

S2-FGJV-ENV-PLN-0022

## ENVIRONMENTAL MANAGEMENT STRATEGY

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## ABBREVIATIONS AND DEFINITIONS

Acronym	Definition
AHD	Australian Height Datum
AC	Asbestos containing
AEP	Annual Exceedance Probability
AFL	Agreement for Lease with NPWS
AHMP	Aboriginal Heritage Management Plan
AMP	Asbestos Management Plan
ANZECC	Australian and New Zealand Environment and Conservation Council
APZ	Asset Protection Zone
AQHMP	Aquatic Habitat Management Plan
AQMP	Air Quality Management Plan
ARI	Average recurrence interval
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)
BFHRA	EIS Bushfire Risk Hazard risk assessment
BFMC	Bushfire Management Committees
BMP	Biodiversity Management Plan
BMS	Business Management System
CEMP	Construction Environment Management Plan
CLMP	Contaminated Land Management Plan
CMRP	Compliance Monitoring and Reporting Program
CoA	Conditions of Approval for the Snowy 2.0 Exploratory Works project
Contractor	For the Exploratory Works – 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 Stage 2 works on behalf of Snowy Hydro. References to the Contractor in this Environmental Management Strategy refers to Future Generation and includes all its sub-contractors.
CPESC	Certified Professional in Erosion and Sediment Control
CRAW	Construction Risk Assessment Workshops
CSSI	Critical State Significant Infrastructure
CTMP	Construction Traffic Management Plan
DMP	Dredge Management Plan
DPIE	NSW Department of Planning, Industry and Environment
DPI	Department of Primary Industries
EEC	Endangered Ecological Communities
EIS	<i>Environmental Impact Statement Exploratory Works for Snowy 2.0</i>
EMMP	Excavated Material Management Plan
EMS	Environmental Management Strategy

Acronym	Definition
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 (Bushfire)	Emergency Plan (Bushfire)
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
EWAR	Early Works Access Roads (Stage 1 – Leed)
ERMP	Emergency Response Management Plan
ERT	Emergency Response Team
ESCP	Erosion and Sediment Control Plan
FGJV	Future Generations Joint Venture
FRNSW	NSW Fire and Rescue
GIS	Geographical Information Systems
GWMP	Groundwater Management Plan
HAZID/ HAZOP	Hazard Identification / Hazard and Operability
HCHAR	EIS Historic Cultural Heritage Assessment Report
HHMO	Historic Heritage Management Plan
HNHMP	Historic and Natural Heritage Management Plan
HSE	Health, Safety & Environment
HSSE	Health, Safety, Security and Environment
ICNG	Interim Construction Noise Guidelines, DECC 2009
ISO	International Standards Organisation
JHA	Job Hazard Analysis
KNP	Kosciusko National Park
LG Act	<i>Local Government Act 1993</i>
MAE	Major Accident Event
MAP	Major Accident Prevention
MIC	Maximum instantaneous charge
MNES	Matters of national environmental significance under the EPBC Act 1999
MTMP	Maritime Traffic Management Plan
NATA	National Association of Testing Authorities
NOAMP	Naturally Occurring Asbestos Management Plan

Acronym	Definition
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPWS	National Park and Wildlife Service
NRAR	NSW Natural Resources Access Regulator
NSW	New South Wales
NVA	Noise and Vibration assessment
NVMP	Noise and Vibration Management Plan
OEH	Office of Environment and Heritage (now Biodiversity and Conservation Division)
OSOM	Oversize and Overmass
PIRMP	Pollution Incident Response Management Plan
Secretary	Secretary of the Department of Planning, Industry and Environment
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PoM	Plan of Management
Project, the	Snowy 2.0 – Exploratory Works
PTW	Permit to Work
RAP	Registered Aboriginal Parties
REMM	Revised Environmental Management Measures
RFS	Rural Fire Services
RLLS	NSW Riverina Local Land Services
RMP	Rehabilitation Management Plan
RMS	Roads and Maritime Services
RTS or Submissions Report	<i>Response to Submissions Exploratory Works for Snowy 2.0</i>
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 or SHL	Snowy Hydro Limited
SSI	State Significant Infrastructure
SWA	EIS Volume 4 Appendix M - Surface Water Assessment
SWMP	Surface Water Management Plan
TARP	Trigger Action Response Plan
TBM	Tunnel Boring Machine
TMP	Traffic Management Plan
TRMP	Talbingo Recreational Management Plan
VPA	Voluntary Planning Agreement
Waste MP	Waste Management Plan
Water Group	Department of Planning, Industry and Environment – Water Group
WMP	Water Management Plan

## 1. INTRODUCTION

Salini Impregilo, Clough and Lane have formed the Future Generation Joint Venture (Future Generation) to provide the Civil Works Package for Snowy Hydro Limited (SHL) on the Snowy 2.0 Project (the Project).

The Project is a pumped hydro project that will increase the generation capacity of the Snowy Mountains Scheme by up to 2,000mW and at full capacity will provide approximately 350,000MW/h of energy storage. The project includes all activities associated with the civil works requirements for the Snowy 2.0 Pumped Hydro-electric Scheme.

Intake and outlet structures will be built at both Tantangara and Talbingo Reservoirs, which are in the Kosciusko National Park (KNP) in southern NSW. Approximately 27km of concrete-lined tunnels will be constructed to link the two reservoirs and a further 20km of tunnels will be required to support the facility. The power station complex will be located almost one kilometre underground.

The project will deliver one of the largest pumped hydro schemes in the world and underscores the importance of the Snowy Scheme's role in the National Electricity Market.

Future Generation was conceived to deliver an integrated engineering, procurement and construction management service for the project. The joint venture is backed by the combined experience of Salini Impregilo, Clough and Lane, through their experience in the infrastructure, mineral and oil and gas sectors throughout Australia and the world.

### 1.1. Background

SHL is the proponent of the Snowy 2.0 project which is a pumped hydro-electric storage and generation project proposed to address increasing demands for renewable energy supplies. Snowy 2.0 involves linking Talbingo and Tantangara reservoirs within the existing Snowy Mountains Hydro-electric Scheme (Snowy Scheme) and building an underground power station between the two reservoirs.

Snowy Hydro proposes to carry out Exploratory Works prior to the main construction works for the Snowy 2.0 project. The Exploratory Works will inform detailed design and reduce overall project risk.

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.

The *Environmental Impact Statement for the Exploratory Works for Snowy 2.0* was submitted to the then Department of Planning and Environment in July 2018 and publicly exhibited between 23 July 2018 and 20 August 2018. A total of 58 submissions were received during the public exhibition period, including four from special interest groups and 54 individual community submissions. In October 2018, the response to submissions was prepared (Response to Submissions Exploratory Works for Snowy 2.0).

Following consideration of this document and the Environmental Impact Statement, approval was granted by the Minister for Planning on 7 February 2019. The Exploratory Work scope for Snowy 2.0 includes:

- investigations and preparatory activities;
- an exploratory tunnel to the site of the underground power station for Snowy 2.0;
- horizontal and test drilling;

- a portal construction pad;
- an accommodation camp;
- road works and upgrades providing access and haulage routes;
- barge access infrastructure and dredge works\*;
- excavated rock management, including subaqueous placement\* within Talbingo Reservoir;
- services infrastructure; and
- post-construction revegetation and rehabilitation.

***\*Note: these activities will not proceed unless the relevant management plans are approved by Department of Planning, Industry and Environment (DPIE).***

The Exploratory Works is estimated to take around 30 to 34 months to complete.

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 NSW National Parks and Wildlife Service (NPWS) since the announcement of Snowy 2.0 to ensure long term management objectives for Kosciuszko National Park are considered in project development.

The Project has been designed in a way that avoids and minimises impacts to Kosciuszko National Park where possible. This has included the planning of access roads and construction areas to avoid impacting the heritage listed Washington Hotel ruins at Lobs Hole, and Smoky Mouse habitat along Upper Lobs Hole Ravine Road. It also includes designing road upgrades to minimise impacts to geodiversity features including a block stream and a fossil outcrop along Lower Lobs Hole Ravine Road. The former copper mine at Lobs Hole is also considered a geo-heritage site, however it is also a source of known contamination and has therefore been avoided as much as possible to prevent disturbance.

While there are some unavoidable impacts during construction, the Exploratory Works will allow for a number of longer-term benefits and contributions to Kosciuszko National Park through a biodiversity offset program, improved access roads and recreational facility upgrades. The completion of Exploratory Works will also allow for the greater benefits of Snowy 2.0 to be realised.

#### **1.1.1. Modification 1**

In accordance with section 5.25 of the EP&A Act, the Infrastructure Approval issued for Exploratory Works was modified to:

- provide additional geotechnical information for the detailed design of the Snowy 2.0 power station and power waterway;
- provide a reliable long term source of construction power for the duration of Exploratory Works and will reduce the reliance on diesel generation and associated on-site storage and emissions;
- improve the efficiency of the Exploratory Works construction power;
- optimise the detailed design of construction areas and access roads; and
- improve worker safety during construction.

The Modification 1 Assessment Report was submitted to Department of Planning, Industry and Environment (DPIE) in June 2019, and was publicly exhibited between 26 June 2019 and 9 July 2019. A total of nine submissions were received, and following consideration, approval was granted by the Minister for Planning and Public Spaces on 2 December 2019.

