
Table 4-1: Project aspects and impacts relevant to pre-construction minor works	15
Table 5-1: Aboriginal survey units requiring archival recording, research, salvage excavation and / or relocations	17
Table 5-2: Historic heritage items requiring archival recording, research, salvage excavation and / or relocations	18
Table 6-1: Inspection schedule.....	21
Table A-0-1: Pre-construction minor works – environmental management measures	23

ABBREVIATIONS AND DEFINITIONS

Acronym	Definition
AFL	Agreement for Lease
Contractor	Salini Impregilo, Clough and Lane have formed the Future Generation Joint Venture (Future Generation). Future Generation is the contractor who will be carrying out the Snowy 2.0 Main Works on behalf of Snowy Hydro Limited. References to the Contractor in this Environmental Management Strategy refers to Future Generation and includes all its sub-contractors.
Construction envelope	The envelope within which the disturbance area of the development may be located.
CSSI	Critical State significant infrastructure
DAWE	Department of Agriculture, Water and the Environment
Development	The development of the Exploratory Works and Main Works as modified by the conditions of this approval
Disturbance area	The area within the construction envelope where the development may be carried out.
DPIE or Department	NSW Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	NSW Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
Future Generation	Future Generation Joint Venture
Future Generation-PMS	Project Management System
GIS	Geographical Information Systems
KNP	Kosciuszko National Park
Main Works EIS	<i>Snowy 2.0 Main Works - Environmental Impact Statement</i>
NPWS	NSW National Parks and Wildlife Service
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Pre-construction MP	Pre-construction Minor Works Management Plan
Project, the	Snowy 2.0 Main Works
REMMs	Revised environment management measures
RTS or Submissions Report	<i>Snowy 2.0 Main Works – Preferred Infrastructure Report and Response to Submissions</i>
SHL or Snowy Hydro	Snowy Hydro Limited
Snowy 2.0	A pumped hydro-electric expansion of the Snowy Scheme that will link the two existing reservoirs of Tantangara and Talbingo through underground tunnels, and include a new underground power station with pumping capabilities

1. INTRODUCTION

1.1. Context

This Pre-Construction Minor Works Management Plan (Pre-construction MP or plan) forms part of the Environmental Management Strategy (EMS) for Snowy 2.0 Main Works (Main Works).

This Pre-construction MP is not required to be prepared by the Infrastructure Approval or *Main Works Snowy 2.0 - Environmental Impact Statement* (Main Works EIS). It has been prepared to assist with, and support, the environmental management of pre-construction minor works prior to approval of the environmental management plans required for construction.

1.2. Environmental Management System

The overall environmental management system for the project is described in the Environmental Management Strategy (EMS).

This Pre-construction Minor Works Management Plan forms part of Future Generation's environmental management framework and is an appendix to the EMS. The Pre-construction MP has been prepared for the Snowy 2.0 Main Works project.

1.3. Purpose

The purpose of this Pre-construction Minor Works Management Plan is to provide guidance on the environmental management measures which will be applied during pre-construction minor works.

This plan aims to transfer the relevant pre-construction environmental requirements of the approval documents into a management plan which can be applied during pre-construction activities. It is to be read in conjunction with the EMS and the Heritage Management Plan which will be approved for the pre-construction phase.

When the Snowy 2.0 Main Works management plans are approved for construction, all activities (including the pre-construction minor works) will be undertaken in accordance with those approved plans and this Pre-construction Minor Works Management Plan will no longer apply. The Pre-Construction Minor Works Management Plan will then be removed in any future revision of the EMS.

2. ENVIRONMENTAL REQUIREMENTS

2.1. Conditions of Approval

The conditions relevant to pre-construction minor works are presented in Table 2-1.

Table 2-1: Conditions of approval relevant to pre-construction minor works

Condition	Requirement	Where addressed												
Terms of Approval														
Schedule 2, condition 2	<p>The Proponent must carry out the development:</p> <p>(a) generally in accordance with the Exploratory Works and Main Works; and</p> <p>(b) in accordance with the conditions of this approval.</p> <p>Notes:</p> <ul style="list-style-type: none">The key documents for the Exploratory Works and Main Works are identified in the definitions of this approval.The general layout of the development is shown in Appendix 2.	Section 1.3 Section 2.1 Section 5												
Restrictions on disturbance Area and Native Vegetation Clearing														
Schedule 2, condition 5	<p>The Proponent must comply with the restrictions in Table 1 below.</p> <p>Table 1: Restrictions on Approval</p> <table><tr><th>Matter</th><th>Exploratory Works</th><th>Main Works</th><th>Total</th></tr><tr><td>Maximum Disturbance Area</td><td>126 ha</td><td>504 ha</td><td>630 ha</td></tr><tr><td>Maximum Native Vegetation Clearing</td><td>107 ha</td><td>425 ha</td><td>532 ha</td></tr></table> <p>Note: The areas in Table 1 relate to direct disturbance and clearing and do not include the indirect impacts of this disturbance and clearing.</p>	Matter	Exploratory Works	Main Works	Total	Maximum Disturbance Area	126 ha	504 ha	630 ha	Maximum Native Vegetation Clearing	107 ha	425 ha	532 ha	Section 5.1 Annexure A, Table A-1
Matter	Exploratory Works	Main Works	Total											
Maximum Disturbance Area	126 ha	504 ha	630 ha											
Maximum Native Vegetation Clearing	107 ha	425 ha	532 ha											
Operation of plant and Equipment														
Schedule 2, condition 13	<p>The Proponent must ensure that all plant and equipment used on site, or in connection with the development, is:</p> <p>(a) maintained in a proper and efficient condition;</p> <p>(b) operated in a proper and efficient manner; and</p> <p>(c) kept free of weeds, seeds and pathogens when entering or leaving the site.</p>	Section 5.4 Annexure A, Table A-1												
Water Supply														
Schedule 3, condition 28	<p>The Proponent must ensure it has sufficient water for each stage of the development; and if necessary, adjust the scale of development on site to match its available water supply.</p> <p>Note: Under the Water Management Act 2000, the Proponent must obtain the necessary water licences for the development.</p>	Section 5.2 Annexure A, Table A-1												
Water Pollution														
Schedule 3, condition 29	<p>Unless an environment protection licence authorises otherwise, the Proponent must comply with Section 120 of the POEO Act.</p> <p>Note: Section 120 of the POEO Act makes it an offence to pollute any waters.</p>	Section 5.2 Annexure A, Table A-1												
Protection of Heritage Items														
Schedule 3, condition 33	<p>The Proponent must ensure that the development does not affect:</p> <p>(a) any Aboriginal heritage items outside the construction envelope (see Appendix 3);</p> <p>(b) the rock shelter (AHIMS 57-4-276) to the west of the Tantangara site (see Appendix 3);</p>	Heritage Management Plan												

Condition	Requirement	Where addressed
	(c) any of the historic heritage items outside the construction envelope (see Appendix 3); (d) the heritage items listed in Table 4-2 and Table 4-4 in Appendix 4; and (e) the tufa deposits outside the construction envelope (see the figures in Appendix 3).	
Heritage Management Requirements		
Schedule 3, condition 34	The Proponent must: (a) undertake archival recording, test excavation and/or salvage of the Aboriginal heritage items listed in Table 4-3 in Appendix 4 if these items will be affected by the development; (b) undertake archival recording, test excavation and/or salvage of the historic items listed in Table 4-1 in Appendix 4 if these items are to be affected by the development; (c) prepare a detailed archival record of the history of settlement and mining in the Lobs Hole Ravine area; and (d) minimise the impacts of the development on the boulder streams and fossiliferous beds along Lobs Hole Ravine Road (see the figures in Appendix 3).	Heritage Management Plan
Heritage Management Plan		
Schedule 3, condition 35	Prior to carrying out any development for the Main Works that could affect the heritage items listed in Appendix 3 and 4, the Proponent must prepare a Heritage Management Plan for the development to the satisfaction of the Planning Secretary. This plan must: (a) be prepared by a suitably qualified and experienced person in consultation with the NPWS, BCD, Heritage Council, RAPs, Yala Ngurumbang Yindyamarra Executive Advisory Committee and Southern Snowy Mountains Aboriginal Community MOU Group; (b) describe the measures that would be implemented to: <ul style="list-style-type: none"> protect the heritage items identified in condition 33 above; comply with the heritage management requirements in condition 34 above, including the display of removable heritage items in consultation with the NPWS and BCD; relocate moveable historic heritage items within the disturbance area; manage the discovery of human remains or previously unidentified heritage items; provide for ongoing consultation with key stakeholders during the implementation of the plan; involve key stakeholders in the management of heritage items on site; allow Aboriginal stakeholders to visit significant cultural heritage sites on site, provided this can be carried out safely without compromising the construction of the development; and ensure workers receive suitable training and inductions on the heritage management requirements on site; (c) include a program to monitor and report on the effectiveness of these measures; and (d) include a program to publish: <ul style="list-style-type: none"> any detailed archival records required under the conditions of this approval; and the findings of any excavations and salvage works. 	Heritage Management Plan
Vehicle Restrictions		
Schedule 3, condition 43	All heavy vehicles associated with the development must travel to and from the site via the: (a) Snowy Mountains Highway, Miles Franklin Drive and Spillway Road;	Section 5.4 Annexure A, Table A-1

Condition	Requirement	Where addressed
	(b) Snowy Mountains Highway, Link Road and Lobs Hole Ravine Road; (c) Snowy Mountains Highway, Coppermine Trail and Wallaces Creek Trail; (d) Snowy Mountains Highway, Marica Trail; (e) Snowy Mountains Highway, Tantangara Road and Quarry Trail; or (f) Elliott Way and Link Road (but only following the written approval of the Planning Secretary). <i>Note: The Proponent must obtain permits under the Heavy Vehicle National Law (NSW) for the use of any OSOM vehicles on the public road network</i>	
Schedule 3, condition 44	The Proponent must: (a) restrict vehicle speeds on the road network within the site to 30 km/h between sunset and sunrise, unless the Planning Secretary agrees otherwise; (b) restrict the use of Lobs Hole Ravine Road – North to: <ul style="list-style-type: none"> access to and from the site during emergencies; light vehicles at all other times with: <ul style="list-style-type: none"> a maximum of 120 vehicle movements allowed a day (60 each way); and an annual average maximum of 60 vehicle movements allowed a day (30 each way); and (c) restrict vessel speeds on Tantangara Reservoir and Talbingo Reservoir to current TfNSW speed limits.	Section 5.4 Annexure A, Table A-1
Waste		
Schedule 3, condition 52	Excluding the spoil generated by the development, the Proponent must: (a) minimise the waste generated by the development; (b) maximise the reuse and recycling of any waste; (c) classify all waste generated on site in accordance with the <i>Waste Classification Guidelines</i> (NSW EPA 2014), or its latest version; (d) store and handle all waste generated on site in accordance with its classification; and (e) ensure all waste is disposed of off-site at facilities that are lawfully permitted to accept such waste.	Section 5.8 Annexure A, Table A-1
Minimise Noise		
Schedule 3, condition 56	The Proponent must minimise the noise generated by the construction, operation, and decommissioning of the development.	Section 5.6 Annexure A, Table A-1
Air		
Schedule 3, condition 59	The Proponent must: (a) minimise the dust, odour, fume, and blast emissions of the development; and (b) minimise the surface disturbance of the site.	Section 5.7 Annexure A, Table A-1
Environmental Management Strategy		
Schedule 4, condition 1	Prior to the commencement of the development of the Main Works, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must: (a) provide the strategic framework for the environmental management of the development; (b) identify the statutory approvals that apply to the development; (c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development; and (d) describe the procedures that would be implemented to:	EMS

Condition	Requirement	Where addressed
	<ul style="list-style-type: none"> keep the local community and relevant agencies informed about the progress of the development; receive, handle, respond to, and record complaints; resolve any disputes that may arise during the development; respond to incidents and/or non-compliances; and respond to any emergency. 	
Schedule 4, condition 2	The Proponent must implement the approved Environmental Management Strategy.	EMS
Notification of Dates		
Schedule 4, condition 6	<p>At least 1 week prior to the relevant notification date, the Proponent must notify the Department, NPWS and NSW DPI via the Major Projects Portal of the date of the:</p> <ul style="list-style-type: none"> (a) commencement of the development of the Main Works; (b) commencement of development on the following sites under this approval: <ul style="list-style-type: none"> Marica site; Plateau site; Tantangara site; and Rock Forest site; (c) commencement and completion of the required road upgrades; (d) commencement and completion of construction; (e) commencement of commissioning and testing the power station; (f) completion of the initial rehabilitation of the site following construction; (g) completion of the ecological rehabilitation of the site, apart from the areas used for operations; (h) commencement and completion of operations; (i) commencement of decommissioning the development; (j) completion of the final rehabilitation of the site; and (k) completion of the ecological rehabilitation of the areas used for operations. 	Annexure A, Table A-1
Incident Reporting		
Schedule 4, condition 6	The Proponent must notify the Department and NPWS via the Major Projects Portal immediately after it becomes aware of an incident on site. This notice must set out the location and nature of the incident.	Section 6.4
Reporting Non-compliances		
Schedule 4, condition 7	Within 7 days of becoming aware of any non-compliance with the conditions of this approval, the Proponent must notify the Department via the Major Projects portal of the non-compliance. This notice must set out the non-compliance, the reasons for the non-compliance (if known) and what actions have been taken, or will be taken, to address the non-compliance.	Section 6.3

2.2. Revised Environmental Management Measures

Environmental safeguards and management measures are included in the Main Works EIS in Appendix G. During preparation of the Submissions Report, REMMs were developed and included in Appendix C of the Submissions Report. A tracked change version of the REMMs was provided in the Additional Information provided to the Department on 24 March 2020 (*Snowy 2.0 Main Works – Preferred Infrastructure Report – Response to request*).

The Main Works REMMs relevant to pre-construction minor works are listed within Table 2-2.

Table 2-2: Main Works revised environmental management measures relevant to pre-construction

Impact	Reference	Revised Environmental Management Measures	Timing in RTS	Where addressed
Assessment of surface disturbance and excavation areas	CONTAM01	Targeted investigations will be undertaken prior to construction along the surface disturbance areas using a risk-based approach. The results of these targeted investigations will determine the level of management to be implemented.	Pre-construction	Any required investigations would occur as part of the works undertaken for the construction phase.
PAF rock	CONTAM07	An Excavated Rock Management Plan would be developed which would include measures identified in the Preliminary Site Investigation – Contamination (Table 9.1, Item 4 of Appendix N.1).	Pre-construction	The timing of this plan has been superseded by the Infrastructure Approval which requires the Spoil Management Plan to be prepared prior to construction.
Geodiversity – Kellys Plain Volcanics agglomeratic porphyry	GE05	Identify outcrops of agglomeratic porphyry prior to construction at Tantangara portal. Excavated rock placement should leave some of the best examples of the agglomeratic porphyry uncovered where reasonable and feasible to do so	Pre-construction, construction and operation	Heritage Management Plan
Impact to known and unknown heritage sites and items	HER01	An Aboriginal Heritage Management Plan (AHMP) will be prepared and implemented to guide the process for management and mitigation of impacts to Aboriginal objects. The AHMP will: <ul style="list-style-type: none"> • be prepared in consultation with RAPs and DPIE; • describe survey units in which impacts are allowable; and • include procedures relating to the conduct of additional archaeological assessment, if required. 	Pre-construction and construction	Heritage Management Plan
Loss of Aboriginal cultural heritage	HER02	Specific management and mitigation measures are listed for each individual survey unit and Aboriginal object locale in Appendix P.1 and will be included in the AHMP or salvage strategy. Management measures to be included are: <ul style="list-style-type: none"> • for survey units within the project disturbance footprint which are assessed to be of higher significance values, impact mitigation measures will be implemented. These would comprise salvage in the form of archaeological excavation and archaeological analysis prior to impacts. Salvage will be undertaken prior to impacts occurring to the relevant item and will be documented in a separate report; and • the AHMP is to include measures for the management of any Aboriginal objects that may be found during construction. • Areas within the project disturbance footprint that warrant further field assessment will be managed under the AHMP or salvage strategy after project approval. These areas are documented in the heritage addendum report (Appendix N). 	Pre-construction and construction	Heritage Management Plan

Impact	Reference	Revised Environmental Management Measures	Timing in RTS	Where addressed
Loss of historic heritage	HER03	Salvage and/or archival recording of potential and known heritage items to be conducted in respect of certain items that warrant that level of impact mitigation.	Pre-construction and construction	Heritage Management Plan
	HER04	<p>Specific management and mitigation measures are listed for each individual heritage item in Appendix P.2 and will be included in a cultural heritage management plan (CHMP). A series of management recommendations will be presented. In some instances, no impact mitigation is required. For others a range of measures are recommended ranging the establishment of no-zones to ensure the protection of items, salvage of movable heritage to salvage excavation and archival recording. Salvage will be undertaken prior to impacts occurring and will be documented in a separate report.</p> <p>Appropriate avoidance measures will be taken for Washington Hotel (site R20) and Ravine Cemetery (R118).</p> <p>A minimum 20 m project construction avoidance buffer will be applied to the Washington Hotel (site R20) structure.</p> <p>No ground disturbance will occur within the cadastral boundary of Ravine Cemetery as shown on Figure 6.20 in the EIS. Some non-ground invasive vegetation clearance will be required at the western and northern boundaries of the cadastral boundary of Ravine Cemetery (refer to bush fire risk and hazard assessment, Appendix T).</p> <p>Areas within the project disturbance footprint that warrant further field assessment will be managed under the HHMP or salvage strategy after project approval. These areas are documented in the heritage addendum report (Appendix N)</p>	Pre-construction and construction	Heritage Management Plan
Community consultation	TRA06	Affected communities, visitors and emergency services will be notified in advance of any disruptions to traffic and restriction of access to areas of KNP impacted by project activities.	Pre-construction, construction and operation	Section 5.4 Annexure A, Table A-1
Construction traffic management	TRA07	A Construction Traffic Management Plan will be prepared and will include guidelines, general requirements and procedures to be used when construction activities have a potential impact on existing traffic arrangements.	Pre-construction	The timing of this plan has been superseded by the Infrastructure Approval which requires the Transport Management Plan to be prepared prior to construction.
Exceedance of day and night- time criteria at assessment location: R6	NV02	Affected landholders should be consulted prior to and during construction and should be notified of proposed mitigation measures that will be used to manage construction noise levels to below Interim Construction Noise Guideline (EPA 2009) NMLs where practicable.	Pre-construction and construction	Section 5.6 Annexure A, Table A-1

Impact	Reference	Revised Environmental Management Measures	Timing in RTS	Where addressed
Emergency management and response	HAZ08	<p>A Bushfire Emergency Management Plan is prepared for the project area and includes responsibilities associated with and details of:</p> <ul style="list-style-type: none"> • site specific hazards and risk at each Snowy 2.0 Main Works site; • procedures to maintain bushfire awareness; • bushfire mitigation measures; • fire preparedness actions; • fire response actions including responses to Emergency Alerts issued by emergency services; and bushfire recovery requirements. 	Pre-construction	The timing of this plan has been superseded by the Infrastructure Approval which requires the Natural Hazard Management Plan to be prepared prior to construction.
Exceedances of air quality criteria for PM10 and PM2.5	AQ1	<p>Management of Air Quality in the vicinity of the Lobs Hole and Tantangara accommodation camps to ensure compliance with PM10 and PM2.5 criteria. Management measures will be developed as part of the Air Quality Management Plan prior to commencement of construction and may include:</p> <ul style="list-style-type: none"> • Targeted watering of unpaved roads in the vicinity of the accommodation camps; • Installation of appropriate Air Quality monitoring equipment at both accommodation camps; • Development of concentration triggers to alert construction personnel when dust concentrations could result in an exceedance of criteria; • Development of management response measures to be implemented in the event of alarms 	Pre-construction and construction	Section 5.7 Annexure A, Table A-1

2.3. Licences and Permits

Environment Protection Licence (EPL) 21266 has been issued for the project for the scheduled activity of extractive activities. The EPL details conditions which must be complied with when undertaking the extractive activities works.

The premises boundary for the Exploratory Works EPL will be expanded to encompass both Exploratory Works and Main Works activities and the governing scheduled activity for Main Works will be electricity generation. Snowy Hydro has liaised with EPA in relation to the application of the EPL. EPA have advised that the existing EPL is to be varied prior to construction.

A Construction Lease and Works Access Licence is required to be established with NPWS in order to carry out the relevant Snowy 2.0 Main Works.

3. PROPOSED WORKS

3.1. Pre-construction minor works

In accordance CSSI 9687 Infrastructure Approval, pre-construction minor works will occur prior to construction and will include the following:

- building/road dilapidation studies;
- survey works;
- installation of environmental impact mitigation measures, including the installation of monitoring equipment, erosion and sediment controls, and fencing provided that there is no clearing;
- archaeological investigation works (archival recording, archival research, salvage excavation or item relocation);
- minor clearing (ie slashing, lopping or pruning of vegetation) for the purpose of archival recording, archival research, salvage excavation or item relocation only.

Pre-construction minor works will commence following approval of the Environmental Management Strategy and Heritage Management Plan as permitted by the Infrastructure Approval.

The areas of minor clearing (ie slashing, lopping or pruning) for the pre-construction minor works are indicated in Annexure B. Works which do not result in disturbance and which do not require minor clearing (such as the road dilapidation studies), will occur outside of these locations.

Chapter 2, Section 2.3 of the Snowy 2.0 Main Works EIS provided an overview of the pre-construction activities and methods.

This is summarised with the pre-construction list in the Infrastructure Approval.

Details of the proposed pre-construction minor works for the project are detailed below in Table 3-1.