Though Modification 1 included several changes, only the geotechnical investigations are relevant to the Stage 2 works and Future Generation's activities for the Exploratory Works project. This

AHMP has therefore been revised to address the Aboriginal heritage requirements and management measures from Modification 1 which are relevant to the geotechnical activities.

### 1.1.2. Modification 2

In accordance with section 5.25 of the EP&A Act, the Infrastructure Approval issued for Exploratory Works was modified to:

- revise the tunnelling method from drill and blast to predominantly tunnel boring machine (TBM);
- provide for road upgrades required to enable the transport and delivery of TBM equipment and materials required for tunnelling;
- include vegetation trimming, and selective tree lopping/removal on Lobs Hole Ravine Road (south) to provide adequate clearance for transport of the TBMs;
- improve access and egress to Lobs Hole via Lobs Hole Ravine Road (north);
- relocate the Middle Bay Barge ramp;
- increase the capacity of the Lobs Hole accommodation camp from 152 personnel to up to 250;
- provide for additional diesel storage capacity for the TBM until the Lobs Hole substation construction power is available;
- provide for the additional diesel generators required to provide power supply to the TBM prior to Lobs Hole substation commissioning; and
- revise the transport strategy to reduce the use of barging for delivery of materials to site.

The Modification 2 Assessment Report was submitted to Department of Planning, Industry and Environment (DPIE or Department) in October 2019, and was publicly exhibited between 5 November 2019 and 21 November 2019. A total of twenty-seven submissions were received, and following consideration, approval was granted by the Minister for Planning and Public Spaces on 27 March 2020.

Modification 2 included several changes, predominantly related to the excavation methodology for the Exploratory Works tunnel, road upgrades and increasing the capacity of the Lobs Hole accommodation camp. This EMS has been revised to address the changes which have occurred as a result of Modification 2.

## 1.2. Staging

Exploratory Works will be delivered in three distinct stages. These stages will be delivered by two different contractors.

Leed Engineering (Leed) is the contractor who will be carrying out the Snowy 2.0 Stage 1 work on behalf of SHL. Future Generation is the contractor who will be delivering the Snowy 2.0 Stage 2 works on behalf of SHL.

Works to be completed by Leed on behalf of SHL:

- **Stage 1a – Pre-construction Minor Works** - Stage 1a has been approved and commenced in the first quarter of 2019. The scope of pre-construction minor works includes dilapidation studies, survey work, borehole installation, site office establishment, minor access roads, installation of monitoring equipment, installation of erosion and sediment controls, and minor clearing.
- **Stage 1b - Exploratory Works Access Roads (EWAR)** – Stage 1b has been approved and commenced in the second quarter of 2019. The scope includes roadworks and upgrades to enable access and haulage routes during Exploratory Works. This includes upgrades to 26 km of existing roads and creating about 2 km of new roads, two new bridge crossings and two



temporary waterway crossings.

*Note: Test excavation, salvage and archival recording of all Aboriginal heritage objects likely to be impacted by Stage 2 works will be undertaken under the Stage 1 AHMP.*

Works to be completed by Future Generation on behalf of SHL:

- **Stage 2 – Exploratory Works** – Stage 2 has been approved and works commenced in October of 2019. The scope for Stage 2 Exploratory Works includes:
  - 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.

**This Plan identifies the project’s environmental management measures for the Exploratory Works – Stage 2. It has been specifically developed for the Exploratory Works – Stage 2.**

This EMS relates to Stage 2 works. Stage 2 includes the elements detailed in Section 2.1. Figure 1-1 shows the indicative timing for the main construction activities for Exploratory Works. The Exploratory Works is estimated to take around 30 to 34 months to complete. These may be subject to change due to alterations in design development, modifications to design, wet weather impacts etc. Future Generation’s Construction activities are anticipated to start in the third quarter of 2019. Pre-construction activities are planned to commence in Q2 2019 to align with Stage 1 pre-construction activities shown in Figure 1-2.

Construction works	2019				2020			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Site establishment work (survey, investigations, baseline monitoring, communications)								
Access roads								
Barge access infrastructure								
Accommodation camp								
Services infrastructure								
Main Access Tunnel portal								
Tunnelling								
Excavated materials management								

Figure 1-1: Indicative timing and Exploratory Works elements

Exploratory Works	2019				2020				2021			
Stage 1 – Access Roads												
Stage 2 – Exploratory Works												

Figure 1-2: Timing of Exploratory Works stages



### 1.3. Purpose

This Environmental Management Strategy (EMS) presents the framework for environmental management for Snowy 2.0 - Exploratory Works Stage 2 (the Project).

This EMP has been prepared to address the requirements of:

- the Infrastructure Approval (SSI 9208) (Approval) issued for Snowy 2.0 Exploratory Works on 7 February 2019 and modified on 2 December 2019 and 27 March 2020;
- the *Environmental Impact Statement Exploratory Works for Snowy Hydro 2.0* (Exploratory Works EIS);
- the revised environmental management measures (REMMs) within the *Response to Submissions Exploratory Works for Snowy 2.0* (Submissions Report or RTS);
- the *Modification 1 Assessment Report - Exploratory Works for Snowy 2.0* (Modification 1); and
- the REMMs within the *Response to Submissions - Exploratory Works Modification 1* (Submissions Report for Modification 1);
- the *Modification 2 Assessment Report - Exploratory Works for Snowy 2.0* (Modification 2); and
- the REMMs within the *Response to Submissions - Exploratory Works Modification 2* (Submissions Report for Modification 2).

The Exploratory Works RTS requires a CEMP to be prepared for the Project. To limit duplication, a separate CEMP has not been prepared and instead, this EMS has been prepared to meet both the requirements of the Conditions of the Approval in the preparation of an EMS, and any requirements in the RTS of the CEMP.

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 Future Generation, and therefore Snowy Hydro themselves, meet 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.

The EMS is designed to meet a number of objectives and to align with the already strong commitment Snowy Hydro has to environmental protection as a long-term employer and stakeholder within the Kosciuszko National Park region. The objectives are summarised below, further detail on objectives and targets is presented in Section 4.1.2:

- comply with all legislative requirements;
- construct the Project in accordance with the conditions of the Infrastructure Approval, the revised environmental management measures and any other environmental approvals;
- engage with stakeholders and the broader community, minimise complaints and respond to any complaints within a suitable timeframe;
- continuously improve environmental performance; and

- recognition of the role of National Parks and Wildlife Service (NPWS) as landlord under the Deed of Agreement for Lease (AFL).

Specific on-site management measures identified in this Plan will be incorporated into sub-plans of this EMS. These aspect specific documents will be prepared for construction activities and 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 the site-specific documents.

#### 1.4. Plans prepared to the satisfaction of DPIE

The EMS and relevant management plans (as required by the CoA) will be submitted to DPIE for confirmation that the document has been prepared to the satisfaction of the Secretary.

Work must not commence until the EMS and relevant management plans, appropriate to any staging of the works, have been approved by the Secretary. The exception to this, pending consent from DPIE, is the deferment of submission and approval of the Dredge Management Plan and the Subaqueous Placement Management Plan. FGJV propose that these plans be submitted for approval prior to dredging and subaqueous placement activities occurring, but after the approval of the EMS and other relevant management plans; and subsequent commencement of Construction.

Future Generation will be responsible for the implementation of this EMS and the management plans. Snowy Hydro and Future Generation will be responsible for assuring compliance to this EMS and the management plans.

#### 1.5. Consultation

Whilst there is no specific consultation requirement for this EMS, the Conditions of Approval (CoA) require that many of the management plans, strategies and programs which are required to be prepared for the Project be developed in consultation with relevant stakeholders and agencies.

To the extent practicable, Future Generation will provide stakeholders open and transparent consultation. Future Generation will seek to establish consultation processes as early as practicable with stakeholders. All consultation activities for the EMS and its subsidiary documentation will be coordinated with Snowy Hydro.

The consultation process will generally comprise:

- Snowy Hydro and / or Future Generation making a presentation to the stakeholder, including an explanation of the consultation program;
- the stakeholder being given a reasonable opportunity to comment on the materials presented, with a minimum of 10 business days to provide comment where practicable. Future Generation will document the stakeholder's comments, summarise the consultation conducted, the stakeholders' comments received and Future Generation's response to the comments.

The components of the consultation summary, comments and response relevant to that stakeholder will be made available to the stakeholder, if requested, following approval of the documentation.

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.

As required by the CoA, consultation will be conducted prior to the initial approval of the relevant document or implementation of the relevant management action, unless otherwise stated or agreed with the relevant stakeholder. Where there are any inconsistencies, the requirements set out in the CoA take precedence.

Table 1-1: Consultation required for the management plans, strategies and program

Document	Condition or requirement	Timing of document	Dept Of Planning, Industry and Environment	National Parks and Wildlife Service	NSW Environment Protection Authority	Department of Primary Industries – Fisheries	Department of Industry - Water	Biodiversity & Conservation (formerly DEH)	Relevant Registered Aboriginal Parties	NPWS, Tumut Brungle Gundagai Aboriginal	Snowy Valleys Council	Snowy Monaro Regional Council	Roads and Maritime Services	NSW Rural Fire Services
Environmental Management Strategy	Condition 1 of Sch 4	Prior to development	S											
App B1 - Biodiversity Management Plan, which includes:	Condition 6 of Sch 3; REMM ECO01; REMM ECO04	Prior to construction	S	C		C*		C						
• Weed and Feral Animal Management Plan	Section 4.11.4 of the RTS													
App B2 - Water Management Plan, which includes:	Condition 34 of Sch 3 REMM SOIL02	Prior to construction	S	C	C	C	C							
• Surface Water Management Plan														
• Groundwater Management Plan														
App B3 - Aboriginal Heritage Management Plan	Condition 14 of Sch 3; REMM HER01	Prior to development that could affect the Aboriginal heritage items	S	C				C	C	C				
App B4 - Historic & Natural Heritage Management Plan	Condition 20 of Sch 3; REMM HER03	Prior to development that could affect the historic or natural heritage items	S	C				C						
App B5 - Traffic Management Plan	Condition 46 of Sch 3; REMM TRA01	Prior to development	S	C							C	C	C	
App B6 - Emergency Plan (Bushfire)	Condition 54 of Sch 3; REMM PUS02	Prior to development		S										C*
App B7 - Aquatic Habitat Management Plan	Condition 8 of Sch 3	Prior to construction in Talbingo Reservoir, Yarrangobilly River and Wallaces Creek	S	C		C								
App B8 - Excavated Material Management Plan	Condition 29 of Sch 3; REMM CON02	Prior to carrying out any excavation	S	S	C									
App B9 - Subaqueous Emplacement Management Plan	Condition 25 of Sch 3	Prior to emplacing excavated material in the designated subaqueous emplacement area	S	C	C	C								
App B10 - Rehabilitation Management Plan	Condition 58 of Sch 3; REMM SOIL04	Within 6 months of carrying out development		S										
App B11 - Worker – Recreational Management Plan	Condition 2 of Sch 3	Prior to construction	S	C										
<b>Required to be prepared by the EIS or RTS</b>														
Contaminated Land Management Plan	REMM CON01	During construction												
Naturally Occurring Asbestos Management Plan	REMM CON01	-												
Noise and Vibration Management Plan	REMM KNP01; REMM NOI01	During construction												
Air Quality Management Plan	REMM AIR01	Prior to commencement												
Waste Management Plan	RTS 4.11.3	-												
Emergency Response Plan, which includes: Flood Emergency Response Plan	REMM PUS01 Section 4.1.7 of the RTS													
Maritime Traffic Management Plan	REMM PUS05	Prior to any waterway traffic movements											C*	
Landscape Management Plan	REMM KNP06; REMM SOIL03	-												

Note: 'S' indicates that the document is to be prepared to the satisfaction of that agency. 'C' indicates that consultation is required.

## 1.6. Distribution

Future Generation's Environmental Manager will coordinate the preparation, review and distribution, as appropriate, of the environmental documents. During construction, environmental documents will be stored at the site office and be readily available upon request to Future Generation's Environmental Manager.

The EMS and relevant management plans, programs or strategies will be made available to all personnel and subcontractors either by hard copy or through the Project document control system. An electronic copy will also be placed on the Project website. This document is uncontrolled when printed.

Registered copies will be distributed to:

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

## 1.7. Review and Improvement

### 1.7.1. Revision

This EMS shall be reviewed on a 6-monthly basis. Should the document review process identify any issues or items within the documents that are either redundant or in need of updating, it is the responsibility of the Future Generation's Environmental Manager to coordinate preparation of the revised documents.

In accordance with condition 4 of Schedule 4 of the Infrastructure Approval, within three months, unless otherwise agreed with the Planning Secretary, of:

- the submission of an incident report under Condition 5;
- the submission of an audit report under Condition 7; and
- the approval of any modification to the Conditions of the Infrastructure Approval; or
- a direction of the Planning Secretary under Condition 4 of schedule 2.

Future Generation's Environmental Manager must review, and if necessary, revise, the strategies, plans, and programs required under the Infrastructure Approval to the satisfaction of the Planning Secretary.

Where this review leads to revisions in any such document, then within four weeks of the review the revised document will be submitted to the Planning Secretary for approval, unless otherwise agreed with the Planning Secretary.

Where any revisions to the management plans, strategies or programs are made, the revised document will be issued to the Snowy Hydro for certification / acceptance of the changes prior to submission to DPIE. Changes which are minor may be approved by Snowy Hydro. Changes which are not minor will require the approval of DPIE. In accordance with Condition 3 of Schedule 4, revised strategies, plan or programs may be prepared without undertaking consultation with all parties nominated 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. Changes must be carried out after consultation

with the Future Generation Project Director and Future Generation Project HSE Manager.

Should the EMS or management plans not require review or revision under Condition 4, then they will be reviewed at least annually by the Future Generation Environmental Manager.

The approved EMS will be held in the Future Generation site office and be available upon request. Revised versions of the EMS will be made available through the processes described in Section 1.5.

### 1.7.2. 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 responds to major and unprecedented challenges faced by the New South Wales energy system and broader National Electricity Market. These challenges relate to rising energy costs, a deterioration in the energy systems reliability, and a transition away from coal-fired, dispatchable, base-load power to intermittent renewable wind and solar power.

Snowy 2.0 involves linking Talbingo and Tantangara reservoirs within the existing Snowy Mountains Hydro-electric Scheme (Snowy Scheme) and building an underground power station between the two reservoirs. This will increase the current Snowy Scheme generation capacity by almost 50%. The increased quick-start generation and large-scale storage capacity provided by Snowy 2.0 will increase the security and reliability of the National Electricity Market.

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 NSW National Parks and Wildlife Service (NPWS) since the announcement of Snowy 2.0 to ensure long term management objectives for Kosciuszko National Park are considered in project development.

### 2.1. General Features

The Exploratory Works package (the Project) will occur prior to the main construction works for Snowy 2.0, with the Exploratory Works being undertaken to inform detailed design and overall reduce project risk. Exploratory Works are required to obtain detailed geological data for the proposed location of the underground power station. A detailed description of the Project is provided in Section 7 of the RTS. Key elements of the Stage 2 Project are summarised below:

- pre-construction minor works (not construction activities) including:

- building/road dilapidation studies;
- survey works;
- installing groundwater bores in the Ravine beds on site for water supply;
- establishing a temporary site office;
- minor access roads to facilitate the pre-construction minor works;
- installation of environmental impact mitigation measures, including the installation 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;
- 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 TBM;
- road upgrades for transport and delivery of the TBM and TBM equipment (undertaken by SHL);
- a turnaround area on Link Road (undertaken by SHL) for transportation of the TBM equipment and materials to the construction areas at Lobs Hole and to facilitate set down and turn-back of oversize and overmass (OSOM) deliveries;
- horizontal and other test drilling, investigations and analysis in situ at the proposed cavern location and associated areas, and around the portal construction pad, access roads and excavated rock management areas all within the disturbance footprint;
- borehole drilling and geophysical surveys for further geotechnical investigation of the Snowy 2.0 power station and power waterway at Marica, Talbingo and Tantangara;
- ongoing groundwater monitoring using existing boreholes and access tracks within KNP;
- ongoing maintenance and rehabilitation of existing access tracks required for groundwater monitoring and geotechnical investigations within KNP;
- additional geotechnical drilling is proposed to enable investigation and detailed design of critical bridge works (Nungar Creek bridge) on Tantangara Road;
- additional laydown areas at Talbingo north for the transfer of plant and materials are proposed within Modification 1 to improve constructability;
- 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;
- an accommodation camp for the Exploratory Works construction workforce;
- barge access infrastructure, including one new barge ramp at Middle Bay near Lobs Hole at the southern part of Talbingo Reservoir;
- excavated rock management, including subaqueous placement within Talbingo Reservoir\*. Up to 750,000 m<sup>3</sup> of excavated rock will need to be tested for its geochemical properties (i.e. whether the rock is reactive or non-reactive) before being managed by a combination of the following options:
  - re-use – suitable material can be used as construction materials for roads or similar. Some materials will be provided to NPWS for use in road maintenance and upgrades in other areas of KNP;



- 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 (*Note: no material is to remain at any emplacement area and must be either sub-aqueously placed at Talbingo Reservoir or removed to a suitable place outside of KNP within three years of completion of the exploratory works (should Snowy 2.0 Main Works not proceed)*);
- 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; and
- services infrastructure such as diesel-generated power, water and communication;
- post-construction revegetation and rehabilitation, management and monitoring.

*\*Note: these activities will not proceed unless the relevant management plans are approved by DPIE.*

### 2.1.1. Works approved through Modification 1

The Exploratory Works - Modification 1 works scope is included in Table 2-1. For clarity this has been divided between Stage 1 and Stage 2 works.

The revised project boundary (disturbance footprint) for the project, as approved through Modification 1 of the Infrastructure Approval, has been included in Appendix A6 of the EMS.