Table 3-1 Main Works overview of pre-construction activities and methods

Component	Area	Typical Activities	Disturbance area
Building/road dilapidation studies	All Relevant Public Roads	<ul style="list-style-type: none"> • Identify buildings and/or roads to be subject to dilapidation studies • Carry out dilapidation surveys and report • Execute relevant recommendations of dilapidation studies • No minor clearing or clearing at all is to occur 	No disturbance therefore 0 Ha
Survey works	All	<ul style="list-style-type: none"> • Carry out ecological surveys in accordance with requirements of the Biodiversity Development Assessment Report (BDAR) or Pre-clearing and Clearing Procedure (Annexure C) • Site boundary delineation and establishment of survey control network • All sites will be surveyed and clearly marked • No minor clearing or clearing at all is to occur 	No disturbance therefore 0 Ha
Installation of environmental impact mitigation measures, including the installation of monitoring equipment, erosion	All	<ul style="list-style-type: none"> • Establish committed environmental management, monitoring and management measures • Delineation of no-go zones or the disturbance area boundary with fencing (such as flagging) • Erosion and sediment control measures will be installed on site including silt fences, bunds, coir logs, mulch and sediment traps. 	No disturbance therefore 0 Ha

Component	Area	Typical Activities	Disturbance area
and sediment controls, and fencing		<ul style="list-style-type: none"> No minor clearing or clearing at all is to occur. 	
Archaeological salvage, test excavations and investigation works	All	<ul style="list-style-type: none"> Carry out archival recording, archival research, salvage excavation or relocation as detailed within the Snowy 2.0 Main Works Heritage Management Plan. Minor clearing which includes slashing, lopping or pruning only is proposed. The minor clearing will only occur at the locations identified in Annexure B. Access to sites will occur only through existing disturbed areas or access tracks. There will be no minor clearing or clearing at all for access to the sites. 	Total disturbance area is 0.25 Ha

4. ASPECTS, IMPACTS AND RISKS

4.1. Pre-Construction Activities

An environmental aspect is an element of an organisation's activities, products, or services that has or may have an impact on the environment (ISO 14001 Environmental management systems). The relationship of aspects and impacts is one of cause and effect.

Key aspects of the project that may result in impacts due to pre-construction minor works are identified in Table 4-1. The extent of these impacts will depend on the nature, extent and magnitude of activities and their interaction with the natural environment (Column 2). This is further exacerbated by environmental factors (Column 3):

The aspects and impacts relevant to the proposed activities are summarised in Table 4-1.

Table 4-1: Project aspects and impacts relevant to pre-construction minor works

Environmental Aspects (Pre-construction minor works that may impact the existing environment)	Environmental Impacts	Environmental Factors (Conditions)
<ul style="list-style-type: none"> • Building / road dilapidation studies • Survey works (ecological surveys or survey works) (no clearing) • Environmental mitigation measures (no clearing) • Installation of erosion and sediment controls (no clearing) • Fencing (no clearing) • Archival recordings, archival research, salvage excavation or relocation (minor clearing through slashing, lopping or pruning) 	<ul style="list-style-type: none"> • Minor vegetation clearing and removal • Minor traffic impacts due to vehicles used for pre-construction minor works • Minor noise and vibration impacts • Minor air quality impacts 	<ul style="list-style-type: none"> • Extent of vegetation cover – vegetation assists in stabilising soils and reduces the ability for dust erosion to occur. • Soil type – more erodible soil types have an increased soil or dust erosion potential. • Rainfall or dew – rainfall or heavy dew that wets the surface of the soil and reduces the risk of dust generation. • Wind direction and speed – determines whether dust and suspended particles are transported in the direction of the sensitive receivers.

4.2. Environmental Risk Assessment

The environmental aspects and impacts are further considered within Appendix A3 of the EMS. This includes a risk assessment process. The risk assessment is based on (1) the likelihood of an impact occurring as a result of the aspect; and (2) the consequences of the impact if the event occurred.

5. ENVIRONMENTAL MANAGEMENT

Pre-construction minor works will commence following approval of the Environmental Management Strategy and Heritage Management Plan as permitted by the Infrastructure Approval. This is detailed within the EMS in Section 4.

The Heritage Management Plan has been prepared for the development phase, to address the requirements of the Infrastructure Approval, and to ensure that the requirements relevant to heritage salvage and recording can be appropriately managed. Along with the Environmental Management Strategy, the Heritage Management Plan will be prepared to the satisfaction of the Planning Secretary.

For the remaining environmental aspects, this section (Section 5) and Annexure A includes detail on the environmental management measures which will be implemented during the pre-construction minor works.

5.1. Biodiversity management

Biodiversity management is an important component of pre-construction minor works. Ecological surveys will be undertaken as part of preconstruction works.

Minor clearing is proposed only to enable archival recording, archival research, salvage excavation or relocation of heritage items. Minor clearing would include slashing, lopping and pruning only at the locations identified in Annexure B.

5.1.1. Pre-clearing and clearing

Minor clearing will be undertaken in accordance with the Pre-clearing and Clearing Procedure included in Annexure C of this plan. The minor clearing would only be for the purpose of archival recording, archival research, salvage excavation or relocation of heritage items at the locations identified within Annexure B.

The project ecologist will inspect any proposed areas of minor clearing and will inspect for the following:

- the location of habitat features;
- the location of nearby habitat suitable for relocation of fauna encountered;
- presence and / or location of any weeds;
- presence and locations of any threatened flora and fauna.

A two staged clearing process will be implemented where habitat features are identified by the ecologist. There will be no clearing of habitat trees. Any two-stage clearing that is required to occur, would relate to habitat features (ie if a burrow is located in the ground where slashing needs to occur).

Prior to commencing minor clearing (ie pruning, lopping or slashing) the Environmental Manager (or their delegate) must approve the Clearing Permit/Land Disturbance Permit.

No minor clearing or clearing outside of the approved disturbance area is to be undertaken without approval of the Environmental Manager and no minor clearing or clearing outside of the construction envelope is to occur.

The total area of clearing will be tracked and managed in a project wide clearing register to comply with the limits set within condition 5 of schedule 2 of the Infrastructure Approval.

5.1.2. Weed Management

Plant and equipment will be inspected for vegetative material and weed seeds prior to entering the Kosciuszko National Park and will complete the Hygiene Declaration Form in Annexure F.

5.1.3. Unexpected Finds of Threatened Species

If any threatened species or threatened ecological community is unexpectedly encountered during construction activities, the Unexpected Threatened Species Finds Procedure will be followed.

These measures are included within Annexure A – Environmental management measures.

5.2. Soil and Water Management

It is unlikely that erosion and sediment control measures will require installation as there are no pre-construction minor works proposed which will result in disturbance. In the event that erosion or sediment control is required (ie a coir log requires installation), the erosion and sediment control measures will be installed in accordance with the Blue Book.

In accordance with condition 28 of Schedule 3, Future Generation will ensure that sufficient water is available for the pre-construction minor works.

These measures are included within Annexure A – Environmental management measures.

5.3. Heritage

The only heritage measures proposed for pre-construction minor works are archival recording, archival research, salvage excavation or relocation of heritage items (where required). Table 5-1 and Table 5-2 and Annexure B detail the survey units and items which are to be managed during pre-construction minor works.

Only minor clearing will occur at these sites (eg slashing, lopping or pruning) where required. The total area of minor clearing is less than 0.25 Ha and is located within the disturbance area.

Delineation of no-go zones may also occur where this activity does not result in clearing. This may include the establishment of no-go zones around any retained heritage items or items which are yet to be salvaged or recorded.

All archival recording, reporting, salvage excavation or relocation of Aboriginal and historic and natural heritage will be undertaken in accordance with the Heritage Management Plan.

The Heritage Management Plan is required to be prepared and approved prior to development, therefore the plan will be in place for pre-construction minor works.

Any unexpected Aboriginal heritage or potential heritage finds uncovered during works will be managed in accordance with the Unexpected Finds Procedure included within the Heritage Management Plan (S2-FGJV-ENV-PLN-0014).

These measures are included within Annexure A – Environmental management measures.

Table 5-1: Aboriginal survey units requiring archival recording, research, salvage excavation and / or relocations

Locale	Aboriginal survey unit for preconstruction
Lobs Hole	RSU2
Lobs Hole	RSU5
Lobs Hole	RSU12
Lobs Hole	RSU29 - One artefact to be salvaged

Locale	Aboriginal survey unit for preconstruction
Tantangara	TSU2
Tantangara	TSU3
Tantangara	TSU4

Table 5-2: Historic heritage items requiring archival recording, research, salvage excavation and / or relocations

Locale	Historic Item for preconstruction
Nungar Creek Trail	NCTSU16/H2
Nungar Creek Trail	NCTSU23/H1
Nungar Creek Trail	NCTSU23/H2
Nungar Creek Trail	NCTSU23/H3
Nungar Creek Trail	NCTSU23/H5
Nungar Creek Trail	NCTSU23/H6
Nungar Creek Trail	NCTSU23/H7
Nungar Creek Trail	NCTSU24/H1
Nungar Creek Trail	NCTSU37/H1
Tantangara	TSU14/H3
Tantangara	E2
Tantangara	E9
Tantangara	E11
Tantangara	E13
Tantangara	E10
Tantangara	E12
Tantangara	TSU14/H2
Tantangara	Quarry
Tantangara	Weather Station
Tantangara	Tantangara Dam
Tantangara	Tantangara Dam House
Nungar FT	NSU3/H2
Nungar FT	NSU/H1
Marica	MSU4/H1
Marica	MSU1/H5
Gooandra Trail	GSU22/H2
Gooandra Trail	GSU4/H2
Gooandra Trail	GSU7/H6
Gooandra Trail	GSU7/H8
Gooandra Trail	GSU22/H1
Gooandra Trail	GSU6M

Locale	Historic Item for preconstruction
Gooandra Trail	GSU1/H3
Gooandra Trail	GSU9/H1
Gooandra Trail	GSU15/H1
Gooandra Trail	GSU15/H2
Gooandra Trail	GSU15/H3
Gooandra Trail	GSU15/H5
Gooandra Trail	GSU16/H1
Gooandra Trail	GSU21/H2
Gooandra Trail	GSU22/H2
Gooandra Trail	GSU3/H1
Link Road	LSU5/H2
Link Road	NC20
Link Road	NC1
Link Road	NC3
Lobs Hole	R9
Lobs Hole	R57
Lobs Hole	R64
Lobs Hole	R106
Lobs Hole	R108
Rock Forest	CCSU3/H1
Rock Forest	CCSU1/H4
Rock Forest	CCSU1/H5

5.4. Traffic Management

Affected communities, visitors and emergency services will be notified in advance of any disruptions to traffic and restriction of access to areas of Kosciuszko National Park impacted by project activities.

The tracking of mud onto public sealed roads due to these vehicles is considered to be unlikely, however in the event that it may occur the following management measures will be implemented:

- adhering to weekly site inspections to monitor the condition of public sealed roads; and
- where necessary public sealed roads will be maintained with sweepers.

All plant and equipment used on site, or in connection with the project will complete the Vehicle and Plant Hygiene declaration be maintained in a proper condition and kept free of weeds, seeds and pathogens when entering or leaving the site.

These measures are included within Annexure A – Environmental management measures.

5.5. Emergency Management

The Future Generation Emergency Response Plan will be implemented during pre-construction minor works in the case of an emergency.

5.5.1. Spill Response and Management

Spill response kits must be readily available during pre-construction minor works. The locations and quantities of spill response kit will be regularly inspected and displayed on Sensitive Area Plans or displayed on project noticeboards.

All spills must be reported to a member of the Environment Team. All materials used in the clean-up of spills must be disposed of in accordance with the waste classification which occurs and disposed of at a facility licensed to accept such waste.

Appropriate training in spill response will be provide to site personnel.

These measures are included within Annexure A – Environmental management measures.

5.6. Noise Management

Activities on the project will be undertaken 24 hours per day 7 days per week. All pre-construction minor works will be undertaken within the construction envelope and therefore in locations where noise impacts will be minimal.

Affected landholders will be consulted prior to and during construction and will be notified of proposed mitigation measures that will be used to manage construction noise levels to below Interim Construction Noise Guideline (EPA 2009) NMLs where practicable.

Where pre-construction noise affects landholders, landholders will be notified prior to the commencement of the pre-construction minor works.

These measures are included within Annexure A – Environmental management measures.

5.7. Air Quality Management

Measures will be implemented to minimise air quality impacts from the pre-construction minor works.

Where applicable, measures will include but not limited to measures to minimise dust, soil or mud from being deposited from vehicles onto sealed public roads such as the use of street sweepers.

These measures are included within Annexure A – Environmental management measures.

5.8. Waste Management

The NSW Governments Waste Management Hierarchy of “avoid-reduce-reuse-recycle-dispose” will be followed as the framework of waste management throughout the project.

The reuse and/or recycling of waste materials generated on site shall be maximised as far as practicable, to minimise the need for treatment or disposal of those materials offsite.

Wastes that are unable to be reused or recycled will be disposed of offsite at a licensed waste management facility, or premises lawfully permitted to accept the materials following classification.

All food waste and any other waste likely to attract vermin must be disposed of in vermin/feral animal proof bins with lids.

There will be no burning-off of waste.

These measures are included within Annexure A – Environmental management measures.

6. COMPLIANCE MANAGEMENT

6.1. Monitoring

Monitoring, inspection, auditing and reporting shall be undertaken in accordance with the frequencies outlined in the Environmental Management Strategy. Inspection, monitoring and auditing records will be maintained electronically and be made available for auditing purposes as required.

6.2. Inspections

Inspections of the project will be undertaken in accordance with the EMS and Table 6-1.

Table 6-1: Inspection schedule

Activity	Frequency	Responsibility	Record
Environmental site Inspection	Weekly	Future Generation Environmental Manager or nominated representative	Site inspection checklist
Pre-clearing inspection	Prior to minor clearing	Ecologist / Environment Manager or delegate	Up to 24-hours prior to minor clearing

6.3. Reporting

Reporting requirements and responsibilities are documented in the Section 8.4 of the EMS.

6.4. Incidents

Incident management and response will be undertaken in accordance with Section 7 of the EMS.

ANNEXURE A – ENVIRONMENTAL MANAGEMENT MEASURES

Table A-0-1: Pre-construction minor works – environmental management measures

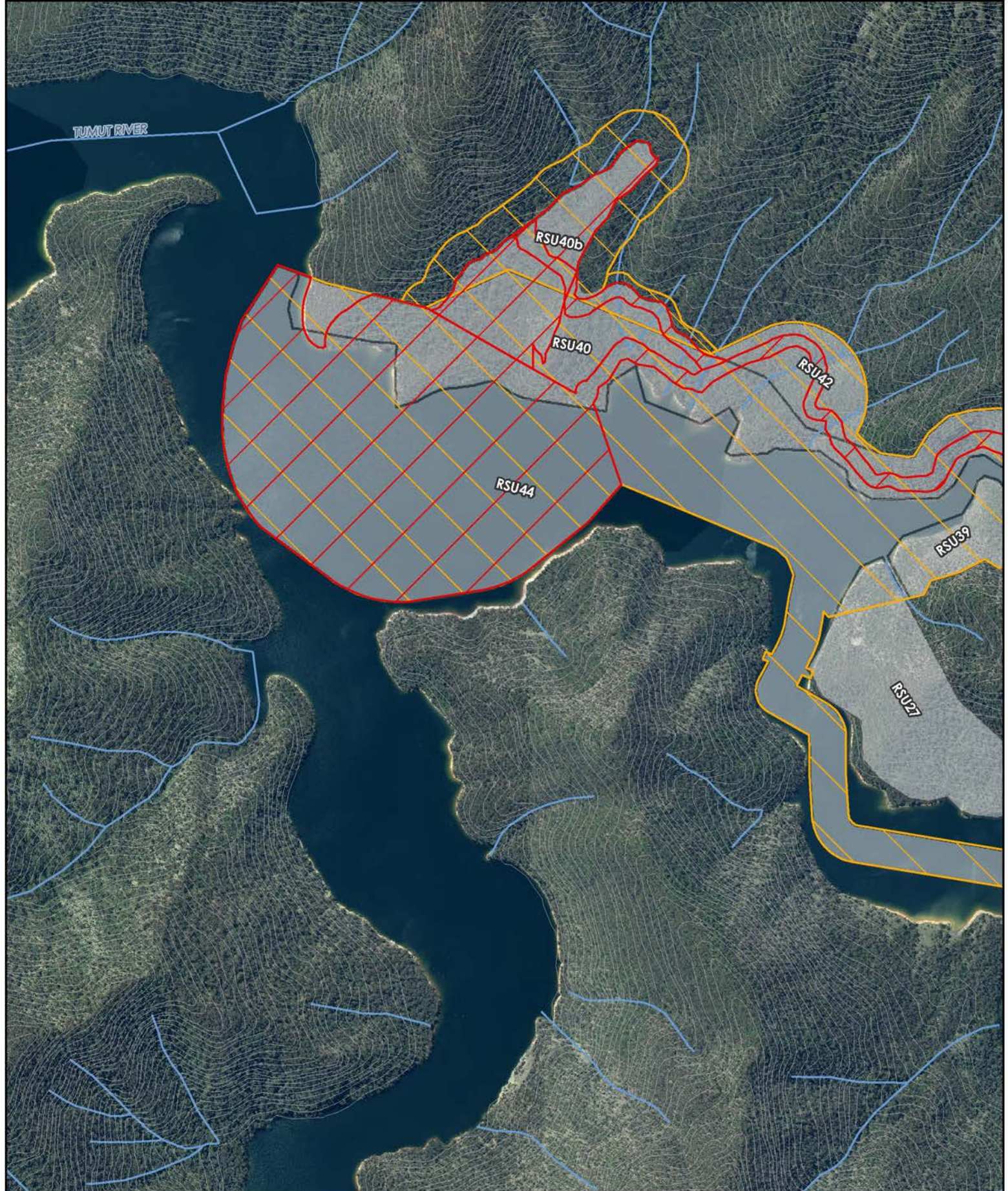
ID	Measurement / Requirement	When to implement	Responsibility	Source document
General				
G01	Training will be provided to all project personnel, including relevant sub-contractors on relevant environmental management requirements from this plan through inductions, toolboxes and targeted training.	Pre-construction	Future Generation	Good practice
G02	Sensitive Area Plans and the Future Generation GIS mapping will be used to map and communicate the sensitive areas and boundaries (disturbance boundary and construction envelope) to project personnel involved in undertaking the works.	Pre-construction	Future Generation	Good practice
G03	At least one week prior to the commencement of the below activities, the Department, NPWS and NSW DPI will be notified via the Major Projects Portal of the date of the: <ul style="list-style-type: none"> (a) commencement of the development of the Main Works; (b) commencement of development on the following sites under this approval: <ul style="list-style-type: none"> • Marica site; • Plateau site; and • Tantangara site. 	Prior to the relevant activity	Snowy Hydro	Condition 5 of Schedule 2
Biodiversity				
B01	The pre-clearing procedure provided Annexure C will be implemented during construction.	Pre-construction	Future Generation	REMM ECO4
B02	A pre-clearing inspection will be undertaken prior to the commencement of minor clearing. The site inspection will: <ul style="list-style-type: none"> • flag key habitat features, including (but not limited to) nests, hollow bearing trees (HBTs) or large logs; and • identify nearby habitat suitable for the release of any that may be encountered during clearing works. 	During construction in the RTS, however will also be implemented in pre-construction	Future Generation	REMM ECO4
B03	Where required, clearing limits/disturbance area will be delineated using highly visible, durable, continuous barrier such as safety flagging, or other similarly robust and durable material. Delineation will be installed consistently where possible to reduce the risk of error or misinterpretation of boundaries. Where a continuous rope is impractical due to terrain and vegetation density, highly visible flagging will be placed on vegetation to maintain line of sight of the clearing boundary. “Environmental Protection Area” signs (or similar wording) will be placed in prominent positions along the exclusion fencing. No minor clearing or clearing is permitted to occur to enable the barrier fencing to be installed. Where clearing is required, the works will occur as part of the construction activities.	During construction in the RTS, however will also be implemented in pre-construction	Future Generation	REMM ECO4

ID	Measurement / Requirement	When to implement	Responsibility	Source document												
B04	Habitat features within areas to be cleared (as part of the minor clearing) will be marked during the pre-clearing inspection by the ecologist. GPS coordinates for all habitat features identified will be recorded during the pre-clearing survey.	During construction in the RTS, however will also be implemented in pre-construction	Future Generation	REMM ECO4												
B05	Habitat features will be checked by the ecologist prior to slashing, lopping or pruning and any animals found will be relocated to adjacent habitat. Ecologists will capture and/or remove fauna that have the potential to be disturbed as a result of clearing activities.	During construction in the RTS, however will also be implemented in pre-construction	Future Generation	REMM ECO4												
B06	<p>Clearing required to occur will be minor only in nature (ie only involves slashing, lopping or pruning) and will only occur to enable archival recording, archival research, salvage excavation or relocation of heritage items.</p> <p>The location of the minor clearing works will only occur at the heritage sites identified within Annexure B. There will be no more than 0.25 Ha of minor clearing undertaken.</p> <p>During the entire delivery of the project (ie pre-construction and construction), the areas of disturbance and vegetation clearing will be monitored and recorded to ensure that the limits set within Table 1 are met.</p> <p><i>Table 1: Restrictions on Approval</i></p> <table><tr><th>Matter</th><th>Exploratory Works</th><th>Main Works</th><th>Total</th></tr><tr><td>Maximum Disturbance Area</td><td>126 ha</td><td>504 ha</td><td>630 ha</td></tr><tr><td>Maximum Native Vegetation Clearing</td><td>107 ha</td><td>425 ha</td><td>532 ha</td></tr></table> <p><i>Note: The areas in Table 1 relate to direct disturbance and clearing and do not include the indirect impacts of this disturbance and clearing.</i></p>	Matter	Exploratory Works	Main Works	Total	Maximum Disturbance Area	126 ha	504 ha	630 ha	Maximum Native Vegetation Clearing	107 ha	425 ha	532 ha	Pre-construction	Future Generation	Condition 5 of Schedule 2
Matter	Exploratory Works	Main Works	Total													
Maximum Disturbance Area	126 ha	504 ha	630 ha													
Maximum Native Vegetation Clearing	107 ha	425 ha	532 ha													
B07	In the event that threatened species or endangered ecological communities are unexpectedly identified during construction the Unexpected Threatened Species Finds Procedure will be followed.	Pre-construction	Future Generation	Good practice												
Soil and Water																
SW01	There is no disturbance proposed as part of the pre-construction minor works. It is therefore unlikely that erosion and sediment control measures will require installation. In the event that erosion or sediment control is required (ie a coir log requires installation), the erosion and sediment control measures will be installed in accordance with the Blue Book.	During construction in the RTS, however will also be implemented in pre-construction	Future Generation	Condition 29 of schedule 3												
SW02	Emergency response to spills of oils and fuel etc will be managed in accordance with the Emergency Spill Response Procedure.	Pre-construction	Future Generation	Good Practice												






ID	Measurement / Requirement	When to implement	Responsibility	Source document
SW03	Future Generation will ensure that sufficient water is available for the pre-construction minor works.	Pre-construction	Future Generation	Condition 28 of schedule 3
Heritage				
H01	All measures relevant to heritage management are detailed within the Heritage Management Plan (S2-FGJV-ENV-PLN-0014). Pre-construction minor works are to be undertaken in accordance with this document and the Heritage Management Plan.	Pre-construction	Future Generation	Condition 35 of schedule 3
Traffic				
T01	All plant and equipment used on site, or in connection with the development, will be: <ul style="list-style-type: none"> (a) maintained in a proper and efficient condition; (b) operated in a proper and efficient manner; and (c) kept free of weeds, seeds and pathogens when entering or leaving the site. 	Pre-construction	Future Generation	Condition 13 of Schedule 2
T02	Vehicle speeds on the road network within the site will be limited to 30 km/h between sunset and sunrise, unless the Planning Secretary agrees otherwise.	Pre-construction and construction	Future Generation	Condition 44 of Schedule 3
T03	The use of Lobs Hole Ravine Road - North is restricted to: <ul style="list-style-type: none"> • access to and from the site during emergencies; • light vehicles at all other times with: <ul style="list-style-type: none"> – a maximum of 120 vehicle movements allowed a day (60 each way); and – an annual average maximum of 60 vehicle movements allowed a day (30 each way); and 	Pre-construction and construction	Future Generation	Condition 44 of Schedule 3
T04	Affected communities, visitors and emergency services will be notified in advance of any disruptions to traffic and restriction of access to areas of Kosciuszko National Park impacted by project activities.	Pre-construction Construction	Future Generation	REMM TRA06
T05	In order to minimise the tracking of mud from the project area onto public sealed roads management measures will be implemented, including but not limited to: <ul style="list-style-type: none"> • adhering to weekly site inspections to monitor the condition of public sealed roads; and • where necessary public sealed roads will be maintained with sweepers. 	Construction	Future Generation	Good practice
T06	In order to minimise the risk of any new weeds being introduced to project work areas, all vehicles shall be inspected prior to site entry and the hygiene declaration form completed. Vehicles will be inspected on arrival to site. All vehicles and equipment inspected will be documented using the Weed and Seed (Hygiene Declaration) Form.	Pre-construction Construction	Future Generation	Condition 13 of Schedule 2
Noise				

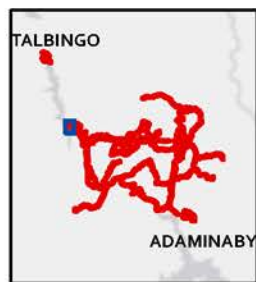
ID	Measurement / Requirement	When to implement	Responsibility	Source document
NV01	Affected landholders will be consulted prior to and during construction and will be notified of proposed mitigation measures that will be used to manage construction noise levels to below Interim Construction Noise Guideline (EPA 2009) NMLs where practicable. Where pre-construction noise will affect landholders, landholders will be notified prior to the commencement of the pre-construction minor works.	Pre-construction and construction	Future Generation	REMM NV02
Waste				
WM01	The NSW Governments Waste Management Hierarchy of “avoid-reduce-reuse- recycle- dispose” will be followed as the framework of waste management throughout the project. The reuse and/or recycling of waste materials generated on site shall be maximised as far as practicable, to minimise the need for treatment or disposal of those materials offsite.	Pre-construction and construction	Future Generation	Condition 52 of Schedule 3
WM02	All waste material generated on-site will be dealt with in accordance with the <i>Protection of the Environment Operations Act 1997</i> and Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014), or any superseding document.	Pre-construction and construction	Future Generation	Condition 52 of Schedule 3
WM03	Wastes that are unable to be reused or recycled will be disposed of offsite at a licensed waste management facility, or premises lawfully permitted to accept the materials following classification.	Pre-construction and construction	Future Generation	Condition 52 of Schedule 3
WM04	Waste will be segregated and collected on a regular basis to ensure odours associated with waste are minimised.	Pre-construction and construction	Future Generation	Condition 59 of Schedule 3
WM05	There will be no burning-off of waste.	Pre-construction and construction	Future Generation	Good practice
Air quality				
AQ01	Measures will be implemented to minimise dust, soil or mud from being deposited from vehicles onto sealed public roads. This will be achieved by implementing mitigation measures such as manual cleaning by street sweepers where appropriate.	Construction	Environment Coordinator / Environment Manager	REMM AQ1

ANNEXURE B – LOCATION OF PRE-CONSTRUCTION MINOR WORKS (SURVEY UNITS AND HERITAGE SITES)




Legend


-  Hydrology
-  Contour - 10m
-  Disturbance Footprint
-  Construction Footprint
-  Survey Unit

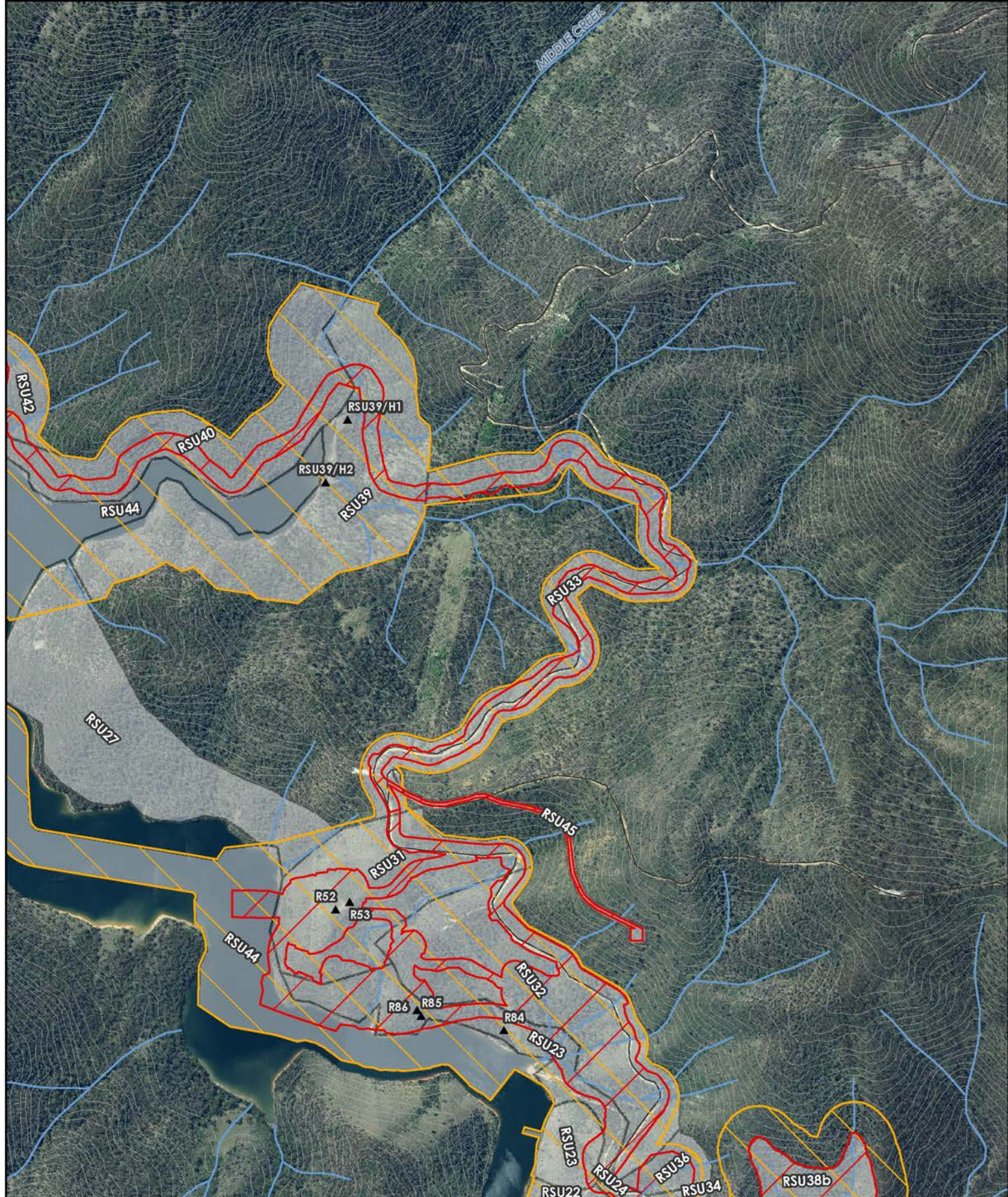


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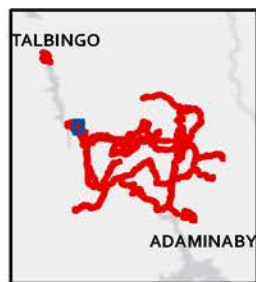
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Coordinate System: GDA 1994 MGA Zone 55

 *New South Wales*
ARCHAEOLOGY



Legend

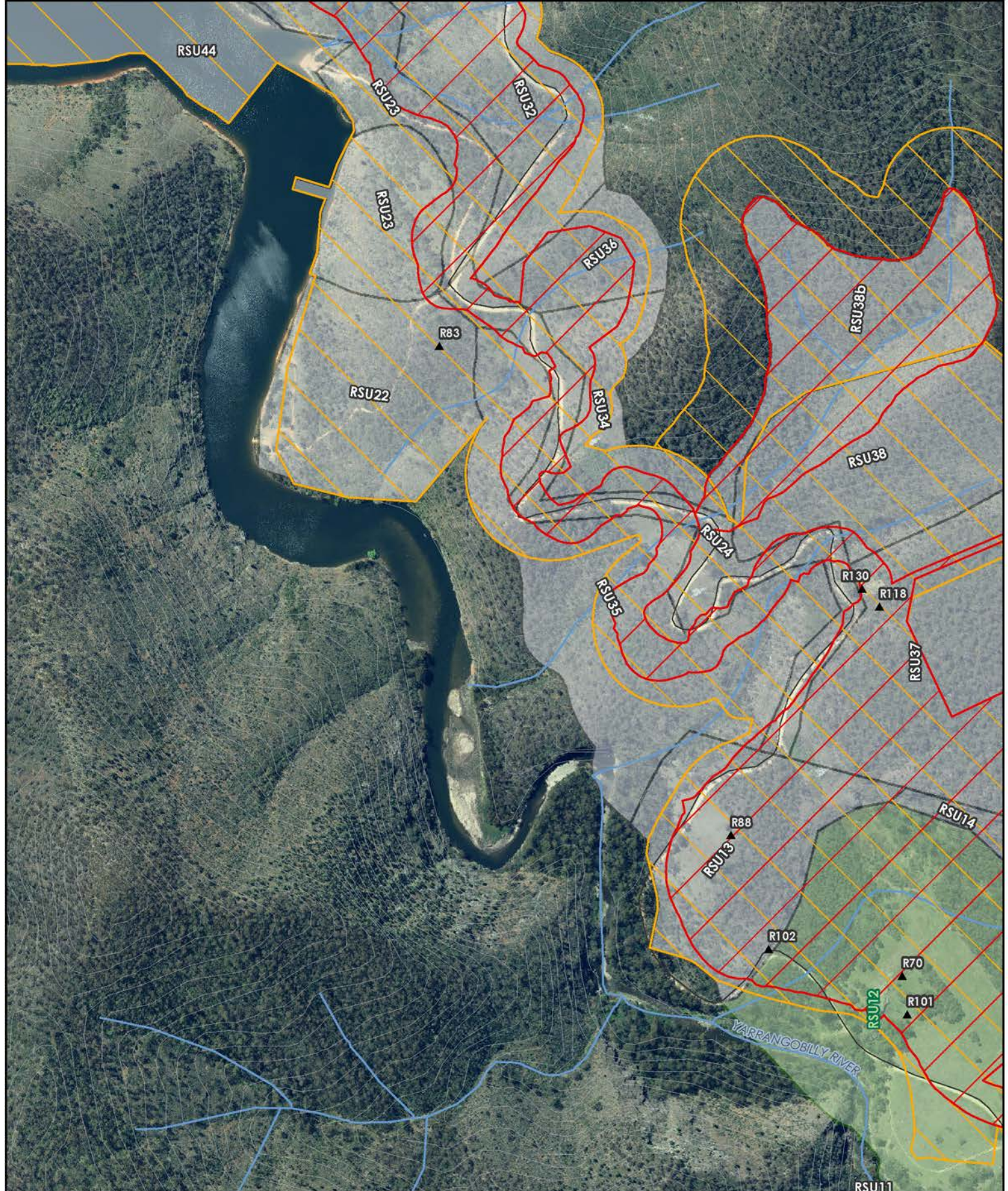
- Hydrology
- Road/Track
- Contour - 10m
- Historic Site
- Disturbance Footprint
- Construction Footprint
- Survey Unit



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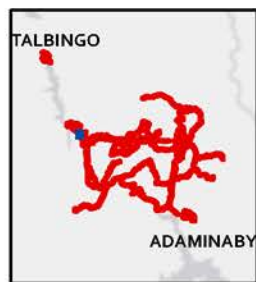
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Legend

- Hydrology
- Road/Track
- Contour - 10m
- Historic Site
- Disturbance Footprint
- Construction Footprint
- Survey Unit
- Survey Unit - Preconstruction



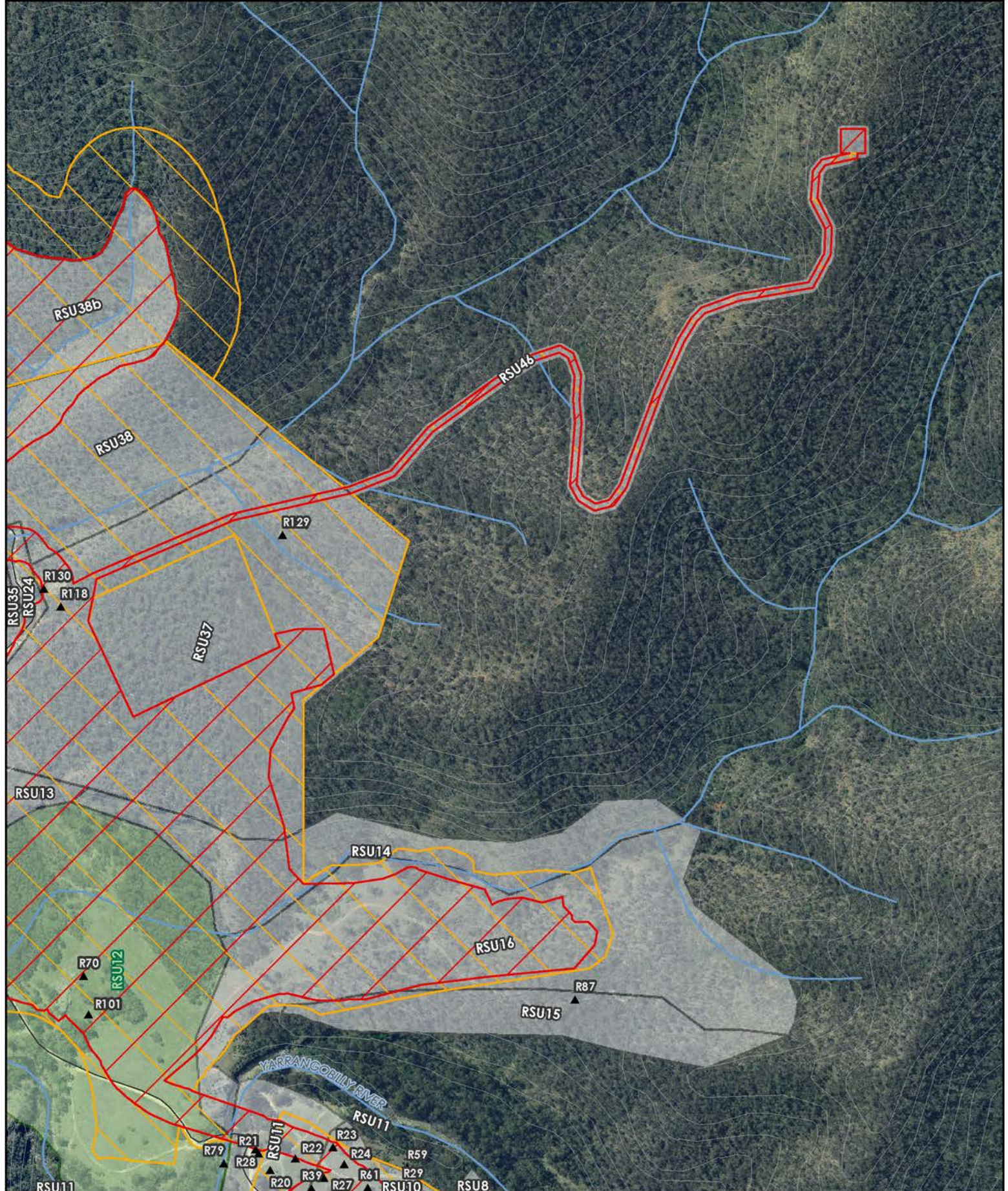
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Legend

- Hydrology
- Road/Track
- Contour - 10m
- Historic Site
- Disturbance Footprint
- Construction Footprint
- Survey Unit - Preconstruction
- Survey Unit

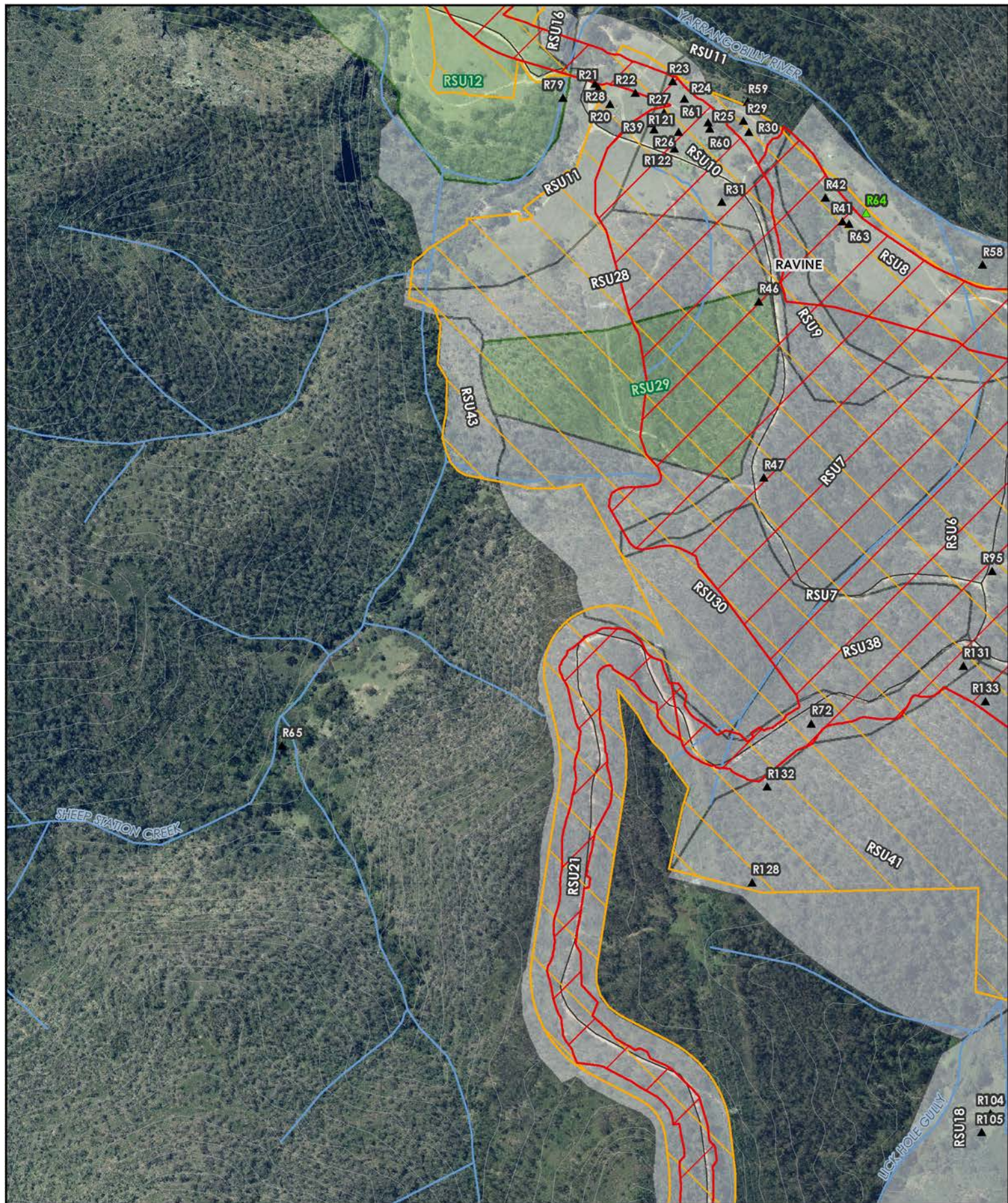


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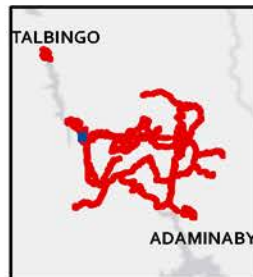
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Coordinate System: GDA 1994 MGA Zone 55