**Table 2-1: Exploratory Works - Modification 1 works scope (Stage 1 and Stage 2)**

Stage 1	
Activity	Description
Lobs Hole Substation	<p>Additional disturbance area required for the construction power connection to an existing transmission line (Line 2) at Lobs Hole for power supply to the Exploratory Works accommodation camp and construction areas. This will provide a reliable and long-term source of construction power and will reduce the reliance on diesel generation and associated on-site storage requirements and emissions. Works in this area will include establishing a substation, connection infrastructure, access roads and ancillary construction areas. Works in this area will include establishing a substation, connection infrastructure, access roads and ancillary construction areas.</p> <p>This will include:</p> <ul style="list-style-type: none"> <li>• construction of a 330/33 kV substation within Kosciuszko National Park and adjacent to Line 2, which forms a 330-kV connection between Upper Tumut Switching Station and Yass Substation;</li> <li>• geotechnical investigation works to inform the detailed design of the construction power substation;</li> <li>• replacement of one transmission support structure (Structure 54) within the existing transmission easement. This will involve removal of the existing structure and establishment of one new steel lattice tower, approximately 50 m in height;</li> <li>• short overhead 330 kV transmission line connections (approximately 100 m in length) between the substation and the new Structure 54;</li> <li>• 33 kV feeder connection between the substation and the Exploratory Works construction power network. This will be either overhead lines or underground cables;</li> <li>• establishment and upgrade of access tracks and roads to the new substation and transmission line structures;</li> <li>• installation of a fibre optic communication link into the new substation from the approved communication network; and</li> <li>• ancillary activities, including brake and winch sites, crane pads, site compounds and</li> </ul>



	<p>equipment laydown areas. (Illustrated in Appendix A6 Figure 1i).</p>
Camps Bridge and Wallaces Creek	<p>Additional disturbance area around Camp Bridge and Wallaces Creek Bridge required for improved constructability of the crossings. Works within these areas will include vegetation clearing, levelling earthwork, erection of falsework, sediment controls, laydown, parking and movement of equipment. (Illustrated in Appendix A6 Figures 1h and 1i).</p>
Lobs Hill Ravine Road and Construction Boundary Changes	<p>Minor changes to the project boundary identified through detailed design including:</p> <ul style="list-style-type: none"> <li>revised road upgrade for Lobs Hole/Ravine Road to improve access, drainage and safety;</li> <li>minor additions to construction areas for design optimisation.</li> <li>removal of dangerous trees on Lobs Hole Ravine Road. This will involve either complete or partial removal of up to 91 trees that have been identified to pose a safety risk to road users on Lobs Hole Ravine Road and Mine Trail Road;</li> </ul> <p>(Illustrated in Appendix A6, Figures 1d, 1e, 1f and 1i).</p>
Operating Hours	<p>Modify use of Upper Lobs Hole Ravine Road from 7 am to 6pm to sunrise to sunset.</p>
Miscellaneous	<p>Continued use of existing communications towers within KNP that were previously approved by the NPWS under a separate review of environmental factors (REF R – Wallaces Creek Geotechnical drilling) environmental impact assessment carried out under the NSW National Parks and Wildlife Act 1974 (NPW Act) and its regulation for the geotechnical investigation program; and</p> <p>Increase in peak traffic volumes. Additional vehicles will be required to access the site to facilitate construction of Exploratory Works, however no change in impacts to the road network are expected. (The location of the communications towers illustrated in Appendix A6 Figures 1a, 1f, 1i).</p>
<b>Stage 2</b>	
<b>Activity</b>	<b>Description</b>
Borehole drilling and geophysical surveys	<p>This includes:</p> <ul style="list-style-type: none"> <li>borehole drilling and geophysical surveys for further geotechnical investigation of the Snowy 2.0 power station and power waterway at Marica, Talbingo and Tantangara;</li> <li>clearing of up to 2.79 hectares (ha) of additional vegetation for access tracks and drilling pads. About 1.33 ha within Smokey Mouse potential habitat;</li> <li>trimming of overhanging dangerous branches on adjacent trees (these trees will not require removal);</li> <li>mulching of trees and vegetation;</li> <li>establishment of an additional 1 km of access tracks (4 m wide), including minor earthworks;</li> <li>placement of geofabric (as required) and import of stabilised material;</li> <li>establishment of eight drilling pads and boreholes at top of the cavern area, with an area of 900 m<sup>2</sup> per pad, including minor earthworks, placement of geofabric (as required) and import of stabilised material (as required);</li> <li>undertaking geophysical surveys near Talbingo and Tantangara reservoirs;</li> <li>establishment of two drilling pads and boreholes at both Tantangara and Talbingo with an area of 900 m<sup>2</sup> per pad, including approximately 400 m of additional access tracks and minor earthworks (as required);</li> <li>establishment of in-reservoir boreholes including one in Talbingo Reservoir and two in Tantangara Reservoir;</li> <li>drilling of additional nested vertical boreholes at each of the drilling pads up to a depth of 1,100 m;</li> <li>conversion of the investigation boreholes into monitoring bores;</li> <li>undertaking geophysical surveys;</li> <li>rehabilitation of the drilling pads and access tracks following completion of works;</li> </ul>

	<ul style="list-style-type: none"> <li>ongoing maintenance of existing access tracks required for geotechnical investigations within KNP.</li> </ul> (Illustrated in Appendix A6 Figure 1j, 1k, 1l, 1m and 1n)
Talbingo Laydown	Outside of KNP, SHL is proposing to add four laydown locations to facilitate the construction of the communications cable linking Lobs Hole with the Tumut 3 Power Station.  These are proposed on existing hardstand areas along the northern foreshore of Talbingo Reservoir within Snowy Hydro owned land. Additional widening of Spillway Road for accessibility is required. (Illustrated in Appendix A6 Figure 1o)
Tantangara Access	Two additional geotechnical boreholes are required to facilitate the detailed design of cuttings, bridge foundations, retaining wall foundations, and drainage structures near Nungar Creek. (Illustrated in Appendix A6 Figure 1m and 1n)
Operating Hours	Modify use of Upper Lobs Hole Ravine Road from 7 am to 6pm to sunrise to sunset.

### 2.1.2. Works approved through Modification 2

The Exploratory Works - Modification 2 scope for Stage 2 works is included in Table 2-2.

The revised project boundary (disturbance footprint) for the project, as approved through Modification 2 of the Infrastructure Approval, has been included in Appendix A6 of the EMS.

**Table 2-2: Exploratory Works - Modification 2 works scope (Stage 2)**

Modification 2 - Stage 2 works	
Activity	Description
Tunnelling	<p>The tunnelling methodology has been revised and include the following:</p> <ul style="list-style-type: none"> <li>TBM method will used to excavate the exploratory tunnel. The TBMs will be fully equipped to perform the excavation, ventilation, lining, and removal of excavated material;</li> <li>the TBMs will be engineered to facilitate dismantling operations. This will avoid the need to excavate a preliminary dismantling chamber and allow the TBMs to be retrieved from the tunnel, thereby reducing the amount of excavated rock material;</li> <li>the TBM will be equipped with devices to perform the following surveys:               <ul style="list-style-type: none"> <li>geophysical seismic reflection surveys;</li> <li>geolectrical surveys; and</li> </ul> </li> <li>systematic probe core retrieval ahead of the advancing tunnel face;</li> <li>the probing results will also be used to determine the presence of potentially acid forming (PAF) and naturally occurring asbestos (NOA) material;</li> <li>the TBMs will be equipped with drilling machines to drill drainage holes with pipes to relieve groundwater pressures. If required, pre-excavation grouting will also be used to seal-off groundwater inflow and to improve the stability of the excavation face;</li> <li>post-excavation grouting from the segmental lining may also be used to further consolidate the surrounding rock and/or prevent water ingress if required.</li> </ul> (Illustrated in Appendix A6)
Design	<p>Detailed design and geotechnical investigations have been optimised. The project optimisation is expected to reduce the exploratory tunnel length by approximately 600 m and reduce the volume of excavated material by approximately 65,000 m3.</p> (Illustrated in Appendix A6)

Modification 2 - Stage 2 works	
Activity	Description
Road upgrades (undertaken by Future Generation and SHL)	<p>Minor road upgrade works will be undertaken to enable transport of TBM equipment and materials required for tunnelling.</p> <p>The road upgrades have been designed to avoid additionally impacting any areas of geodiversity significance including the boulder streams, karst and fossil features on Lobs Hole Ravine Road.</p> <p>(Illustrated in Appendix A6)</p>
Vegetation Clearing (undertaken by Future Generation and SHL)	<p>The additional clearing will include approximately 2.78 ha of vegetation to establish road upgrades on Lobs Hole Ravine Road (south), Lobs Hole Ravine Road (north) and Link Road.</p> <p>(Illustrated in Appendix A6)</p>
Transport Strategy	<p>Modification 2 proposes to revise the transport strategy so that materials and equipment required for Exploratory Works will be delivered using Lobs Hole Ravine Road (south) as the primary access road.</p> <p>(Illustrated in Appendix A6)</p>
Link Road Turnaround Area (undertaken by SHL or an SHL engaged contractor)	<p>A turnaround area will be established on Link Road for safe transportation of the TBM equipment and materials to the construction areas at Lobs Hole. The turnaround area will facilitate set down and turn-back of oversize and overmass deliveries.</p> <p>(Illustrated in Appendix A6)</p>
Lobs Hole Ravine Road (south) (undertaken by SHL or an SHL engaged contractor)	<p>Minor upgrade works will be undertaken on sections Lobs Hole Ravine Road (south) to enable the transport of the TBM equipment.</p> <p>(Illustrated in Appendix A6)</p>
Lobs Hole Ravine Road (north)	<p>Roadworks will be conducted at Lobs Hole Ravine Road (North) to provide improved access and egress to Lobs Hole. Roadworks will include road upgrade and widening in several sections suitable for passing bays as well as regular maintenance of the existing roadway.</p> <p>(Illustrated in Appendix A6)</p>
Middle Bay Barge Ramp	<p>The location of the Middle Bay barge ramp was revised as part of further refinement to the construction methodology. An alternative location for the Middle Bay barge ramp was identified to the west of the approved barge ramp location.</p> <p>A key benefit of the new barge ramp location is that it minimises the requirement for dredging as part of the barge ramp construction.</p> <p>(Illustrated in Appendix A6)</p>
Accommodation Camp	<p>Lobs Hole accommodation camp will increase capacity to provide beds for up to 250 personnel. The additional accommodation will be created through an additional storey to the Lobs Hole accommodation camp using modular and stackable accommodation units that will allow the expansion to be entirely within the existing disturbance footprint.</p>
Power Supply	<p>Additional power supply capacity is required to enable TBM tunnelling for Exploratory Works. The Lobs Hole substation proposed under Modification 1 is scheduled to be online from approximately October 2020 and will provide the power supply required for operation of the TBM. It is currently planned to commence tunnelling with the TBM from August 2020.</p> <p>In the period prior to the Lobs Hole substation commissioning the additional power supply required for TBM tunnelling will be provided by additional diesel generator sets. Diesel generator sets with a total capacity of 20 MVA as well as an additional three 65 kL diesel storage tanks will be installed at the portal construction pad.</p> <p>(Illustrated in Appendix A6)</p>

## 2.2. Project Location

The regional location of the Project is identified in Figure 2-1 and elements of the Project are identified in Figure 2-2, Figure 2-3 and Figure 2-4. Project boundary maps (disturbance footprint) can be found in Appendix A6 and within the appendices of each of the relevant management plans.

The Exploratory Works will predominantly be in the Lobs Hole area of Kosciuszko National Park and Talbingo Reservoir. The nearest large towns are Cooma, Tumut, Adaminaby and Tumbarumba.

The Project has been designed in a way that avoids and minimises impacts to Kosciuszko National Park where possible. This has included the planning of access roads and construction areas to avoid impacting the heritage listed Washington Hotel ruins at Lobs Hole, and Smoky Mouse habitat along Upper Lobs Hole Ravine Road. It also includes designing road upgrades to minimise impacts to geodiversity features including a block stream and a fossil outcrop along Lower Lobs Hole Ravine Road. The former copper mine at Lobs Hole is also considered a geoheritage site (referred to as natural heritage), however it is also a source of known contamination and has therefore been avoided as much as possible to prevent disturbance.

While there are some unavoidable impacts during construction, the Exploratory Works will allow for a number of longer-term benefits and contributions to Kosciuszko National Park through a biodiversity offset program, improved access roads and recreational facility upgrades. The completion of Exploratory Works will also allow for the greater benefits of Snowy 2.0 to be realised.



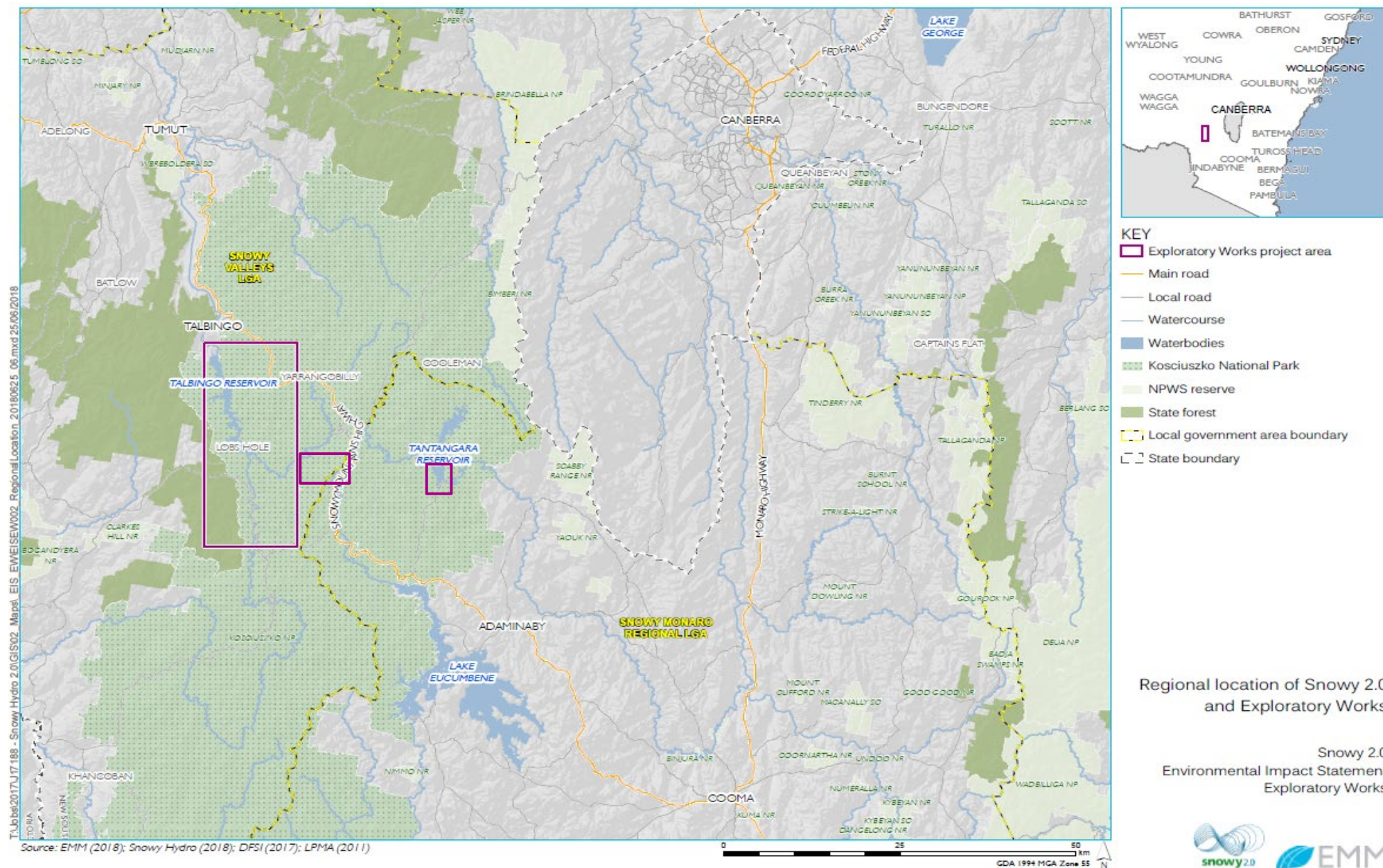
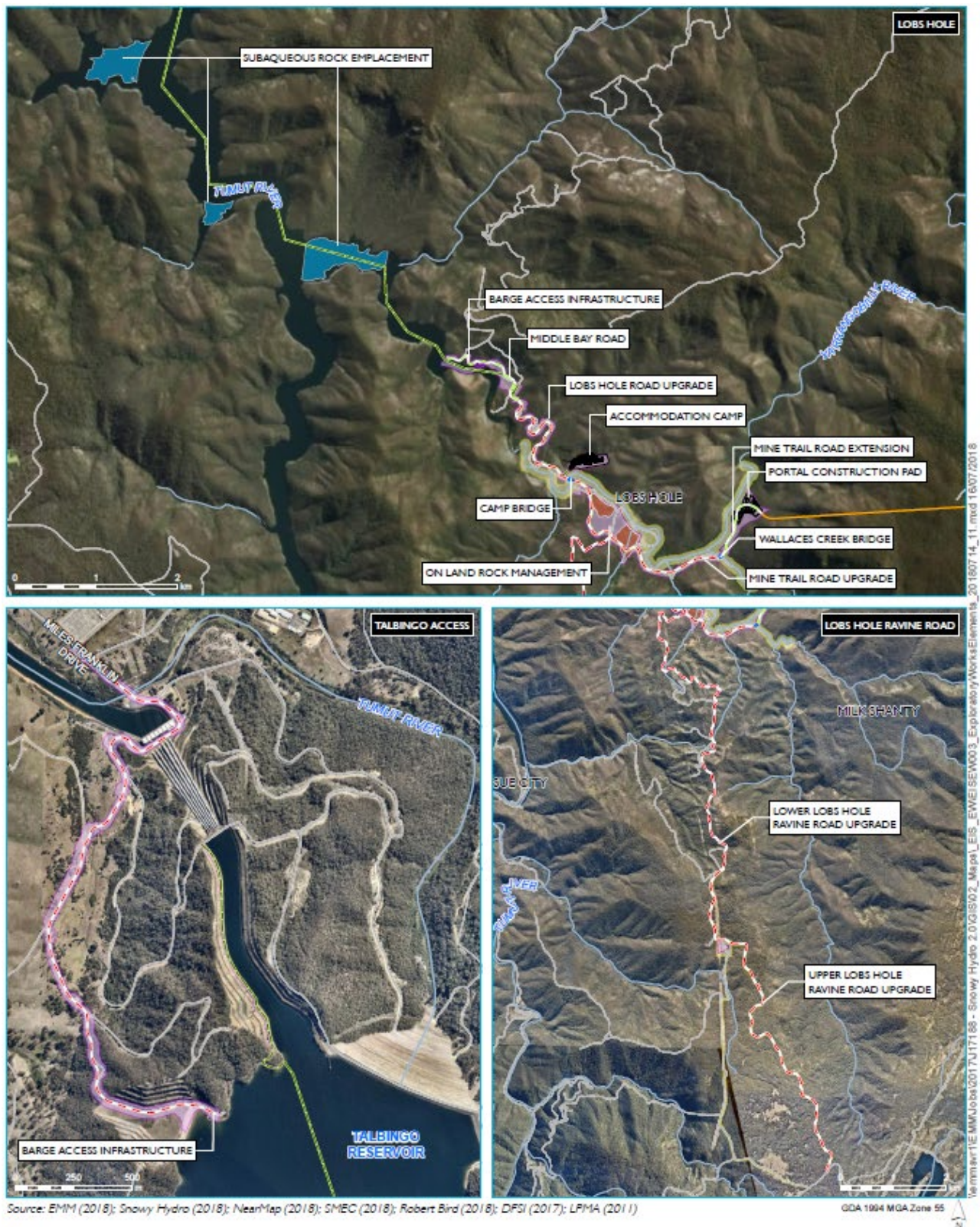