New South Wales
ARCHAEOLOGY



Legend

- Hydrology
- Road/Track
- Contour - 10m
- Historic Site - Preconstruction
- Historic Site
- Disturbance Footprint
- Construction Footprint
- Survey Unit
- Survey Unit - Preconstruction

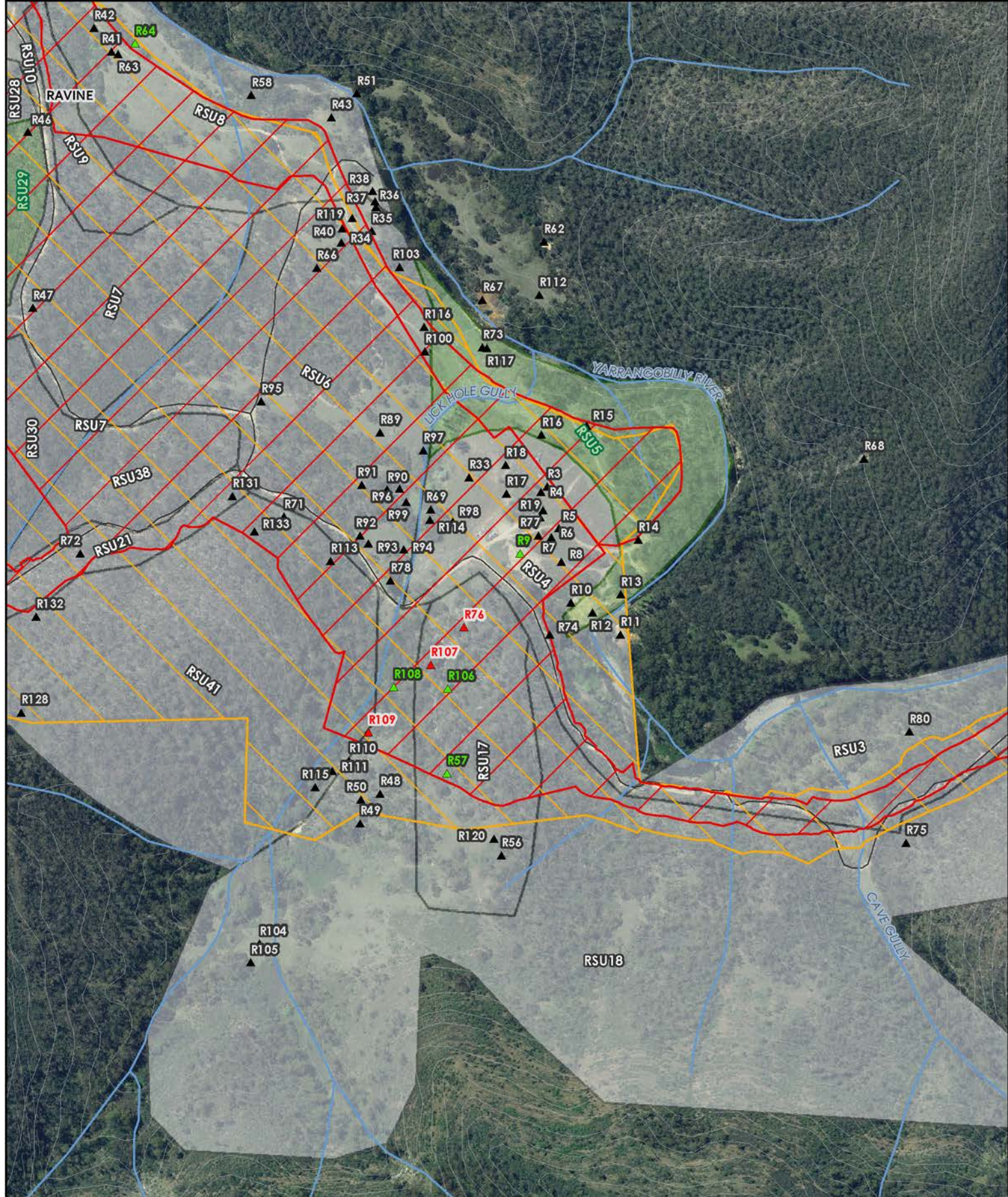


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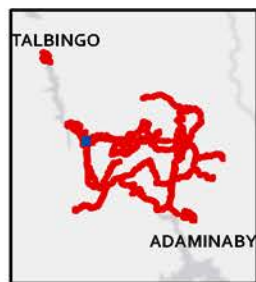
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New South Wales
ARCHAEOLOGY



Legend

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- Survey Unit
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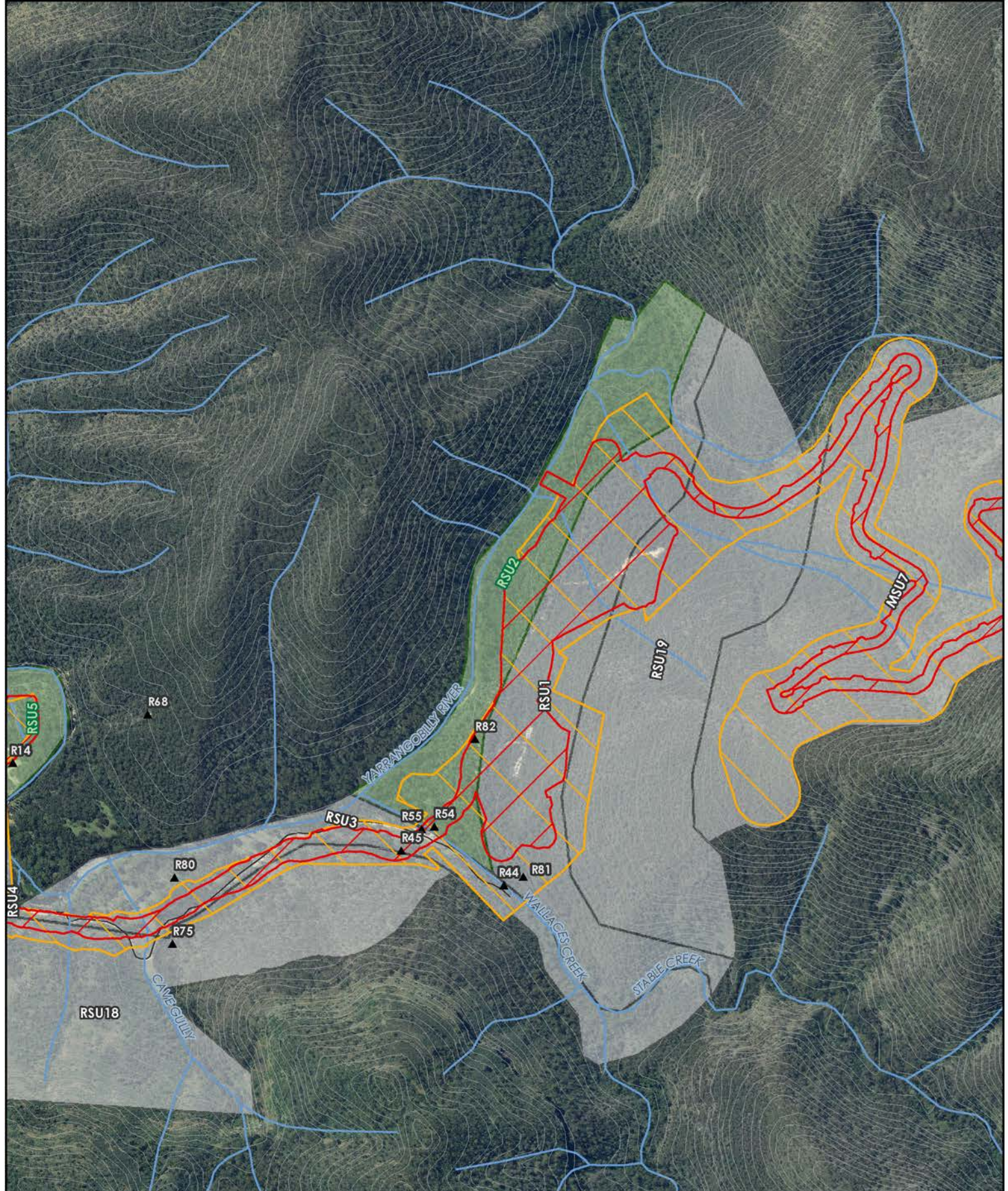


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New South Wales
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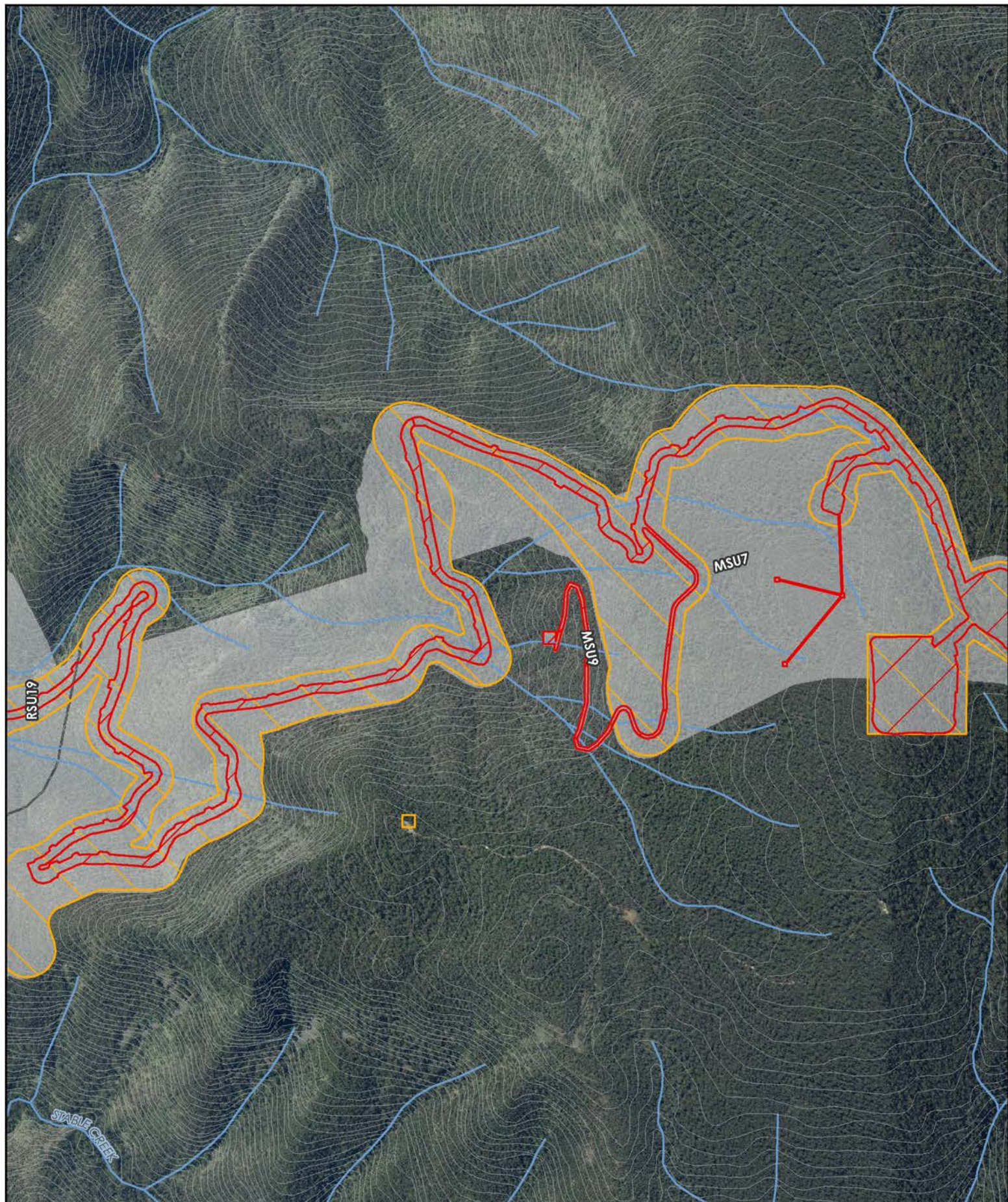


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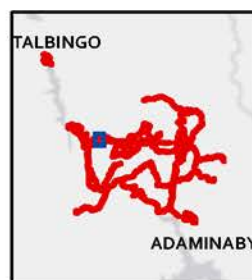
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ARCHAEOLOGY



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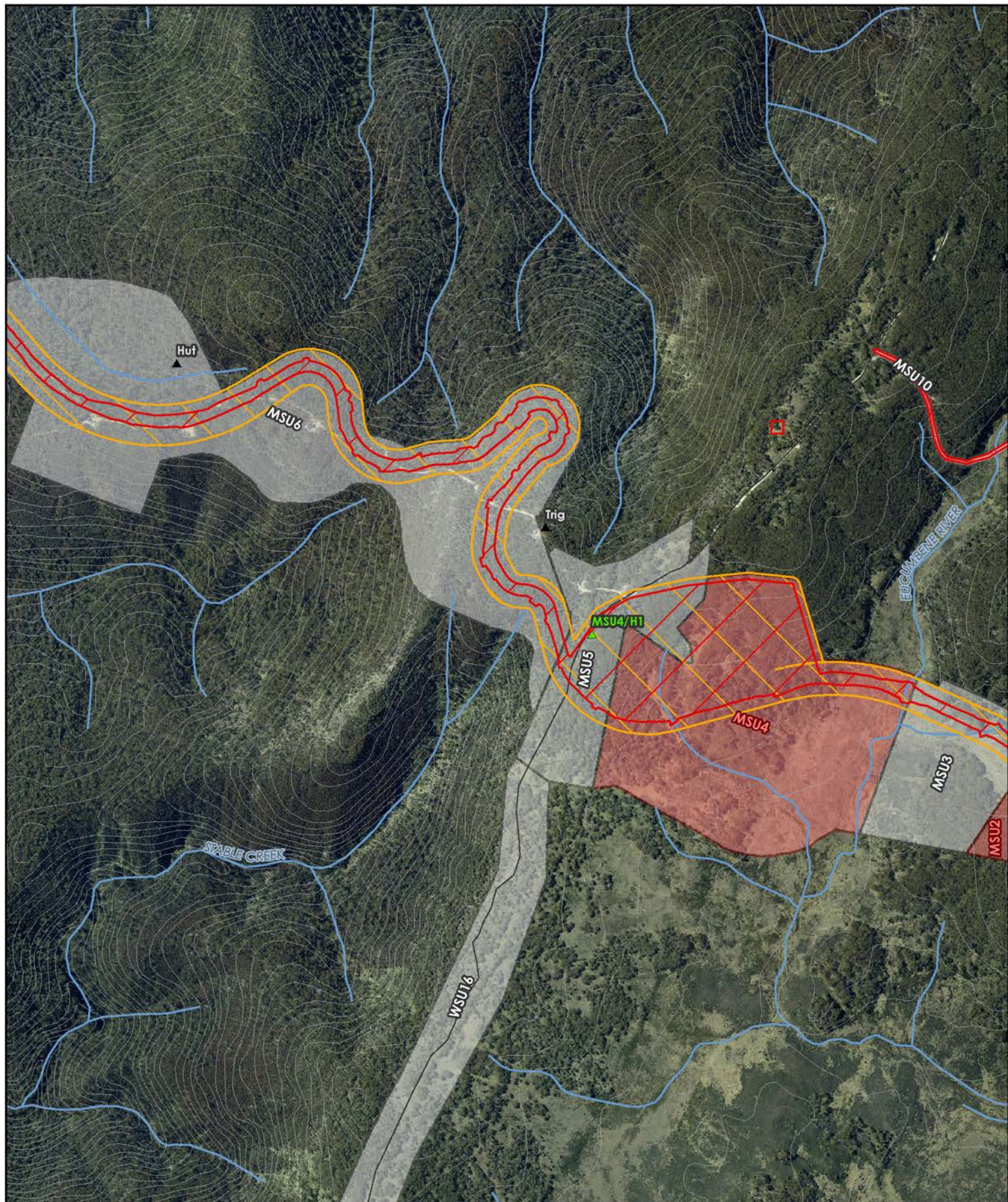


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

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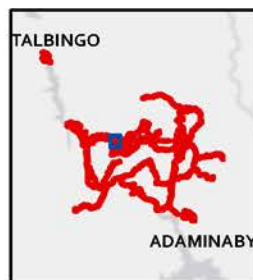
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ARCHAEOLOGY




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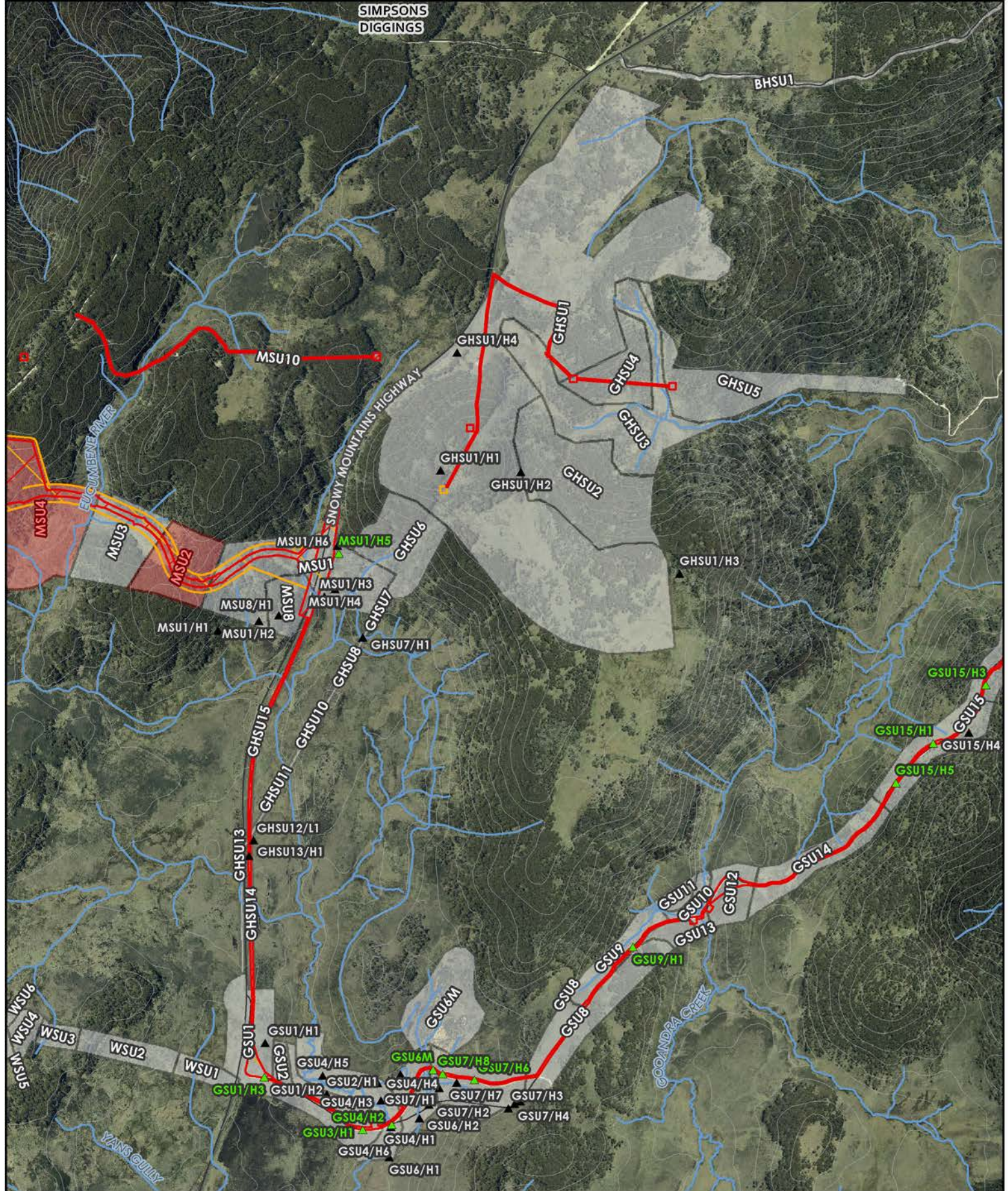


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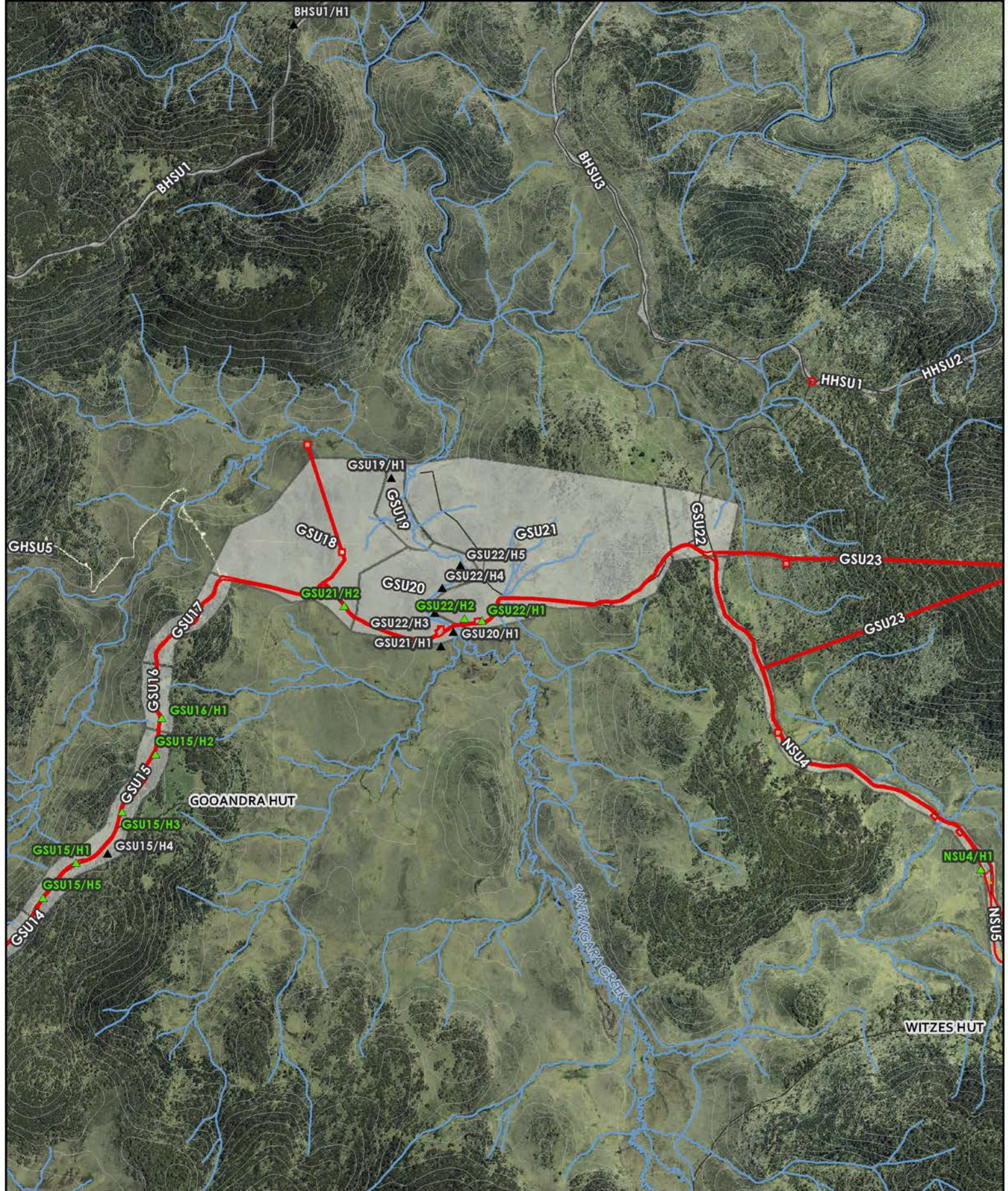
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ARCHAEOLOGY



Legend

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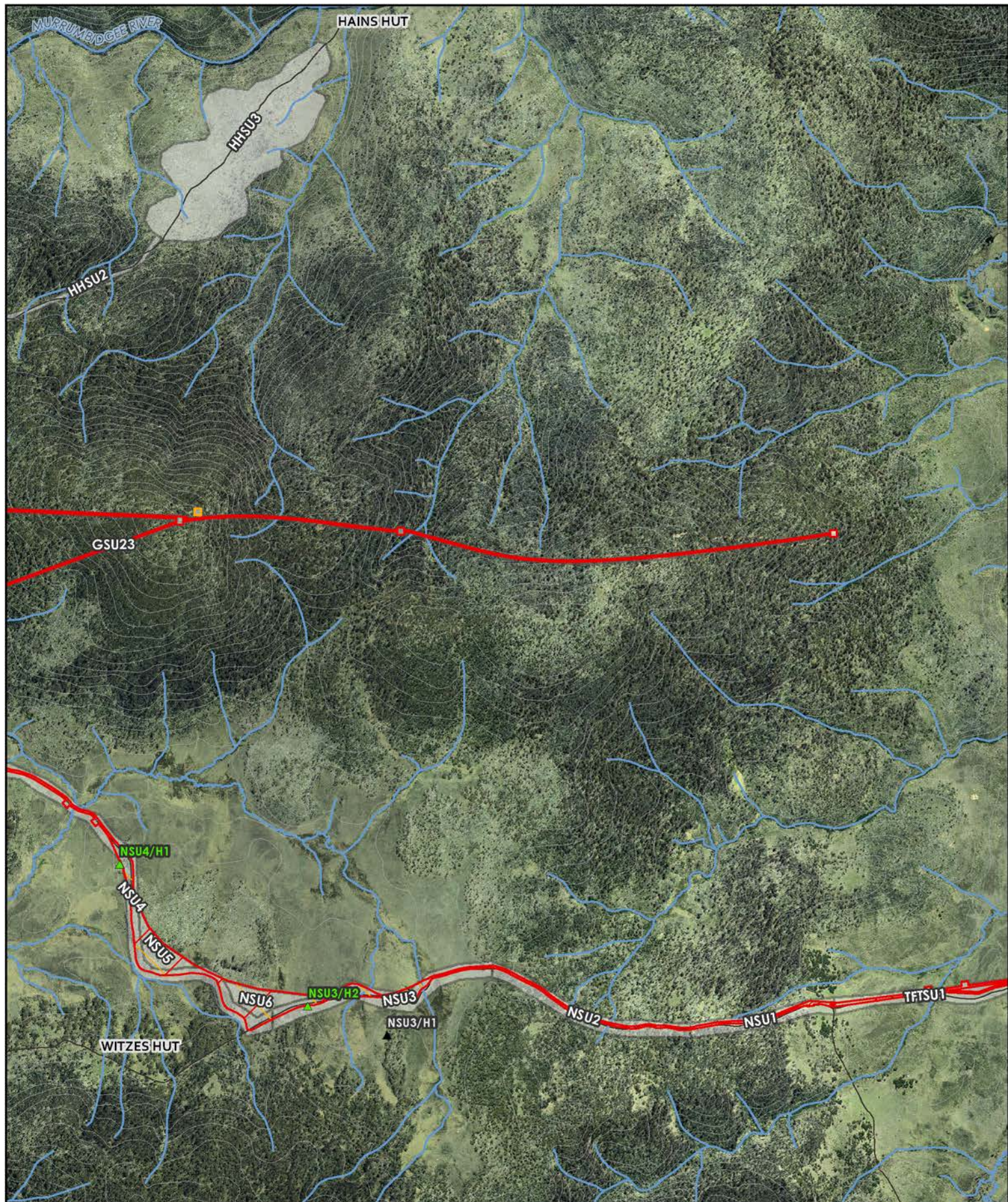
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
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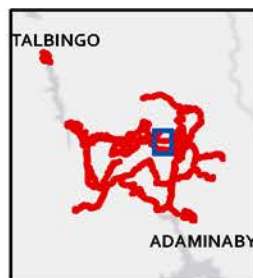
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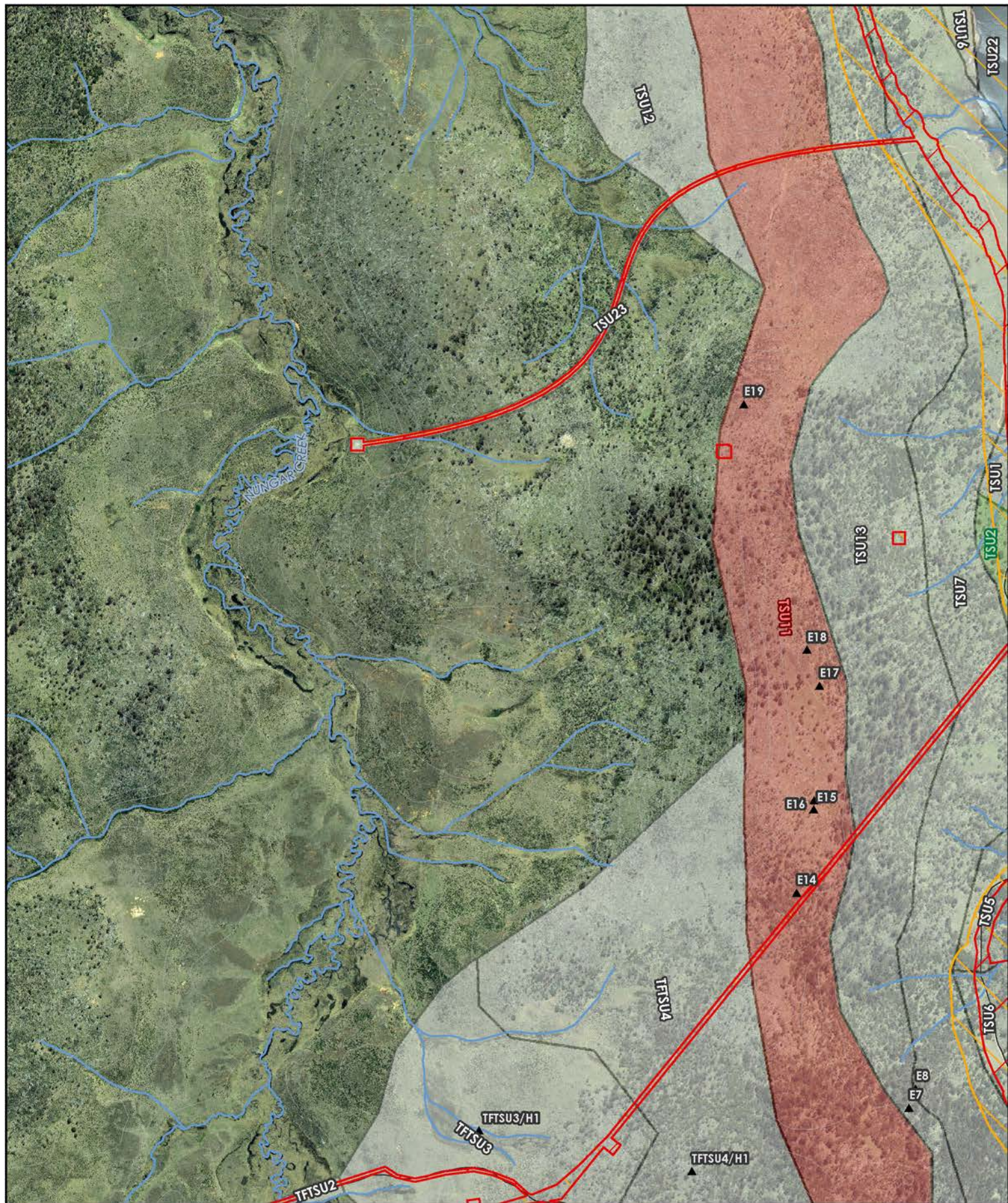
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


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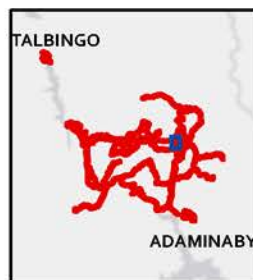
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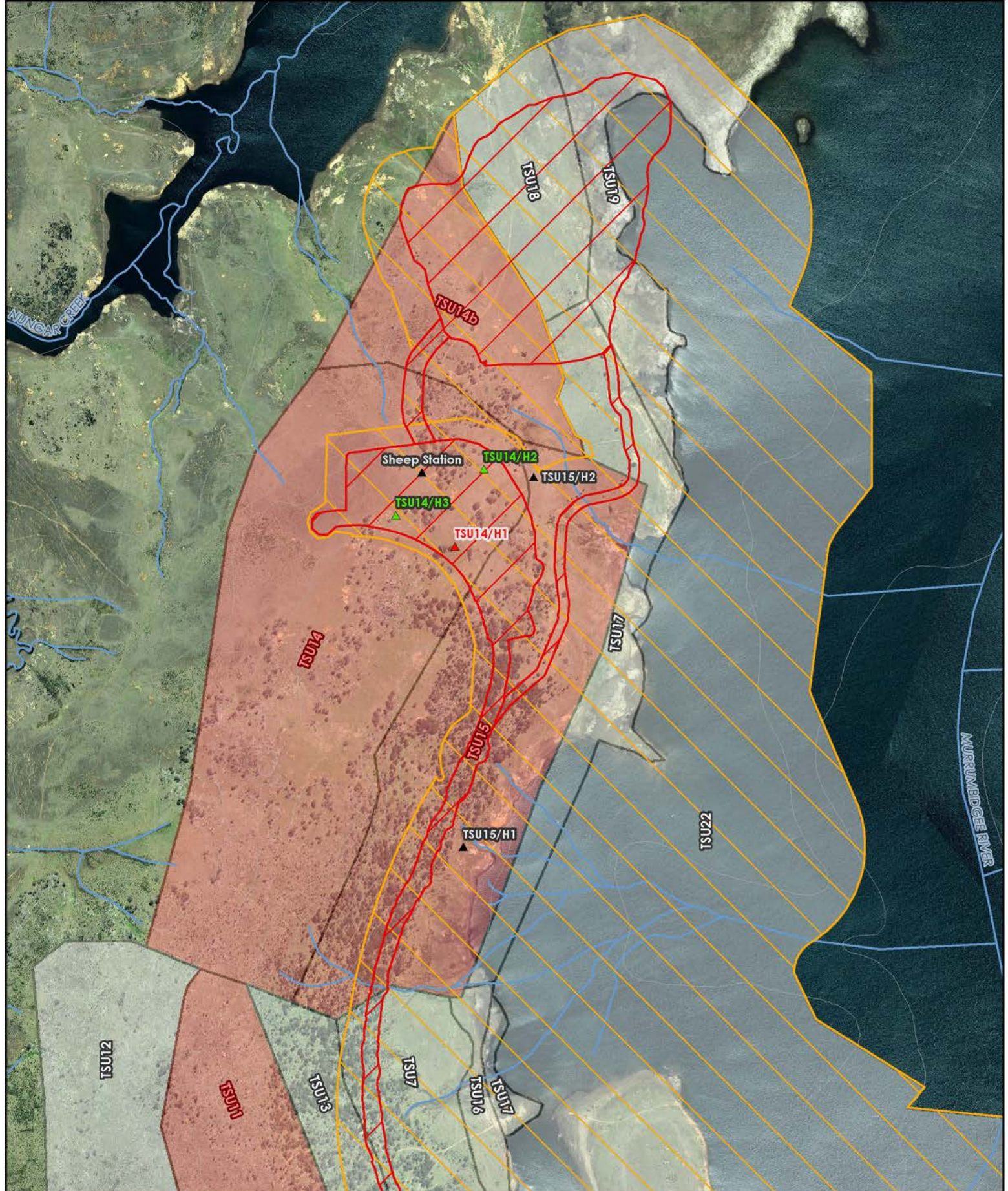
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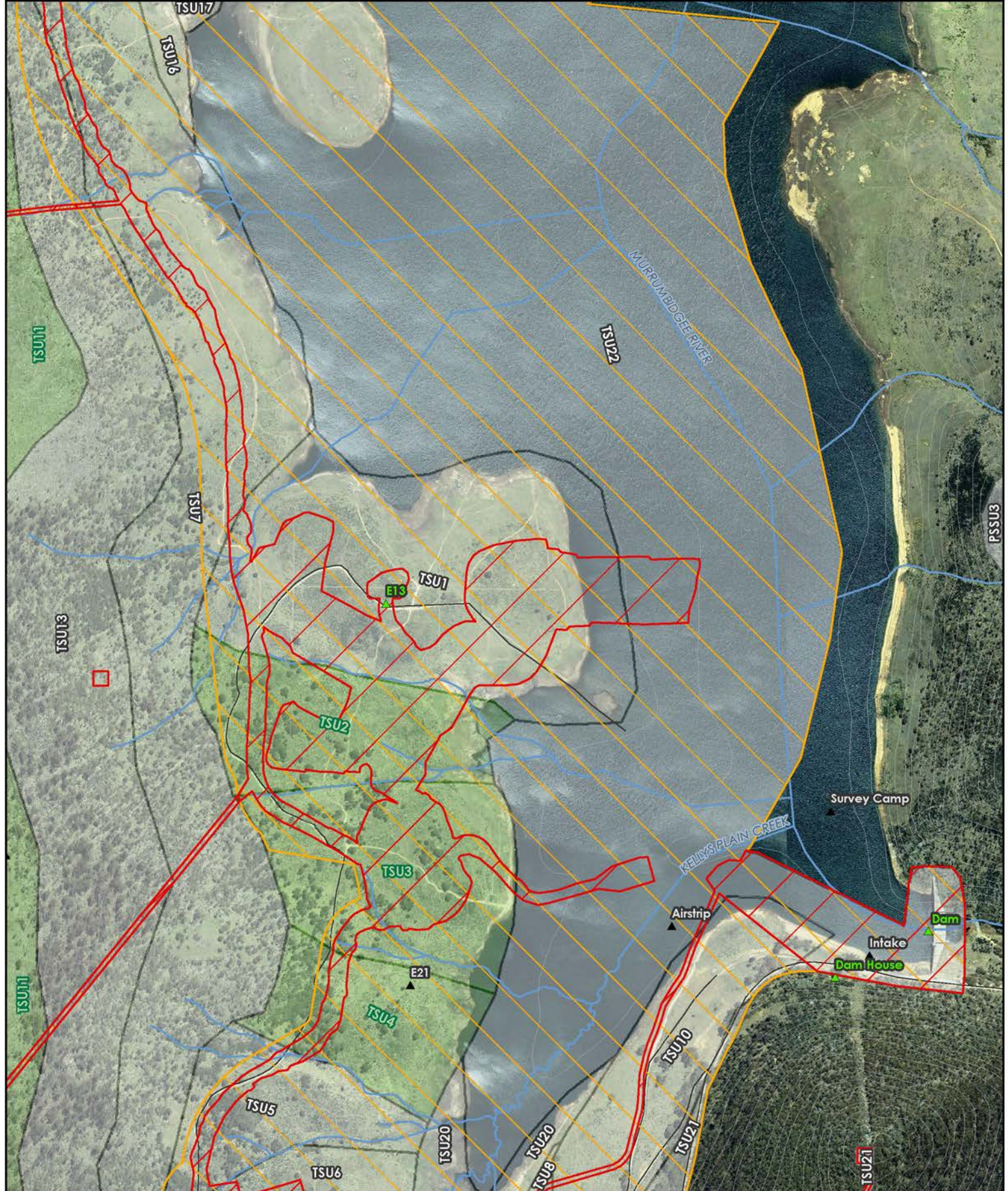
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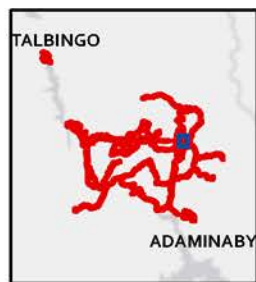
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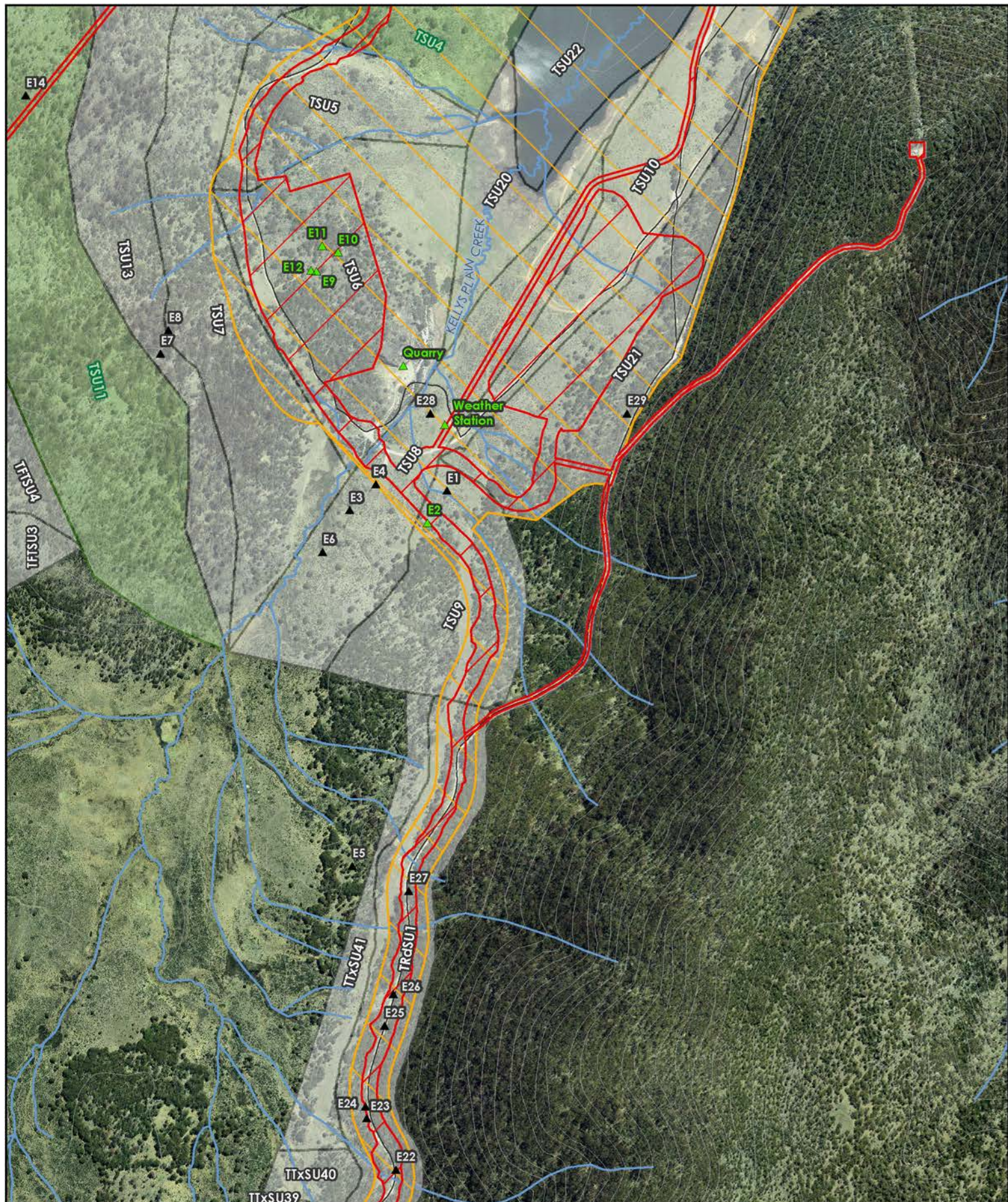
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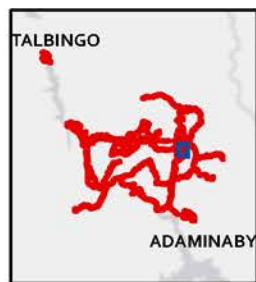
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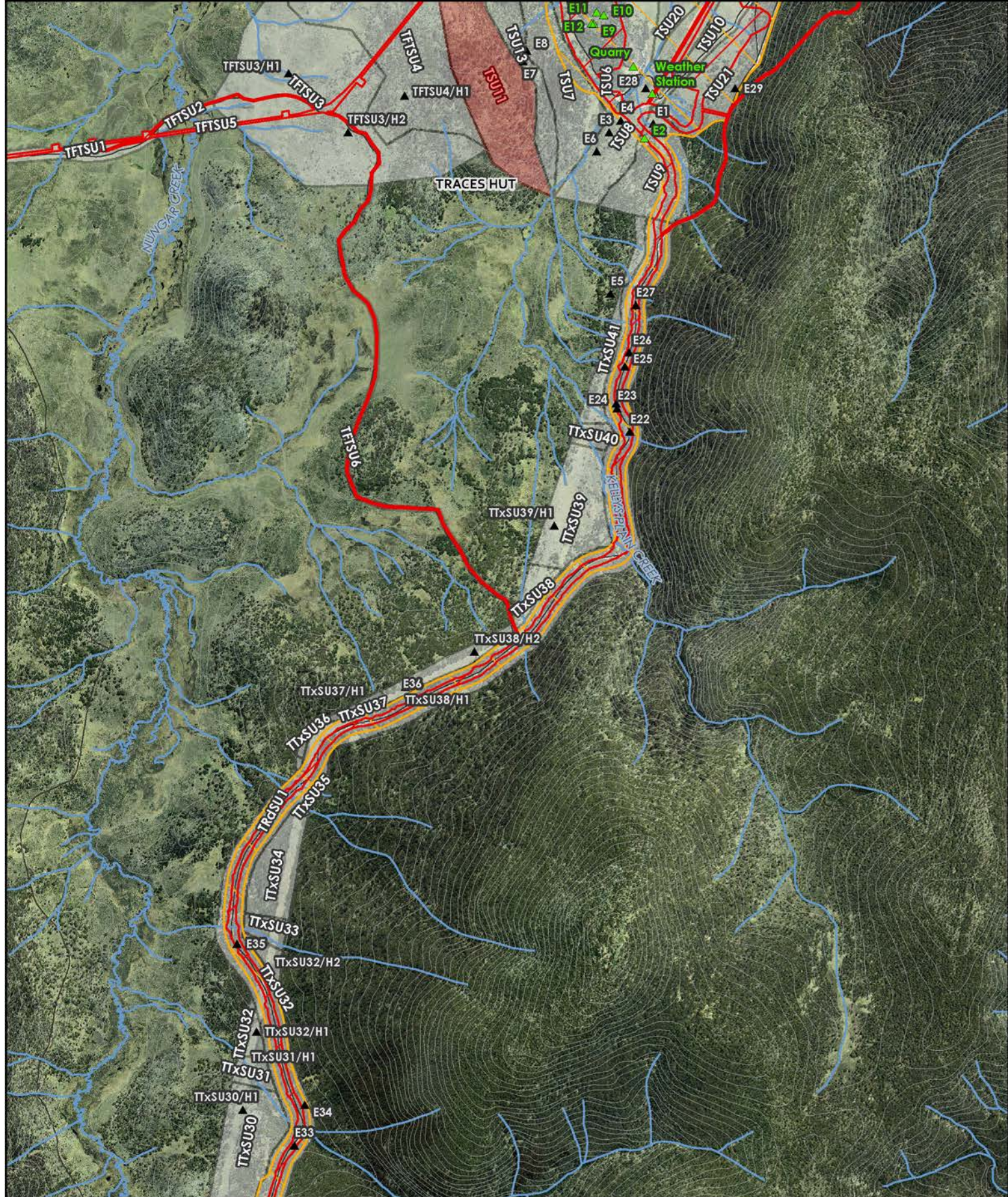