Figure 2-1: Regional location of Snowy 2.0 and Exploratory Works





#### KEY

- |  |                                       |
|--|---------------------------------------|
| — Exploratory tunnel   | — Local road or track                 |
| - - Access road upgrade  | — Watercourse                         |
| - - Access road extension  | — On land rock management             |
| — Permanent bridge   | — Subaqueous excavated rock placement |
| — Portal construction pad and accommodation camp conceptual layout | — Disturbance footprint               |
| — Communications cable   | — Avoidance footprint                 |

#### Exploratory Works elements

Snowy 2.0  
Environmental Impact Statement  
Exploratory Works



Figure 2-2: Exploratory Works elements (EIS, EMM)



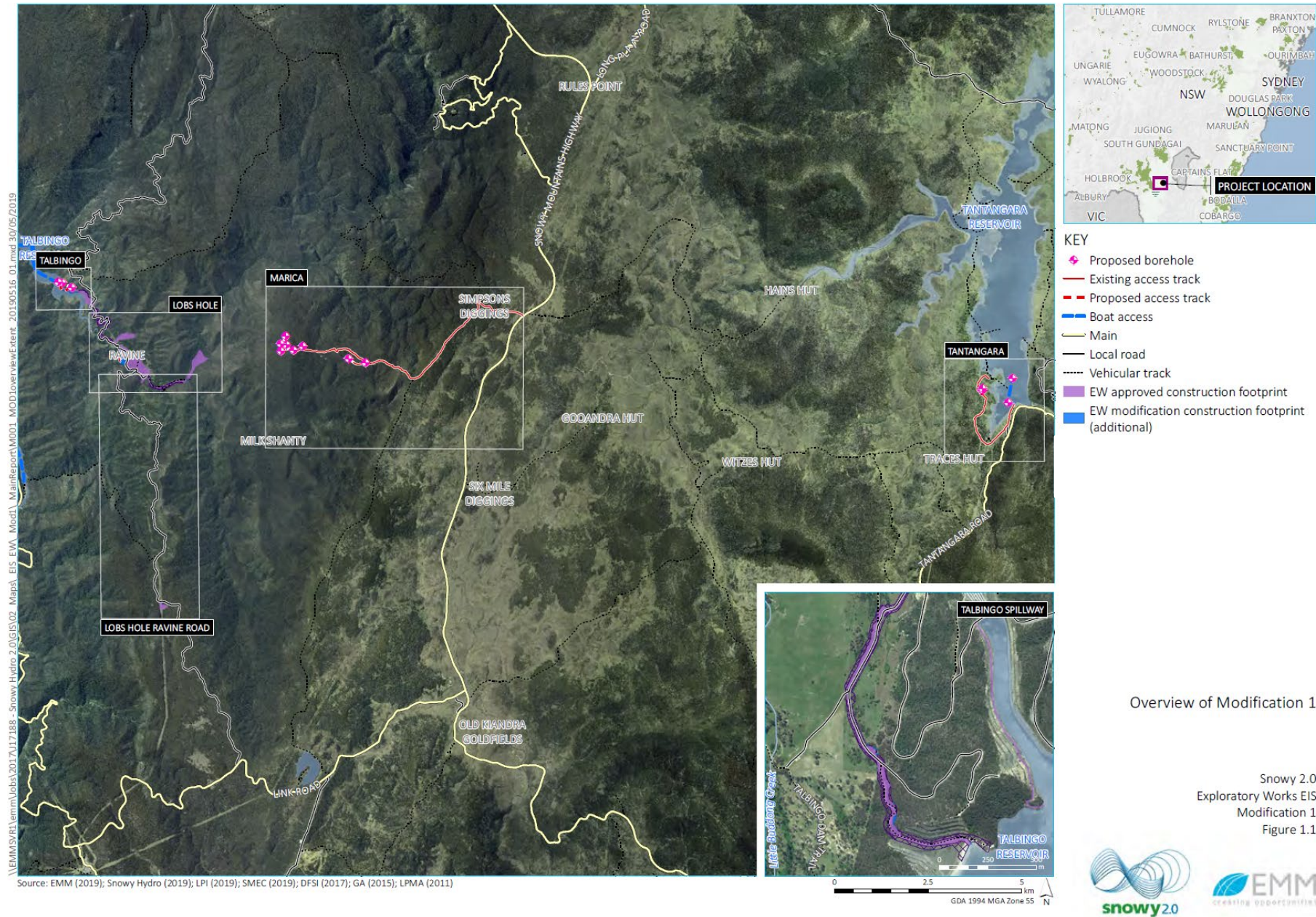


Figure 2-3: Overview of Modification 1 elements



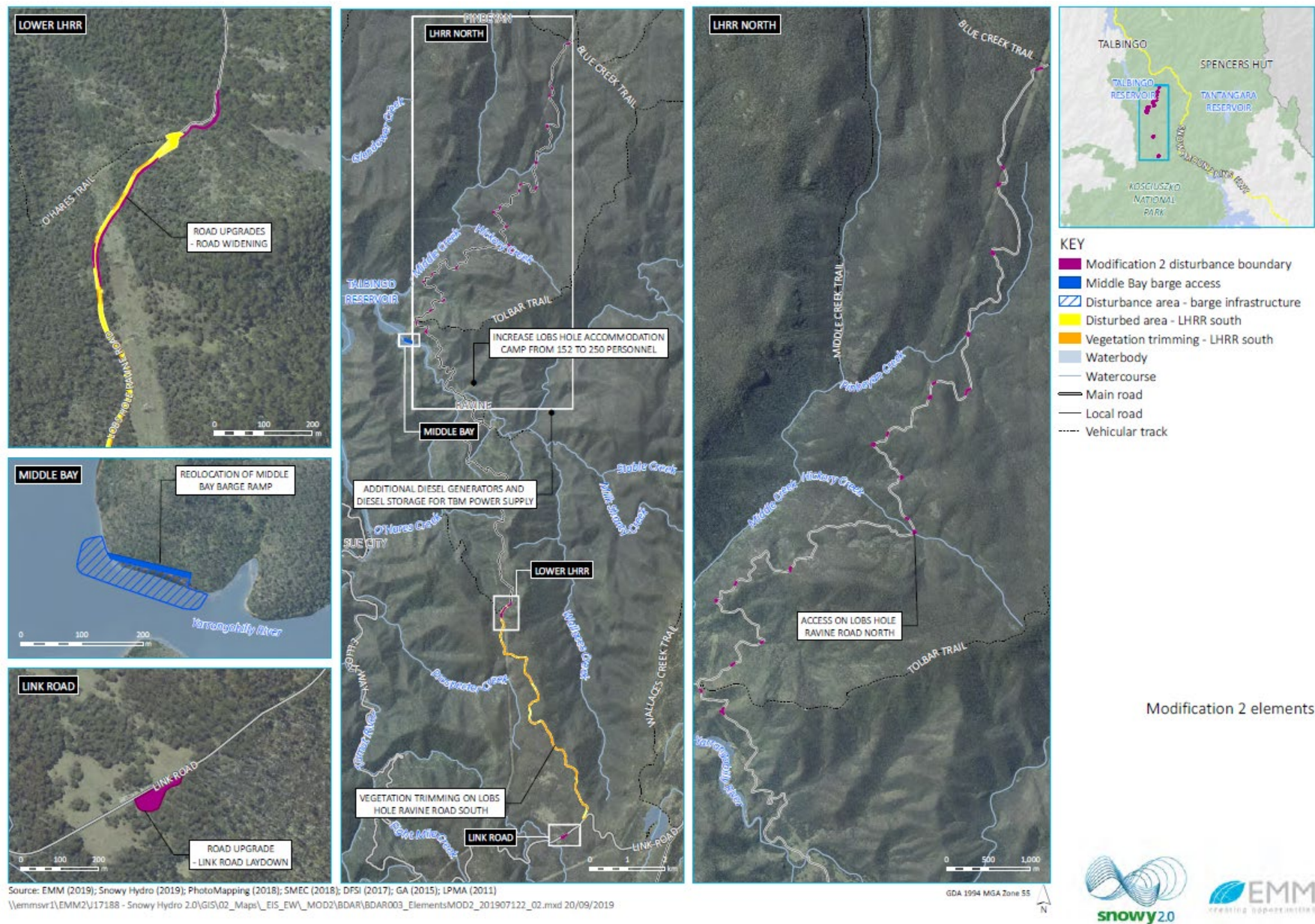


Figure 2-4: Overview of Modification 2 elements

## 2.3. Construction Hours

### 2.3.1. Working hours

Works can be carried out 24 hours per day, seven days per week other than those works outside of Kosciuszko National Park (adjacent to Talbingo township) as defined in Section 3.3.2.