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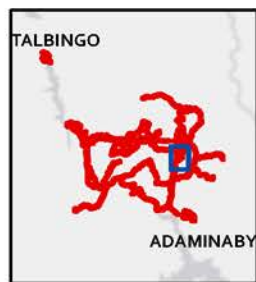
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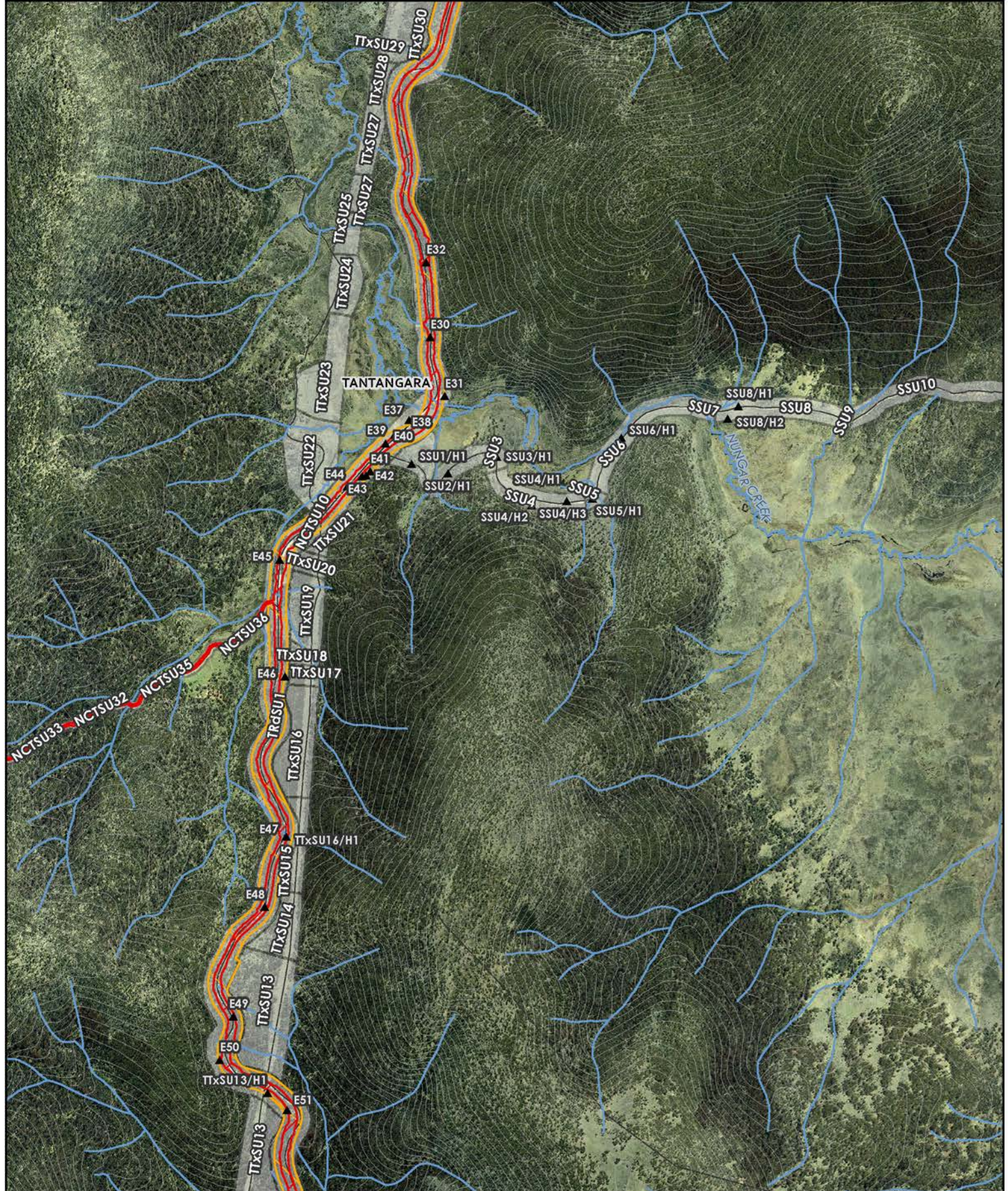


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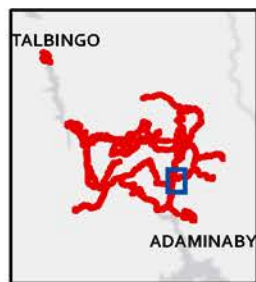
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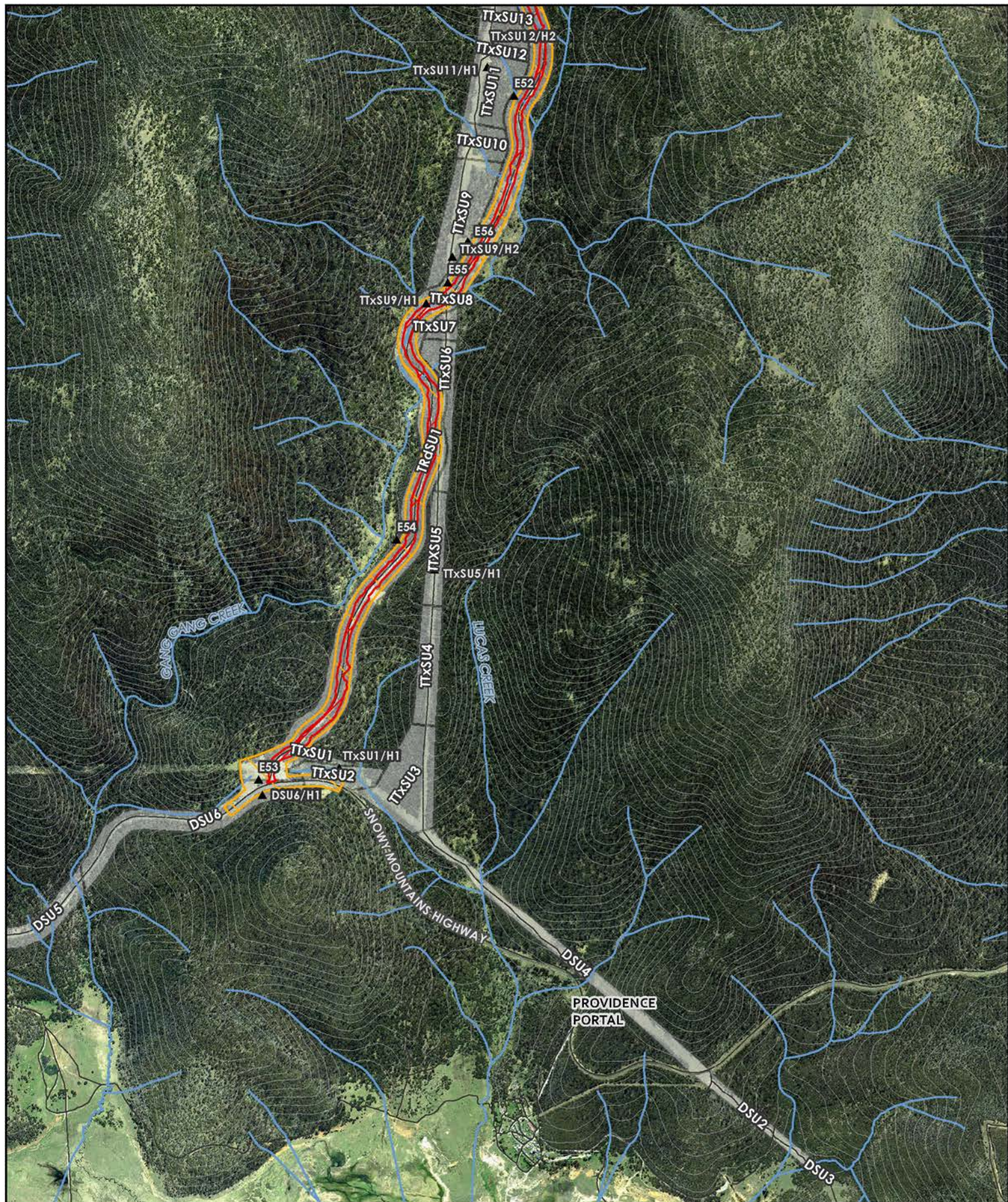


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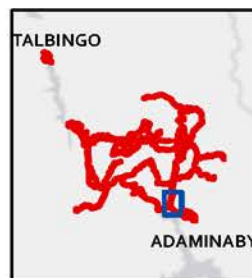
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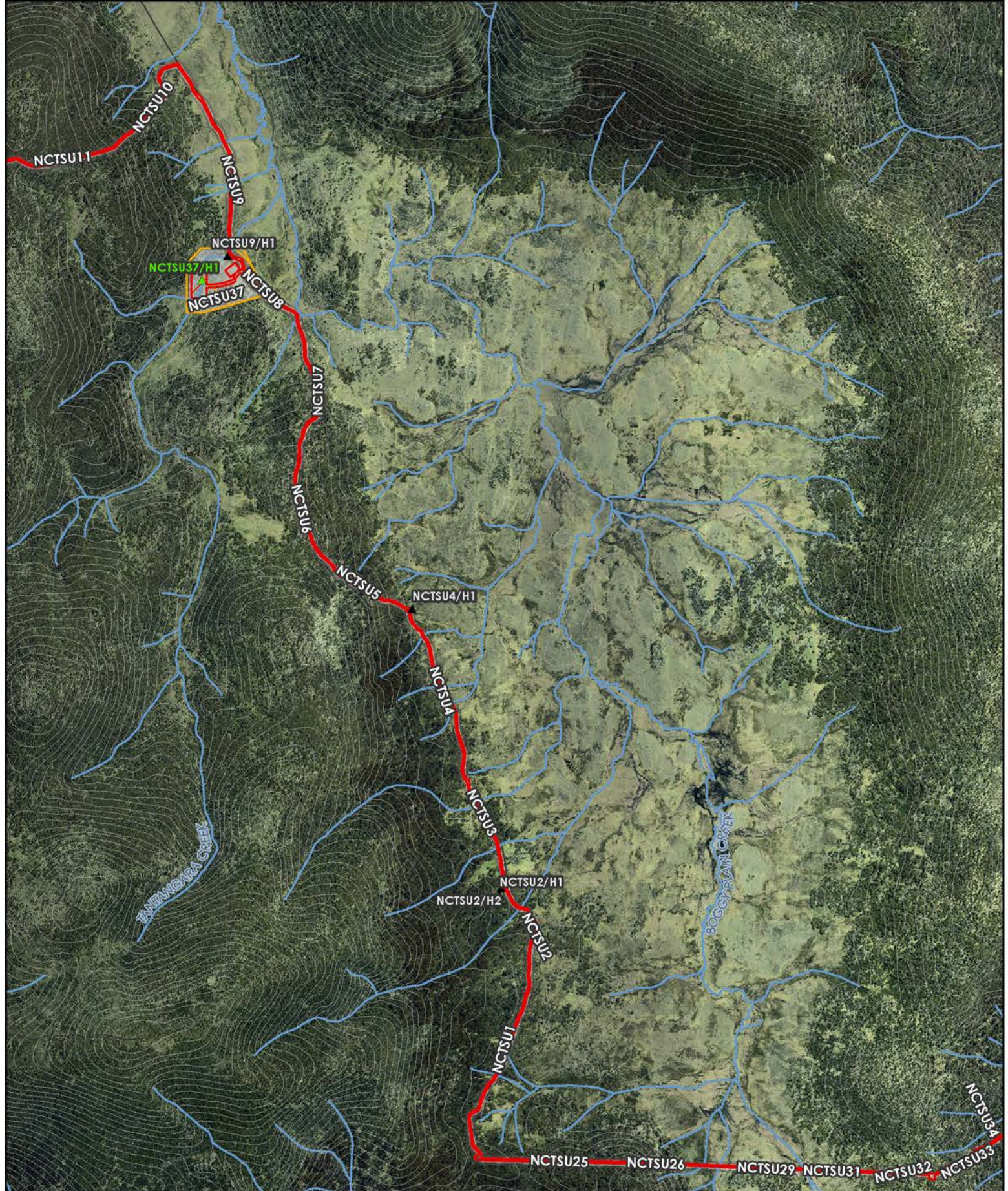


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New South Wales
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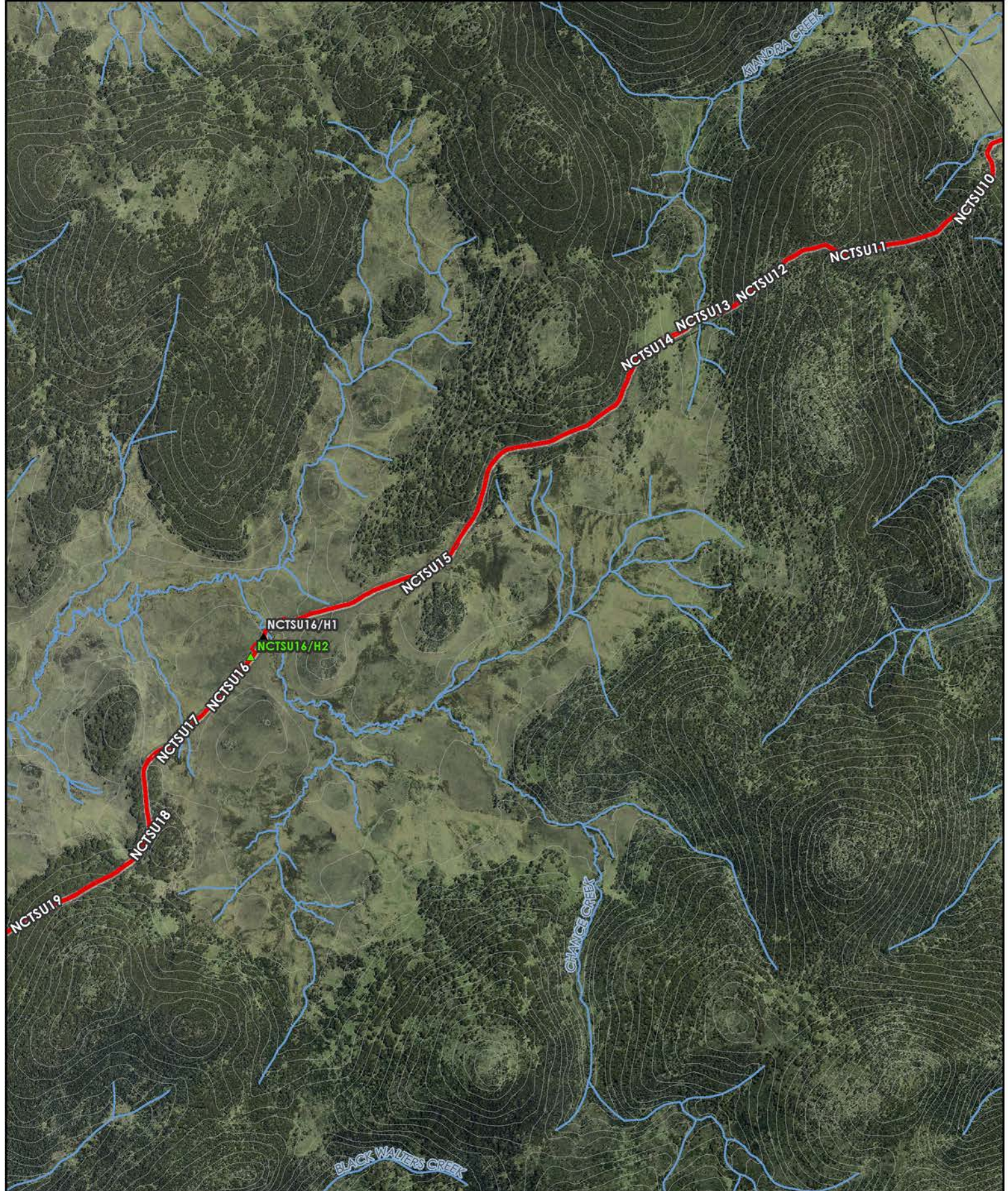
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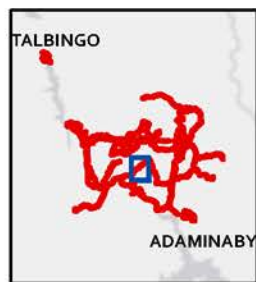
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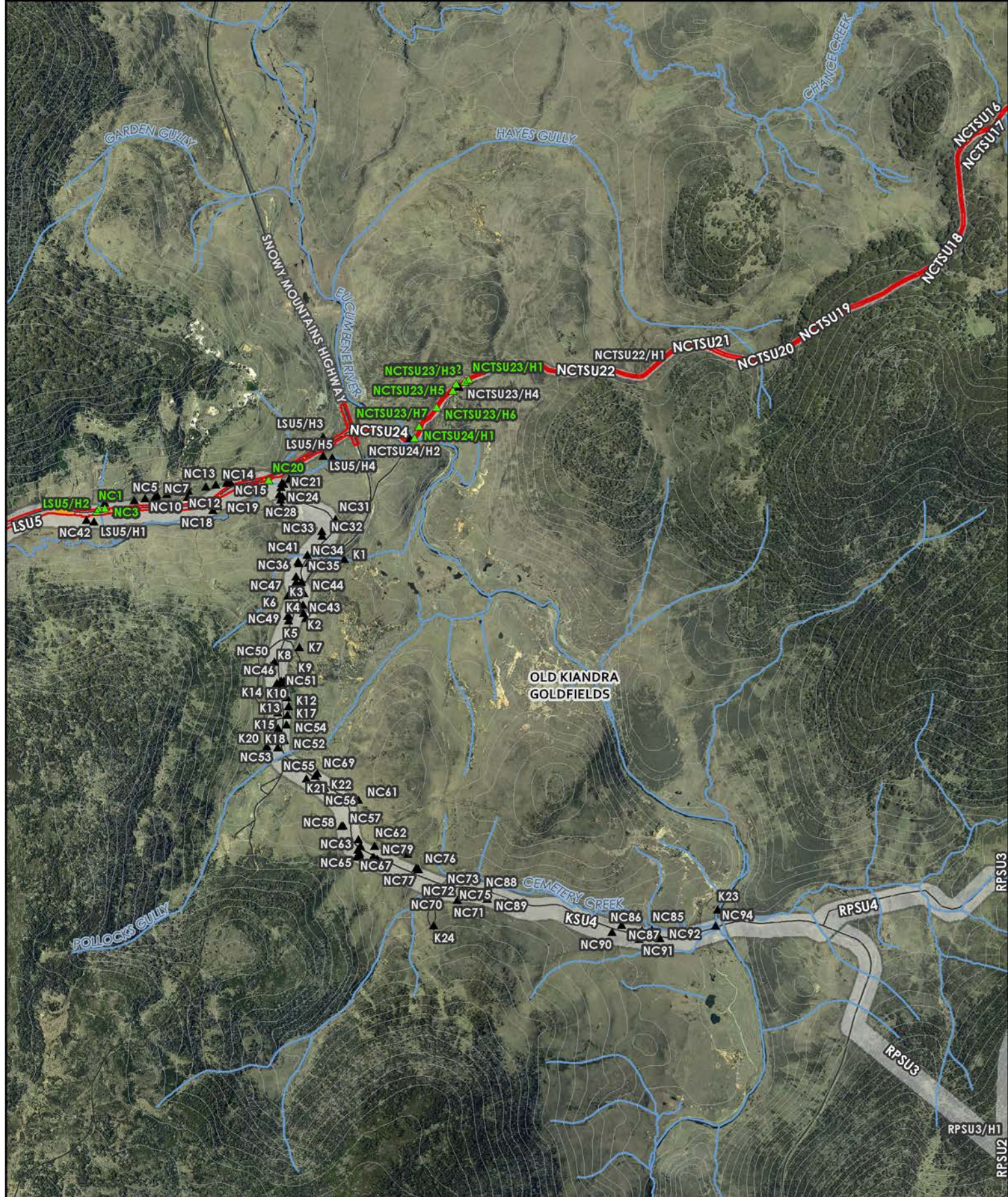
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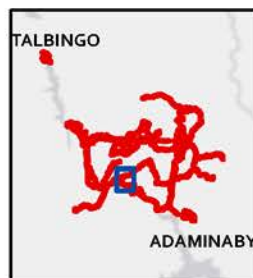
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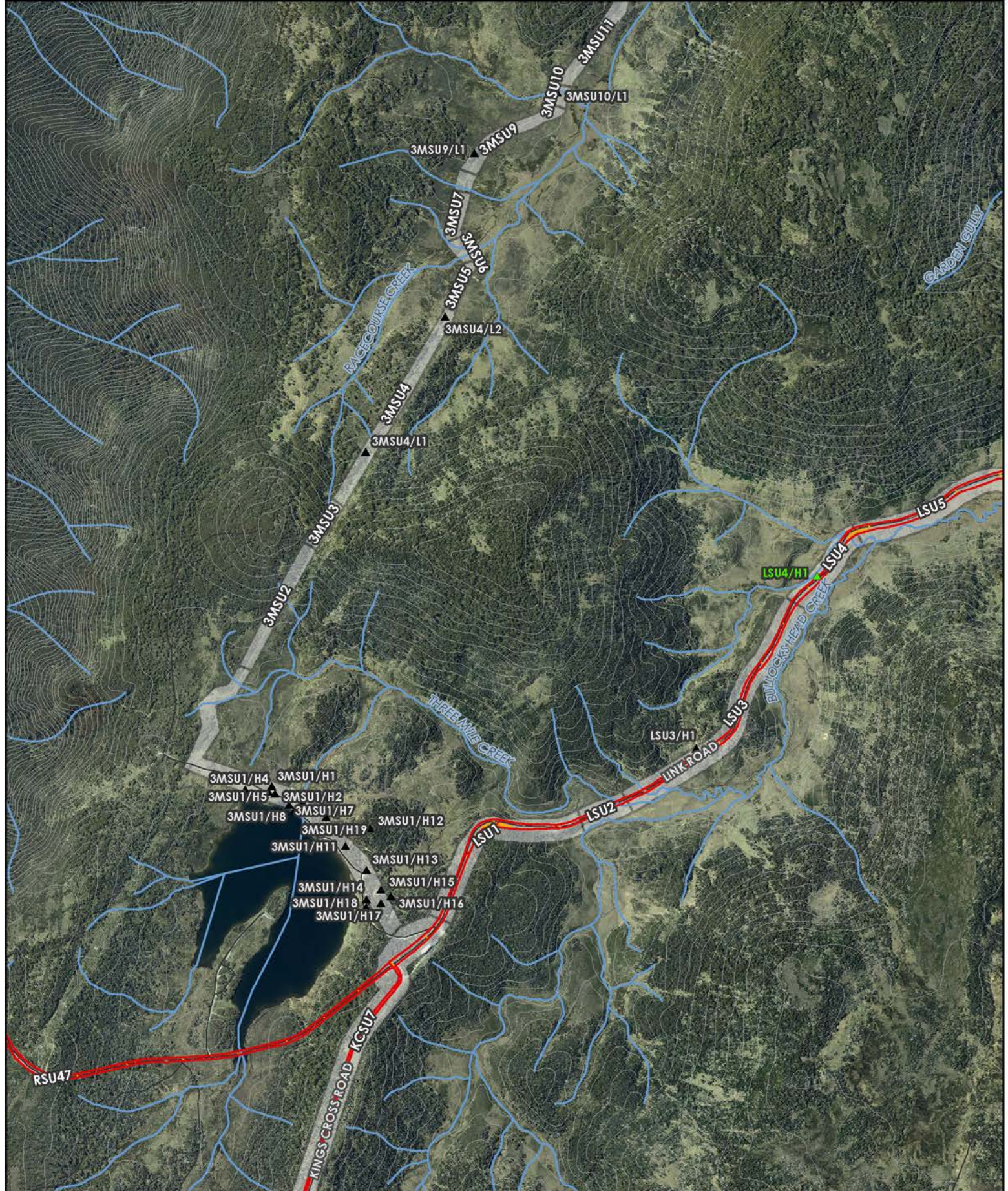


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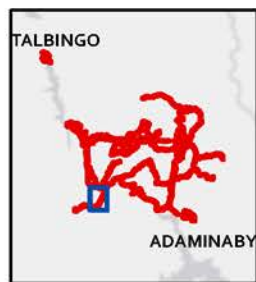
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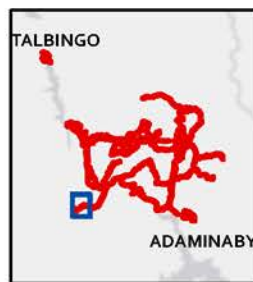
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


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
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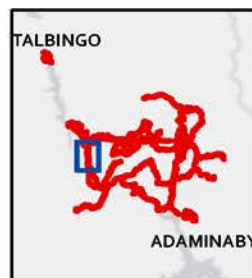
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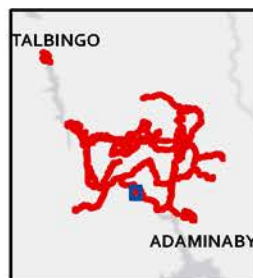
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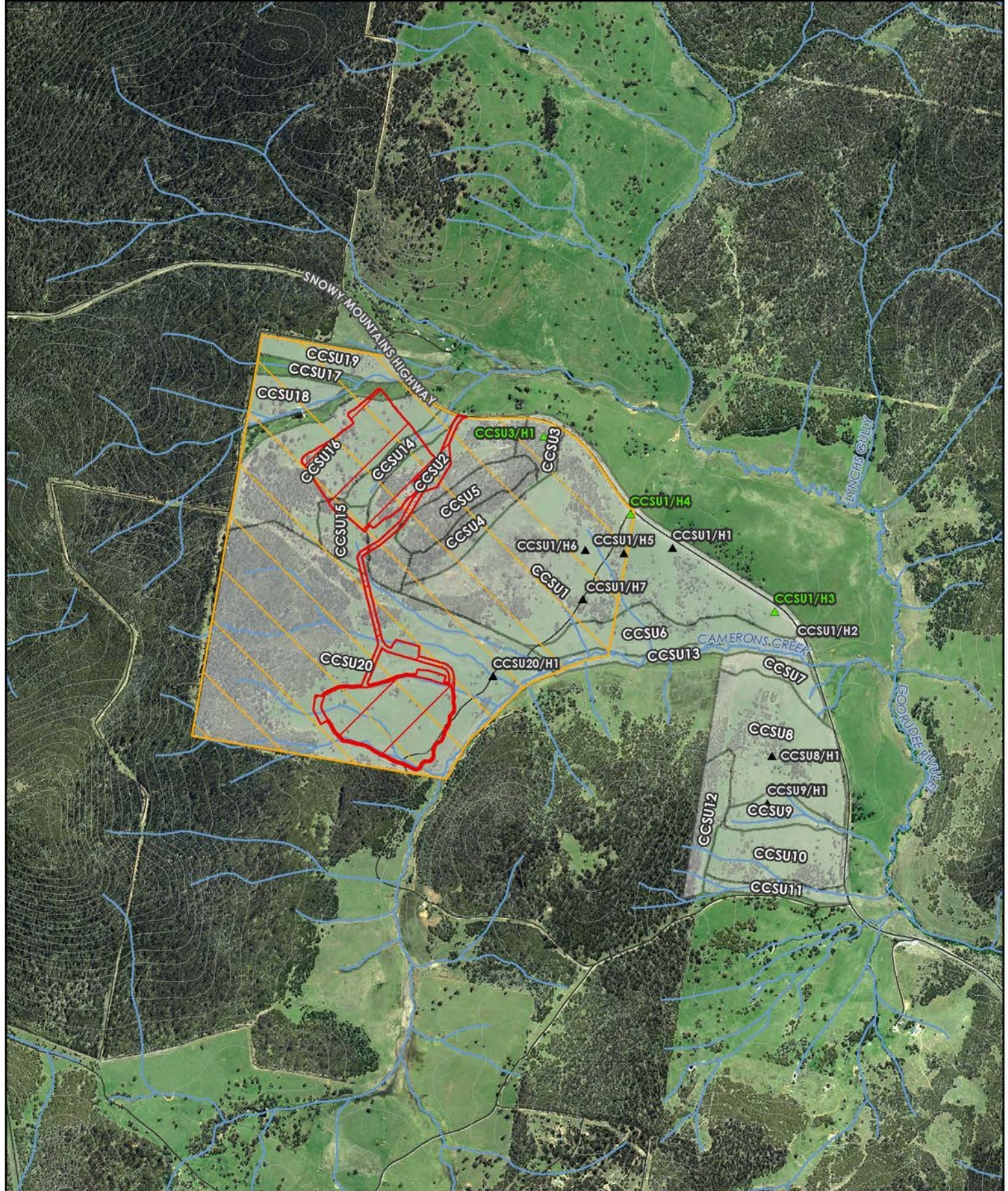


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ANNEXURE C – PRE-CLEARING AND CLEARING PROCEDURE



S2-FGJV-ENV-PLN-0087 – Annexure C

PRE-CONSTRUCTION MINOR WORKS MANAGEMENT PLAN ANNEXURE C – PRE-CLEARING AND CLEARING PROCEDURE

Approval Record			
Document preparation, review and approval		Name in print	Signature
Prepared by	Environmental consultant	A. Costenoble	
Reviewed by	Environmental consultant	R. Walker-Edwards	
Verified by	Environmental Manager	L. Coetzee	
Approved by	Project Director	A. Betti	

Document Revision Table		
Rev.	Date	Description of modifications / revisions
A	29.11.2019	Initial draft for Snowy Hydro review
B	05.03.2020	Updated for Snowy Hydro review
C	02.06.2020	Updated with Main Works Infrastructure Approval
D	15.06.2020	Revised following receipt of Snowy Hydro comments
E	09.07.2020	Revised following agency comments
F	19.07.2020	Revised following DPIE verbal comments
G	10.08.2020	Revised following DPIE comments

CONTENTS

1.	PURPOSE AND OBJECTIVE.....	3
2.	TRAINING	3
3.	PRE-CLEARING	3
4.	VEGETATION CLEARING	5
4.1.	Stage 1 – Non-Habitat Tree Removal	5
4.2.	Stage 2 – Habitat Tree Removal	5
5.	UNEXPECTED THREATENED SPECIES FINDS PROCEDURE	6
6.	POST CLEARING REPORT	6

1. PURPOSE AND OBJECTIVE

The purpose of this pre-clearing and clearing procedure is to describe how Future Generation proposes to manage minor clearing activities prior to and during pre-construction minor works so as to minimise impacts on biodiversity.

The key objective of this procedure is to describe the management measures that will be implemented during pre-clearing and clearing activities to ensure that these activities are conducted within the permitted scope of the Infrastructure Approval (SSI 9687).

2. TRAINING

All personnel taking part in pre-construction minor works activities shall be informed through the site-specific induction, prestart briefing or other targeted training of the importance of clearing limits and the significance of the surrounding environment.

All personnel involved in the clearing activities would be subject to toolbox training on the requirements of this procedure and a prestart meeting which discusses the clearing for the day; limits of clearing; processes to follow; known or potentially occurring threatened species and sensitive areas; and the locations of significant habitat features within and adjacent to the construction areas.

3. PRE-CLEARING

The following is to occur prior to clearing:

- a suitably qualified and experienced ecologist will be engaged for the project;
- where the minor clearing (ie slashing, lopping or pruning) is required to occur, **clearing limits or exclusion zones** will be established prior to clearing commencing and will include the following:
 - clearing limits will be delineated using signage and highly visible barrier or tape such as colour-coded UV-stabilised rope, bunting, nightline or other similarly robust and durable material with reflective strips periodically along its length;
 - delineation will be installed consistently to mark boundaries and sensitive areas and to reduce the risk of error or misinterpretation of boundaries;
- GPS coordinates for any threatened flora will be recorded during the pre-clearing survey. There will be no threatened flora cleared during pre-construction works;
- consultation with the ecologist will occur to determine the location of suitable habitat for fauna release (if required). Future Generation Environment team will prepare a permit for ecologists to enter no-go areas for the purpose of fauna release;
- an ecologist will undertake a pre-clearing survey of the proposed minor clearing area prior to the commencement of clearing. The ecologist will:
 - identify and flag/demarcate key habitat features that are suspected to accommodate fauna, these features may include:
 - nests;
 - hollow bearing trees;
 - large logs, rock piles and woody debris;
 - heath, sedges and soaks;

- dense understorey shrubs;
- burrows below groundcover vegetation, runways and other established fauna routes; and
- other habitat features for local fauna as determined by the ecologist;
- check for the presence of threatened flora and fauna species by thorough visual and endoscopic inspection of potential habitat features;
- the ecologist must consider the threatened species likely to occur in the disturbance area when flagging and identifying habitat features. GPS coordinates for habitat features will be recorded during the pre-clearing survey;
- confirm nearby habitat suitable for the release of any fauna that may be encountered during minor clearing works;
- where works are to be undertaken within 50 m of watercourses, all vegetation, rocks, logs and other shelter are to be carefully inspected for frog species;
- a check to ensure clearing limits or exclusion zones have been delineated and clearly marked;
- the project ecologists should capture and/or remove fauna that have the potential to be disturbed as a result of clearing activities;
- relocate identified fauna into pre-determined habitat identified for fauna release; and
- the Clearing Permit Hold Point is to be approved prior to clearing commencing.

4. VEGETATION CLEARING

A two-stage habitat removal process will be implemented however, where no areas of habitat have been identified to be cleared, minor clearing can be undertaken in a single-stage process.

It must be noted that only slashing, lopping or pruning may occur in the locations identified in Annexure B.

These works will be restricted to the pruning or lopping of branches or removal of grasses or undergrowth to enable archival recording, archival research, salvage excavation or relocation of heritage items to occur. The two-stage clearing process is detailed below and will be implemented to ensure that any impacts to potential habitat will be minimised as much as possible.

4.1. Stage 1 – Non-Habitat Removal

Stage 1 clearing for areas where no habitat was identified during pre-clearing surveys

If no habitat features have been identified in the pre-clearing survey, then two-stage clearing is not required and minor clearing (ie slashing, lopping or pruning) can be undertaken in a single-stage process without the project ecologist present (subject to agreement between Future Generation environment team and project ecologist).

Stage 1 clearing for areas where habitat has been identified

Where habitat features have been identified during the pre-clearing surveys, two-stage clearing is required. For these locations, the clearing area will be surveyed by the project ecologist within 24 hours or immediately prior to clearing, to:

- obtain updated information on fauna and flora habitat that is present, including:
 - inspection of identified habitat features for evidence of fauna habitation since the pre-clearing surveys;

- inspection of all habitat features for the presence of sheltering fauna;
- demarcate any newly identified habitat; and
- collect data on any newly identified threatened species in the area.

During Stage 1 clearing where habitat has been identified:

- the project ecologist will be onsite to capture and relocate non-mobile fauna, such as reptiles and frogs;
- only non-habitat vegetation will be removed. All demarked habitat features will be retained until Stage 2. This allows respite between the initial disturbance and the final removal of habitat. The changed environment and the disturbance from clearing should encourage residing fauna to individually relocate without human handling. A respite period of 24-48 hours after removal of non-habitat vegetation is intended to allow resident fauna the opportunity to vacate remaining habitats before Stage 2 clearing commences.

4.2. Stage 2 – Habitat Removal

Stage 2 clearing will occur approximately 24-48 hours after Stage 1 clearing. This delay is intended to assist with enabling fauna to escape after the Stage 1 disturbance.

The project ecologist will be present during Stage 2 clearing to:

- capture and relocate any encountered fauna to pre-identified release areas;
- advise on the appropriate removal of habitat features;
- carefully inspect habitat features prior to or during the removal process;
- ensure that any injured wildlife is transported to veterinarian or wildlife carers.

During Stage 2 clearing:

- the ecologist will carry out inspection of all habitat features in the clearing area prior to disturbance;
- detected fauna will be encouraged to self-relocate or will be captured and released in the identified release areas;
- where breeding fauna or dependant young are detected during the clearing works, the ecologist should consult with a licensed carer to determine whether the animal/s require ongoing care or can be safely relocated to adjacent habitat;
- if the Booroolong frog is discovered outside of its active period (i.e. from April to September), the individual shall be taken into care. Agreement with an appropriately qualified and licensed carer will be required;
- coarse woody debris and logs will be gently dismantled by hand under instruction of the ecologist;
- where active burrows are suspected, fauna exclusion will be undertaken (e.g. monitoring, exclusion doors) in consultation with the project ecologist prior to disturbance;
- all retained habitat features will be thoroughly inspected (use endoscope where required) by the project ecologist immediately prior to clearing;
- records are to be kept of all fauna rescue events in accordance with the Fauna Handling and Rescue Procedure. Locations of fauna release (including GPS coordinates) will be recorded.

5. UNEXPECTED THREATENED SPECIES FINDS PROCEDURE

If during construction activities the project ecologist (or other project personnel) identify a threatened species or threatened ecological community that has not been (or is suspected to have not been) assessed as a part of the project assessment, the Unexpected Threatened Species Finds Procedure will be followed.

The Unexpected Threatened Species Find Procedure is applicable to all activities that have the potential to impact upon threatened flora and fauna species that have not been assessed and approved.