Vehicle movements on Upper Lobs Hole Ravine Road can only be carried out between sunrise and sunset.

### 2.3.2. Outside Kosciuszko National Park (adjacent to township of Talbingo)

Unless the Planning Secretary agrees otherwise, works occurring outside Kosciuszko National Park may only be carried out between:

- 7 am to 6 pm Monday to Saturday; and
- at no time on Sundays and NSW public holidays.

The following construction activities may be undertaken outside these hours without the approval of the Planning Secretary:

- the delivery of materials requested by the NSW Police Force or other authorities for safety reasons; or
- emergency work to avoid the loss of life, property and/or material harm to the environment.

Note: For the purposes of this condition, outside of Kosciuszko National Park relates to the parts of the site that are adjacent to the township of Talbingo.

### 2.3.3. Blasting

Underground blasting may occur at any time. Blasting on the surface may only be carried out between 9am and 5pm Monday to Sunday.

## 2.4. General changes to the Project

Refinements to the Project may occur during detailed design or changed circumstances throughout construction. Design changes or changes in scope will be communicated to the Future Generation Environmental Manager either through formal change processes or via informal communications.

Proposed changes are to be assessed by Future Generation for consistency against the approved Project. The Future Generation Environmental Manager 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 under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). Once prepared, consistency assessments will be submitted to Snowy Hydro for determination by Snowy Hydro's Representative.

Changes deemed to be consistent with the approved Project can be approved to proceed by Snowy Hydro. 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.

If required, the EMS and management plans will be updated to incorporate any additional potential environmental impacts or management measures that resulted from the proposed changes. Updated management plans would then be re-submitted for the Secretary's approval.

## 3. PLANNING

### 3.1. Legal and Other Requirements

A register of legal and other requirements for the Project is included in Appendix A1. This register will be maintained by Future Generation throughout the Project within its files and updated as required. Updates may include new/amended approvals and licences, updated legislation, standards and codes of practice, or changes as a result of management reviews or internal or external audits.

Any changes made to the legal requirements register will be communicated to the wider team where necessary through toolbox talks, specific training and other methods detailed in Sections 3.1 and Appendix A1. Any update to the register will be considered to be minor in nature and could be approved by Snowy Hydro.

### 3.2. EPBC Act

The EPBC Act enables the Australian Government to join with the states and territories in providing a truly national scheme of environment and heritage protection and biodiversity conservation. The EPBC Act focuses Australian Government interests on the protection of matters of national environmental significance, with the states and territories having responsibility for matters of state and local significance. The objectives of the EPBC Act are to:

- provide for the protection of the environment, especially matters of national environmental significance;
- conserve Australian biodiversity;
- provide a streamlined national environmental assessment and approvals process;
- enhance the protection and management of important natural and cultural places;
- control the international movement of plants and animals (wildlife), wildlife specimens and products made or derived from wildlife;
- promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources;
- recognise the role of Indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and
- promote the use of Indigenous peoples' knowledge of biodiversity with the involvement of, and in cooperation with, the owners of the knowledge.

The Exploratory Works are not a controlled action under the EPBC Act. Snowy Hydro submitted an EPBC referral (Reference No. 2018/8217) dated 28 May 2018 to the Commonwealth Government. On 10 July 2018 the referral decision was made that the Exploratory Works are not a controlled action. Any proposed changes to the Project must consider the implications on the EPBC referral decision. This will be managed through the modification assessment process outlined in Section 2.4.

### 3.3. Critical State Significant Infrastructure

On 7 March 2018 the NSW Minister for Planning declared Snowy 2.0 to be critical State significant infrastructure (CSSI reference 18-9208) under the provisions of the EP&A Act on the basis that it is critical to the state for environmental, economic and social reasons. This declaration came into effect on 9 March 2018 and is included in clause 9 of Schedule 5 of the *State Environmental Planning Policy (State and Regional Development) 2011*.



As Snowy 2.0 is declared CSSI, applications for the different stages of the Project are required to be submitted under Part 5, Division 5.2 of the EP&A Act. The NSW Minister for Planning is the consent authority for applications for CSSI. Each application is subject to the provisions and requirements of a rigorous and robust planning process under the EP&A Act.

Under Parts 5.23 and 5.24 of the EP&A Act, the CSSI is exempt from a number of approvals under:

- *Fisheries Management Act 1994* (NSW);
- *Heritage Act 1977* (NSW);
- *National Parks and Wildlife Act 1974* (NSW);
- *Rural Fires Act 1997* (NSW);
- *Water Management Act 2000* (NSW) (excluding aquifer interference licence).

The requirements for any approvals which would otherwise be required for the Exploratory Works (if they were not designated as exempt under CSSI) are addressed in the Conditions of Approval. Refer to Sections 3.1 and Appendix A1 for further detail.

The Project must be carried out in accordance with the terms of the Approval and generally in accordance with the EIS. The EIS is defined in the Infrastructure Approval as the Environmental Impact Statement titled Environmental Impact Statement Exploratory Works for Snowy 2.0 dated July 2018, as modified by the:

- *Response to Submissions - Exploratory Works for Snowy 2.0* dated September 2018, the additional information titled *Exploratory Works for Snowy 2.0 – Amendment to Talbingo boat ramp and swimming area* dated 19 November 2018, and letter to the Department titled *Amendment to water supply* dated 21 December 2018; and
- *Modification Report for the Snowy 2.0 Exploratory Works* dated 6 June 2019, *Response to Submissions - Exploratory Works Modification* dated 2 September 2019, and letter to the Department titled *Amendment to the hours of operation on upper Lobs Hole Ravine Road* dated 4 October 2019;
- *Modification Report for the Snowy 2.0 Exploratory Works* dated 6 June 2019, *Response to Submissions - Exploratory Works Modification 2* dated 17 October 2019.

If there is any inconsistency between the procedures, commitments, preventative actions, performance criteria and mitigation measures set out in the documents above, or within this EMS, the conditions of Approval shall prevail to the extent of the inconsistency.

### 3.4. Conditions of Approval

The primary conditions relevant to the preparation of this EMS are detailed in Table 3-1. The full compliance table, detailing all CoAs and where they are addressed, is presented in Appendix A1. .

**Table 3-1: Conditions relevant to the EMS**

Condition	Requirement	Where addressed
<b>Environmental Management Strategy</b>		
Sch 4, Cond 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 EMS - Section 1.4
	(a) provide the strategic framework for environmental management of the development;	EMS – Section 4
	(b) identify the statutory approvals that apply to the development;	EMS – Section 3 EMS – Appendix A1
	(c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	EMS - Section 4.2
	(d) describe the procedures that would be implemented to: <ul style="list-style-type: none"> <li>keep the local community and relevant agencies informed about the development being carried out;</li> <li>receive, handle, respond to, and record complaints;</li> <li>resolve any disputes that may arise during the course of the development;</li> <li>respond to any non-compliance;</li> <li>respond to emergencies; and</li> </ul>	EMS - Section 6.2  EMS - Section 6.2 EMS - Section 6.2 EMS - Section 8.4 EMS - Section 7.3
	(e) include: <ul style="list-style-type: none"> <li>copies of any strategies, plans and programs approved under the Conditions of this approval; and</li> <li>a clear plan depicting all the monitoring to be carried out in relation to the development.</li> </ul>	EMS – Appendix A6  Appendix B – Management plans  EMS - Section 8.2
Sch 4, Cond 2	The Proponent must implement the approved Environmental Management Strategy for the development.	EMS - Section 1.3
Sch 4, Cond 3	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.  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. <i>Notes:</i> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>	EMS – Section 1.3 EMS – Section 2.1 EMS – Section 4.1.4
Sch 4, Cond 4	Within 3 months, unless otherwise agreed with the Planning Secretary, of: <ul style="list-style-type: none"> <li>(a) the submission of an incident report under Condition 5 below;</li> <li>(b) the submission of an audit report under Condition 7 below; and</li> </ul>	EMS – Section 1.6