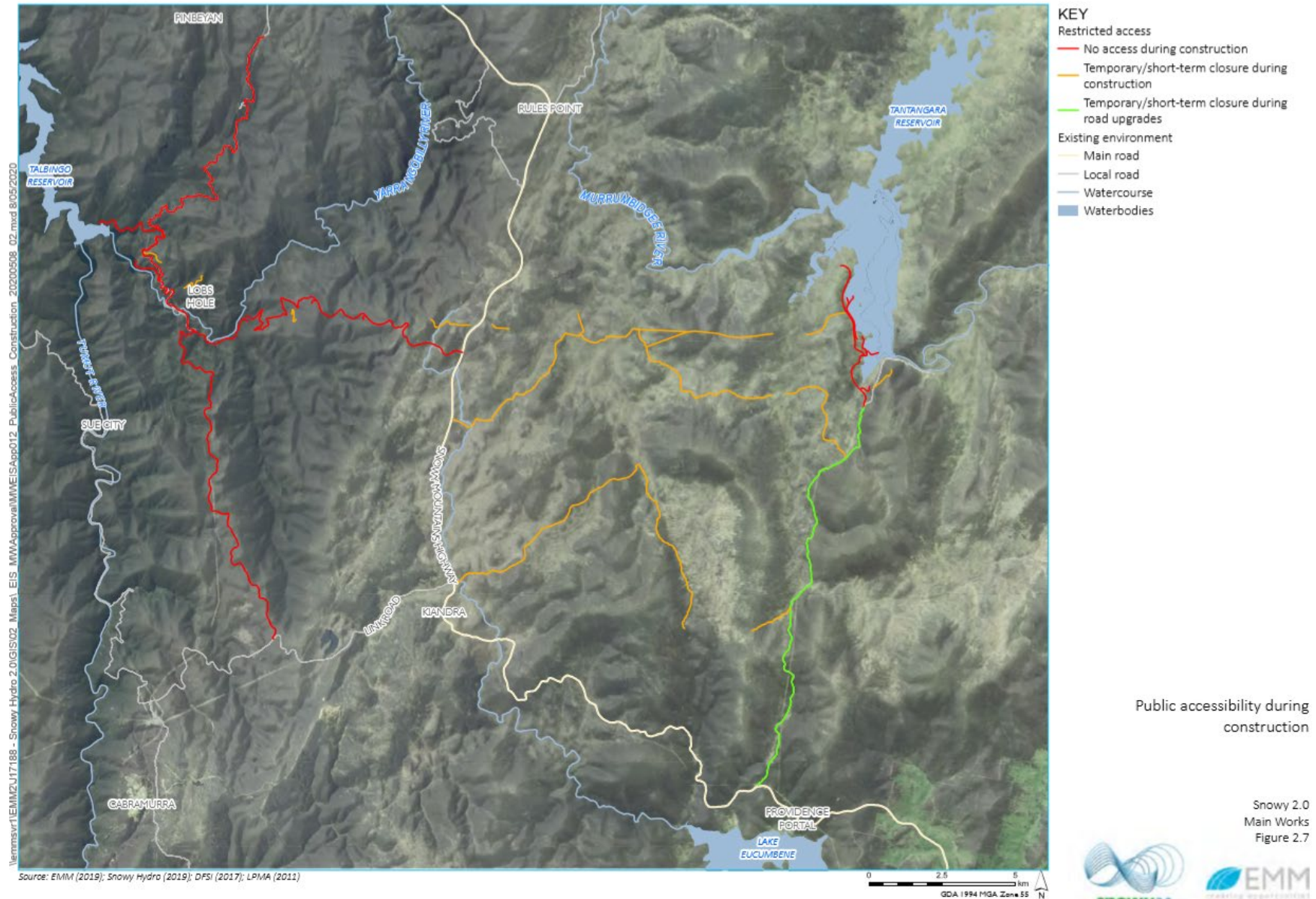
6. POST CLEARING REPORT

Post clearing reports will be prepared and will include:

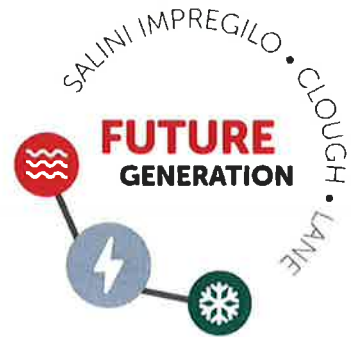
- the name and qualifications of the ecologist or wildlife carer present during clearing;
- an assessment of the habitat and handling of fauna;
- information on clearing operations, dates, procedures, areas;
- live animal sightings, captures, any releases or injured/shocked wildlife;
- fauna that have died as a result of clearing; and
- photographs of rescued fauna.

The cumulative quantity of native vegetation and habitat clearing will be tracked by Future Generation to ensure the project remains consistent with the conditions of approval.

ANNEXURE D – PRIMARY TRANSPORT ROUTES



ANNEXURE E – SPILL RESPONSE PROCEDURE



S2-FGJV-ENV-PRO-0058

SPILL RESPONSE PROCEDURE

Approval Record			
Document preparation, review and approval		Name in print	Signature
Prepared by	Environmental Consultant	S Mitchell	
Reviewed by	Environmental Consultant	R Walker-Edwards	
Verified by	Environment Manager	L Coetzee	
Approved by	Project Director	A. Betti	

Document Revision Table		
Rev.	Date	Description of modifications / revisions
A	24.02.2020	First Draft

Introduction

This procedure has been developed and will be implemented in accordance with the requirements of the Environmental Management Strategy (EMS) and corresponding approval requirements.

Objective

The objective of this procedure is to:

- detail the requirements for managing, containing and cleaning-up spills on-site including but not limited to chemical, fuel or oil spills or leaks that originate from the project work area that have the potential to contaminate soil and or water;
- to aid in minimising the emergency response time and in-turn minimise the potential impact to the environment; and
- meet the requirements in schedule 3, condition 30 of the Infrastructure Approval.

In the event of a spill the emergency response procedure provided on the following page will be implemented. All spills will be reported to the appropriate officer and immediately deploying spill containment and/ or absorption kits to restrict its spread.

Control Measures

Preventative Spill Measures

In order to minimise the potential environmental impacts to water and soil from spills the following will be undertaken by Future Generation:

- training in use of spill containment materials, their locations and spill response will be undertaken proactively as required particularly for personnel who are working within or near to aquatic environments such as dredging works;
- minimising vehicle and plant accessibility to waterways by maintaining the 50-metre exclusion zone around Yarrangobilly River (excluding some areas such as required water crossings);
- where possible, refuelling, washing and maintenance of vehicles and mechanical plant will occur at least 50 metres from waterbodies;
- plant and equipment will undergo regular checks and subsequent repair for potential leakages or worn hydraulic hoses;
- all chemicals including fuels and oils will be stored when not in use in bunded areas; and
- all chemicals and hydrocarbons will be stored and handled as per manufacturer's instructions;

Regular inspection of chemical storage and usage will be undertaken to assess compliance of the above measures.

Reactive Spill Measures

This includes response to any spills during the following activities which have a higher likelihood or consequence of spill occurrence:

- vegetation clearing and stripping of soils;
- refuelling, wash down and or maintenance of plant and equipment including marine equipment used for in reservoir geotechnical investigations;

- operation of equipment that require fuel, chemicals, lubricants or similar including pumps and water treatment plants;
- working within particularly sensitive environments including marine dredging, subaqueous material placement, in reservoir geotechnical investigation, waterway crossings or diversions.

The impacts of the spill should be isolated, and the Emergency Spill Response Flowchart implemented.

Spill containment material such as those listed in Table B 1 referred to as 'spill kits' will be kept, stocked on site at any location where there is significant risk/consequence of a spill including at refuelling areas, workshops, chemical storage and within the vicinity of waterways including on all marine vessels at all times.

The spill kits will be appropriately sized according to the volume of chemicals and fuels being stored or used as well as based on the potential for proliferation such as silt curtain lengths based on dredging extent (as required). All staff would be made aware of the location of the spill kit and trained in its use. Table B 1 provides examples of appropriate application of material types.

The Environment Team is available for assistance and advice in purchasing the correct spill containment materials. Spill kit inspections and required restocking and are to be undertaken on regular intervals such as during weekly site inspections in accordance with the EMS.

Table B 1: Spill containment materials

Name	Description
Hydrophobic booms	<ul style="list-style-type: none"> • Used to contain and absorb floating contaminants typically in aquatic environments including hydrocarbons. • Consider the need to install floating booms before starting works if there is potential for contamination in a waterbody • If the booms alone cannot absorb the contaminant then consider using absorbent material such as granules to soak up the spilled liquid on land or deploy additional surrounding booms or silt curtains when within a waterway
Silt curtains	<ul style="list-style-type: none"> • Used to minimise impacts due to contaminants within waterbody including sediments • Consider the need to install silt curtain(s) and the extent of the curtain(s) prior to commencing ground disturbance works including dredging in or near waterbodies • If one curtain alone cannot contain the contaminant then consider deploying additional curtains around the outer perimeter
Pads, Pillows and socks	<ul style="list-style-type: none"> • Used to clean-up (absorb) small to medium liquid spills on land rather than containing. Thin absorbent mats place over spills. Cushion shaped products containing absorbent fibres, used directly under a leak or drip. Absorbent socks placed at the low point of a spill • Consider the need to have a spill kit containing these at the source of the activity and extras in-stock on site • If these materials are not enough to clean-up the spill, consider using absorbent granular materials or equivalent
Drain Covers	<ul style="list-style-type: none"> • Used to filter or absorb contaminants as they enter a drainage system. Covers such as drain wardens placed over stormwater inlets and pit grates to filter sediments and, when installed with hydrophobic pillow, absorb hydrocarbons prior to entering to stormwater system • Covers should be installed within the pit/drain prior to works commencing. Consider regular checks and cleaning of drain covers to extend its life. • Consider installation of physical bunding, diversions away from drains or plastic pit gel covers if drain covers are frequently becoming laden with contaminant(s)

Name	Description
Sorbents	<ul style="list-style-type: none"> • Used to clean-up, sorbents are materials that soak up the spill such as saw dust and peat mixture. Spread the sorbent over the contaminant after control materials have been applied. Recover the contaminant/sorbent mixture using shovels/excavator bucket or similar • Sorbents can be used from small to large spills • Consider if a large quantity of sorbent needs to be used then manual recovery may be a more suitable method
Manual Recovery	<ul style="list-style-type: none"> • Used to physically remove the contaminant either by excavating the contaminant and adjacent soil on land or vacuum truck removal for contaminant and adjacent liquid/sludge in waterbodies • Control materials should be installed prior to manual recovery to prevent spread during recovery task
Drip trays and washout bunds	<ul style="list-style-type: none"> • Used to contain incidental leaks during plant and equipment maintenance and equipment washout post activities such as concrete works • Containers should be maintained and liquids/sludge collected should be regular removed appropriately • Consider if these containers are not sufficient to contain leaks/washout then construction of permanent bunding may be suitable

Incident management

Incidents are to be managed in accordance with the Section 7 of the EMS.

In the event of the occurrence of an incident as defined under the Infrastructure Approval, the Future Generation Environment Manager will immediately inform Snowy Hydro (verbally) who will contact Department of Planning, Industry and Environment and NPWS in accordance with the requirements of schedule 4, condition 5 of the Infrastructure Approval.

EMERGENCY SPILL RESPONSE FLOWCHART

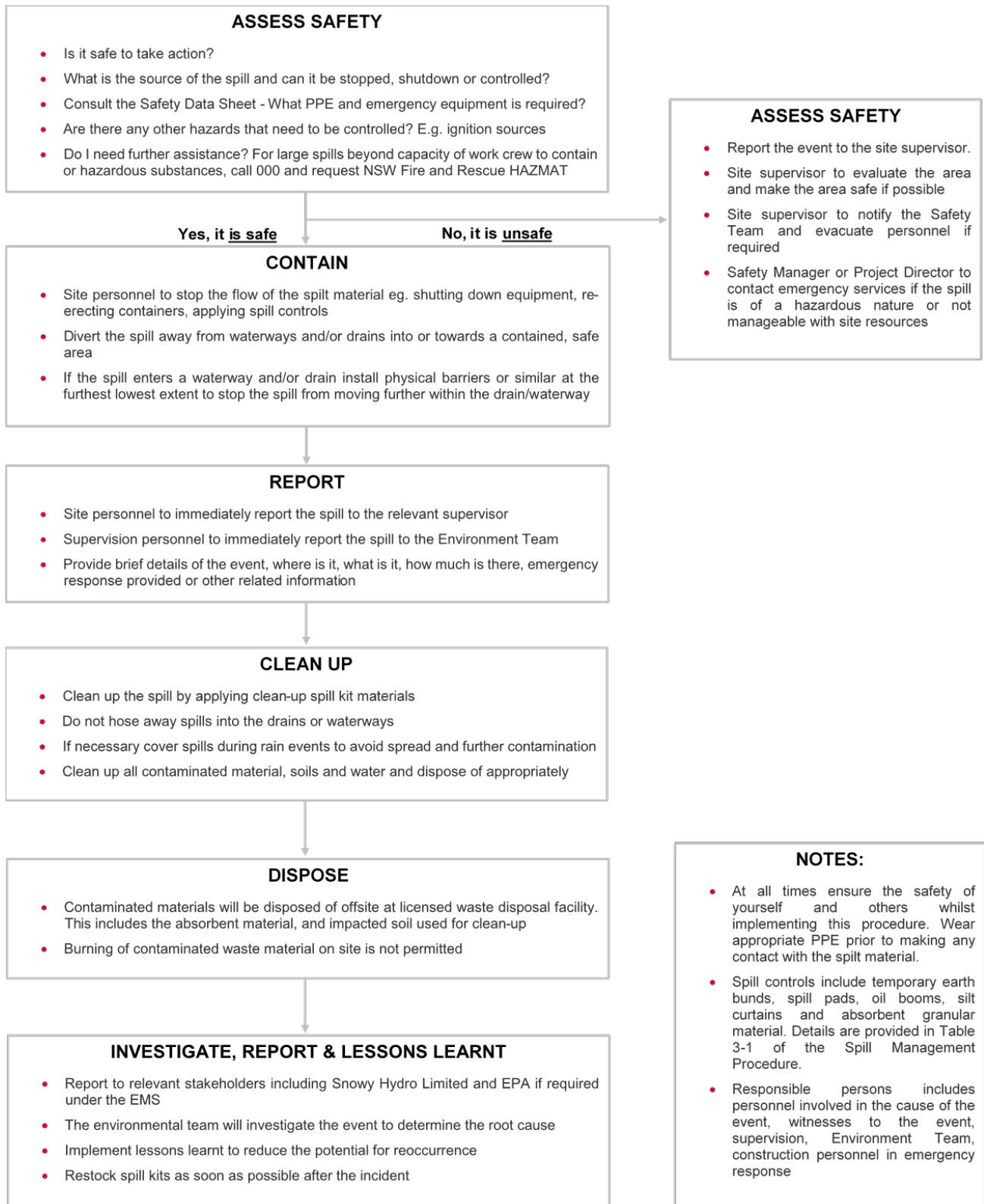


Figure B 1: Emergency Spill Response Flow Chart



ANNEXURE F – HYGIENE DECLARATION FORM

HYGIENE DECLARATION FORM

PART A: INFORMATION

Date	
Time	
Description of Equipment / Building / Container ID	
Make / Model / Building Type	
Registration No	
Vehicle / Plant Number	
Name of Operator / Driver	
Travelling / Delivered From	
Travelling / Delivered To	

PART B: WASHDOWN LOG

Location of Washdown and Inspection			
Is the equipment / building clean (i.e. free of all mud, seed, vegetative material, bio-security risks such as insects, animals, nests, etc)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
If travelling / delivered from outside the KNP to inside to the KNP has the equipment / building been disinfected? If so with what?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

PART C: DECLARATION (I, the undersigned declare that the information that I have provided in this declaration is true and correct)

Name	
Signature	
Date	

PART D: CHECK AT ENTRY TO SITE (to confirm the above)

Is the equipment / building clean and disinfected?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Name		
Signature		
Date		
If no, what remedial action is required? e.g. return to supplier, washdown offsite.		

PART E: CHECK AT ENTRY TO SITE HAVE REMEDIAL ACTIONS COMPLETED (only complete if answered no in Part D)

Have the remedial actions been completed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Name		
Signature		
Date		

HYGIENE DECLARATION FORM

HYGIENE CHECKLIST

LIGHT VEHICLES / TRUCKS							
Interior	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Tyre Rims	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Engine Bay	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Side Steps	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Grill	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Chassis	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Radiator	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Axels/Diffs	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Wiper Recess	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Suspension	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Wheels & Spares	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Fuel Tank Guard	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Wheel Arches	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Draw Bar	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Mud Flaps	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Toolboxes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Tray	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Air Filters	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
EARTHMOVING EQUIPMENT (EXCAVATORS, ROLLERS, LOADERS, GRADERS ETC.)							
Interior							
Pedal Covers	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Seat (incl. rubber shroud)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Joystick Control Housing	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Ladder	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Cabin Roof	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Footsteps	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Cabin Walls	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Floor and Floor Mats	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Air Conditioning Vents and Filter	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Cabin Housing	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Body and Engine Bay							
Air Filter and Air Filter Pre Cleaner	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Engine Cover Rubbers	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Engine Block	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Engine Covers	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Counterweights	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Wiring Harnesses	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Radiator	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Hollow Support Structures and Rails	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Radiator Shroud	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Hydraulic Rams	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Oil Cooler	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Lights and Cavities	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Belly Plates	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Rear Plates	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Tracks, Rollers, Drums, Tyres and Frames							
Rock Guards	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Track Frames	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Tracks	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Wheel Arches	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Rollers	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Wheels and Tyres	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Drive Motor	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Roller Frames	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Booms, Bucket, Blades, Rippers, Augers							
Blades	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Boots	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Ripper Support Frame	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Teeth	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Tines	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Booms	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Augers	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Other	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

HYGIENE DECLARATION FORM

BUILDINGS							
Internal Floors	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Shelves	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Windows	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Air condition units	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Doors	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Others (please list below)			
Walls	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Roof	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	2)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
External Base (opposite side of the floor)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	3)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Compartments / cubicles	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

ATTACH PHOTOGRAPHS:

APPENDIX A7 – EXPLORATORY WORKS APPROVAL CONDITIONS

Table A7-1: Exploratory Works conditions relevant to the EMS

Condition	Requirement	Where addressed
Environmental Management Strategy		
Schedule 4, condition 1	Prior to carrying out any development under this approval, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:	This document Section 1.7
	(a) provide the strategic framework for environmental management of the development;	Section 4 Section 4.1.3 Section 4.1.4
	(b) identify the statutory approvals that apply to the development;	Section 3.1 Section 3.4 Table 3-4 Appendix A2 – Legal and other requirements
	(c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Section 4.2 Section 4.2.2 Table 4-6
	(d) describe the procedures that would be implemented to: <ul style="list-style-type: none"> keep the local community and relevant agencies informed about the development being carried out; receive, handle, respond to, and record complaints; resolve any disputes that may arise during the course of the development; respond to any non-compliance; respond to emergencies; and 	Section 6.1.2 Section 6.2 Section 6.2.1 Section 8.4.1 Section 7.3
	(e) include: <ul style="list-style-type: none"> copies of any strategies, plans and programs approved under the Conditions of this approval; and a clear plan depicting all the monitoring to be carried out in relation to the development. 	Section 4.1.3 and Section 4.1.4 Section 8.2
Schedule 4, condition 2	The Proponent must implement the approved Environmental Management Strategy for the development.	This document Section 1.7
Update & Staging of Strategies, Plans or Programs		
Schedule 4, condition 3	<p>To ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development, the Proponent may submit revised strategies, plans or programs required under this approval at any time. With the agreement of the Planning Secretary, the Proponent may also submit any strategy, plan or program required by this approval on a staged basis.</p> <p>The Planning Secretary may approve a revised strategy, plan or program required under this approval, or the staged submission of any of these documents, at any time. With the agreement of the Planning Secretary, the Proponent may prepare the revised or staged strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this approval.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times. 	Section 1.9.1

Condition	Requirement	Where addressed
	<ul style="list-style-type: none"> If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program. 	
Revision of Strategies, Plans or Programs		
Schedule 4, condition 4	<p>Within 3 months, unless otherwise agreed with the Planning Secretary, of:</p> <ul style="list-style-type: none"> (a) the submission of an incident report under condition 5 below; (b) the submission of an audit report under condition 7 below; and (c) the approval of any modification to the conditions of this approval; or (d) a direction of the Planning Secretary under condition 4 of schedule 2; <p>the Proponent must review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Planning Secretary.</p> <p>Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Planning Secretary for approval, unless otherwise agreed with the Planning Secretary.</p> <p><i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</i></p>	Section 1.9.1
Incident notification		
Schedule 4, condition 5	The Department must be notified in writing via the Major Projects portal immediately after the Proponent becomes aware of an incident on site. The notification must identify the development, including the application number, and set out the location and nature of the incident.	Section 7.2.1
Non-compliance Notification		
Schedule 4, condition 6	The Department must be notified in writing via the Major Projects portal within 7 days after the Proponent becomes aware of any non-compliance. The notification must identify the development, including the application number, set out the Condition of approval that the development is non-compliant with, the way in which it does not comply, the reasons for the non-compliance (if known) and what actions have been taken, or will be taken, to address the non-compliance.	Section 8.4.1 Section 7.2.1
Compliance Reporting		
Schedule 4, condition 7	The Proponent must provide regular compliance reporting to the Department and NPWS on the development in accordance with the relevant <i>Compliance Reporting</i> requirements (DPE 2018).	Section 8.4.4 Compliance reporting for the Exploratory Works project will continue until surrender of the Exploratory Works Infrastructure Approval.
Regular Reporting		
Schedule 4, condition 8	The Proponent must provide regular reporting on the environmental performance of the development on its website in accordance with the reporting requirements in any strategies, plans or programs approved under the conditions of this approval.	Section 8.4.5
Independent Environmental Audit		
Schedule 4, condition 9	Within one year of the commencement of construction and every 3 years thereafter, unless the Planning Secretary directs otherwise, the Proponent must	Section 8.3.3 The Exploratory Works

Condition	Requirement	Where addressed
	<p>commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <ul style="list-style-type: none"> (a) be conducted by a suitably qualified lead auditor and suitably qualified, experienced and independent team of experts in any field specified by the Planning Secretary, whose appointment has been endorsed by the Planning Secretary; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the development and assess whether it is complying with the requirements in this approval, and any relevant EPL (including any assessment, plan or program required under these approvals); (d) review the adequacy of any strategies, plans or programs required under the abovementioned approvals; and (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under the abovementioned approvals; and (f) be conducted and reported to the satisfaction of the Planning Secretary. <p><i>Note: This audit must be undertaken in accordance with the Independent Audit requirements (DPE 2018).</i></p>	independent audit which is required to occur one year after the commencement of construction is underway.
Schedule 4, condition 10	Within 12 weeks of commissioning this audit, or as otherwise agreed by the Planning Secretary, the Proponent must submit a copy of the audit report to the Planning Secretary, together with its response to any recommendations contained in the audit report and a timetable for the implementation of these recommendations as required.	Section 8.3.3 The Exploratory Works independent audit which is required to occur one year after the commencement of construction is underway.
Schedule 4, condition 11	The Proponent must implement these recommendations, to the satisfaction of the Planning Secretary.	Section 8.3.3
Access to Information		
Schedule 4, condition 12	<p>From the commencement of development under this approval, the Proponent shall:</p> <ul style="list-style-type: none"> (a) Make copies of the following information publicly available on its website: <ul style="list-style-type: none"> • the EIS; • current statutory approvals for the development; • approved strategies, plans or programs required under the conditions of this approval; • a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs; • a summary of complaints, which is to be updated monthly; • any independent environmental audit, and the Proponent's response to the recommendations in any audit; • any other matter required by the Planning Secretary; and (b) keep this information up to date. 	Section 8.4.5