Condition	Requirement	Where addressed
	<p>(c) the approval of any modification to the Conditions of this approval; or</p> <p>(d) a direction of the Planning Secretary under Condition 4 of schedule 2; the Proponent must review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Planning Secretary. 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>	
Sch 4, Cond 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.	EMS – Section 7.2.1
Sch 4, Cond 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.	EMS – Section 8.4.2
Sch 4, Cond 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).	EMS – Section 8.4
Sch 4, Cond 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.	EMS – Section 8.4.3
Sch 4, Cond 9	<p>Within one year of the commencement of construction and every 3 years thereafter, unless the Planning Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <ul style="list-style-type: none"> <li>(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;</li> <li>(b) include consultation with the relevant agencies;</li> <li>(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);</li> <li>(d) review the adequacy of any strategies, plans or programs required under the abovementioned approvals; and</li> <li>(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</li> <li>(f) be conducted and reported to the satisfaction of the Planning Secretary.</li> </ul> <p><i>Note: This audit must be undertaken in accordance with the Independent Audit requirements (DPE 2018).</i></p>	EMS – Section 8.3.2
Sch 4, Cond 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.	EMS – Section 8.3.2
Sch 4, Cond 11	The Proponent must implement these recommendations, to the satisfaction of the Planning Secretary.	EMS – Section 8.3.2

Condition	Requirement	Where addressed
Sch 4, Cond 12	<p>From the commencement of development under this approval, the Proponent shall:</p> <p>(a) Make copies of the following information publicly available on its website:</p> <ul style="list-style-type: none"> <li>the EIS;</li> <li>current statutory approvals for the development;</li> <li>approved strategies, plans or programs required under the conditions of this approval;</li> <li>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;</li> <li>a summary of complaints, which is to be updated monthly;</li> <li>any independent environmental audit, and the Proponent's response to the recommendations in any audit;</li> <li>any other matter required by the Planning Secretary; and</li> </ul> <p>(b) keep this information up to date.</p>	EMS – Section 8.4.3

### 3.5. Revised Environmental Management Measures

Environmental safeguards and management measures are included in the EIS in Section 6.3. During preparation of the Submissions Report, REMMS were developed and are included in Section 8 of the Submissions Report. REMMs relevant to Modification 1 are included in Section 8 of Modification 1 Response to Submissions Report. REMMs relevant to Modification 2 are included in section 7.2 of the Submissions Report for Modification 2.

The REMMs relevant to the EMS are listed in Table 3-2. The full set of REMMs, along with the management plan in which they are dealt with are outlined in Appendix A1. REMMs relevant to the management plans are dealt with within each of those management plans.

**Table 3-2: Revised environmental management measures relevant to EMS**

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"> <li>preserve as much of the topsoil and subsoil as possible;</li> <li>minimise the risk of contamination;</li> <li>minimise the risk of any topsoil degradation or compaction during construction and following reinstatement;</li> <li>ameliorate subsoil where required for use in rehabilitation works;</li> <li>minimise topsoil mixing with unsuitable soil and spoil materials during stripping and stockpiling; and</li> <li>ensure reinstatement of soil horizons in the correct order and required depths to allow for rehabilitation.</li> </ul>	EMS - Appendix B8 Excavated Material 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"> <li>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;</li> </ul>	EMS - Appendix B4 Historic and Natural Heritage Management Plan



Impact	Ref #	Revised Environmental Management Measures	Where Addressed
		<ul style="list-style-type: none"> <li>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;</li> <li>educational signage should be provided in a nearby suitably widened area to provide information on the periglacial rock stream geoheritage features;</li> <li>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.</li> </ul>	
Geodiversity – fossiliferous beds	GEO02	Measures to avoid and minimise impacts to geodiversity features will be implemented as part of the CEMP and include: <ul style="list-style-type: none"> <li>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</li> <li>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.</li> </ul>	EMS - Appendix B4 Historic and Natural Heritage Management Plan
Spills of hydrocarbons	WAT11	Procedures to address spills and leaks will be developed and implemented as part of the CEMP.	EMS - Appendix B2 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).	EMS - Appendix B2 Water Management Plan

### 3.6. Approvals, Permits and Licences

Snowy Hydro and/or Future Generation will obtain licences, permits and approvals as required by law for the works and maintain them as required throughout delivery of the Project. Future Generation shall comply with all relevant legal requirements. Copies of licences, approvals and permits relevant to the scope shall be held on site with files available for audit and inspection purposes.

Future Generation is to ascertain from the appropriate authorities what approvals, licences and permits are required for the work scope and obtain each necessary approval, licence and permit not obtained by Snowy Hydro prior to the commencement of any work which relates to that approval, licence, notification or permit.

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

An Agreement for Lease (AFL) is required to be established with NPWS (with an accompanying Works Access Licence), in order to carry out the relevant Stage 2 Exploratory Works in accordance with the EIS and CSSI 9208 and the approved Management Plans (including this EMS).

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

Legislation	Requirement	Relevant agency	Responsibility	Timing
<i>Environmental Planning and Assessment Act 1979</i>	Infrastructure Approval under the EP&A Act	Department of Planning, Industry and Environment (DPIE)	Snowy Hydro	<p>Prior to the commencement of the relevant infrastructure.</p> <p>Approval was granted by the Minister for Planning for the Project under Section 5.19 of the EP&amp;A Act on 7 February 2019, subject to a set of conditions. This EMS, in conjunction with the sub-plans and related documents addresses the Conditions.</p> <p>The Modification 1 Assessment Report was submitted to DPIE in June 2019, and was publicly exhibited between 26 June 2019 and 9 July 2019. A total of nine submissions were received, and following consideration, approval was granted by the Minister for Planning and Public Spaces in November 2019. The Modification 2 Assessment Report was submitted to DPIE in October 2019, and was publicly exhibited between 5 November 2019 and 21 November 2019. A total of twenty-seven submissions were received, and following consideration, approval was granted by the Minister for Planning and Public Spaces on 27 March 2020.</p>
<i>Protection of the Environment Operations Act 1997</i>	Environment Protection Licence (EPL) (21266)	Environment Protection Authority (EPA)	Snowy Hydro	<p>EPL 21266 has been issued for the scheduled activity of extractive activities. Other activities listed in condition A3.1 of the EPL include; chemical storage, concrete batching plant, process water treatment plant, road and bridge works and sewage treatment plant.</p>
<i>Water Management Act 2000</i>	Water access licence (s60 of the <i>Water Management Act 2000</i> )	Department of Industry – Water (DoI)	Snowy Hydro	<p>The <i>Water Management (General) Regulation 2018</i> provides exemptions for the requirement to obtain water access licences.</p> <p>Section 21 of the <i>Water Management (General) Regulation 2018</i> states that a person is exempt if the person is specified in any provision of Part 1 of Schedule 4 of the <i>Water Management (General) Regulation 2018</i> and takes water for any of those purposes.</p> <p>Relevant exemptions from Part 1 of Schedule 4 are detailed below:</p> <ul style="list-style-type: none"> <li>• clause 5 provides an exemption for any public authority lawfully engaged in the use of water for dust suppression;</li> <li>• clause 7 provides an exemption for water taken in course of certain aquifer interference activities (in relation to taking up to 3 ML of groundwater from a groundwater source);</li> <li>• 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.</li> </ul>

Legislation	Requirement	Relevant agency	Responsibility	Timing
				<p>Water access licences would therefore not be required if used for dust suppression; or if in the course of certain aquifer interference activities (in relation to taking up to 3ML of groundwater from a groundwater source).</p> <p>Consultation with DPIE Water will continue in finalising approval requirements.</p> <p>Mining is the 'winning or removal of materials by methods such as excavating, dredging drilling or tunnelling for the purpose of obtaining minerals or petroleum...'. As this is not occurring as part of the Exploratory Works project, it is considered that an approval under section 60I is not applicable.</p> <p>Consultation with Dol will however continue in finalising approval requirements.</p>
	Water use approval (s89) or water management work approval (s90) of the <i>Water Management Act 2000</i>	Department of Industry – Water	Snowy Hydro	Certain approvals and authorisations are not required for approved State significant infrastructure (SSI). In accordance with s 5.23 of the EP&A Act, SSI projects are exempt from requiring a water use approval or water management work approval.
	Aquifer interference approval may be required in accordance with section 91 of the <i>Water Management Act 2000</i>	Department of Industry – Water	Snowy Hydro	<p>Certain approvals and authorisations are not required for approved State significant infrastructure (SSI). In accordance with s 5.23 of the EP&amp;A Act, SSI projects are exempt from requiring an activity approval (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"> <li>(a) the penetration of an aquifer,</li> <li>(b) the interference with water in an aquifer,</li> <li>(c) the obstruction of the flow of water in an aquifer,</li> <li>(d) the taking of water from an aquifer in the course of carrying out mining, or any other activity prescribed by the regulations,</li> <li>(e) the disposal of water taken from an aquifer as referred to in paragraph (d).</li> </ul> <p>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.</p> <p>If aquifer interference is expected to occur through excavation, deep excavations and dewatering then an aquifer interference licence may be required. The project will continue to liaise with DPIE Water.</p>
<i>Roads Act 1993</i>	Road occupancy licence	Roads and Maritime Services	Contractor	Prior to relevant works and / or road occupancy.

Legislation	Requirement	Relevant agency	Responsibility	Timing
<i>Local Government Act 1993</i>	Building Code Construction Certificate and Occupation Certificate	Snowy Valleys Council or private certifier	Contractor	Construction Certificate and Occupation Certificate may be required prior to the commencement of construction or use of relevant structures in the surface infrastructure area.
	Section 68 approval	Snowy Valleys Council	Contractor	Prior to construction of sewage treatment plant.
<i>Fisheries Management Act 1994</i>	Section 37 approval	DPI – Fisheries	Snowy Hydro Contractor	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.



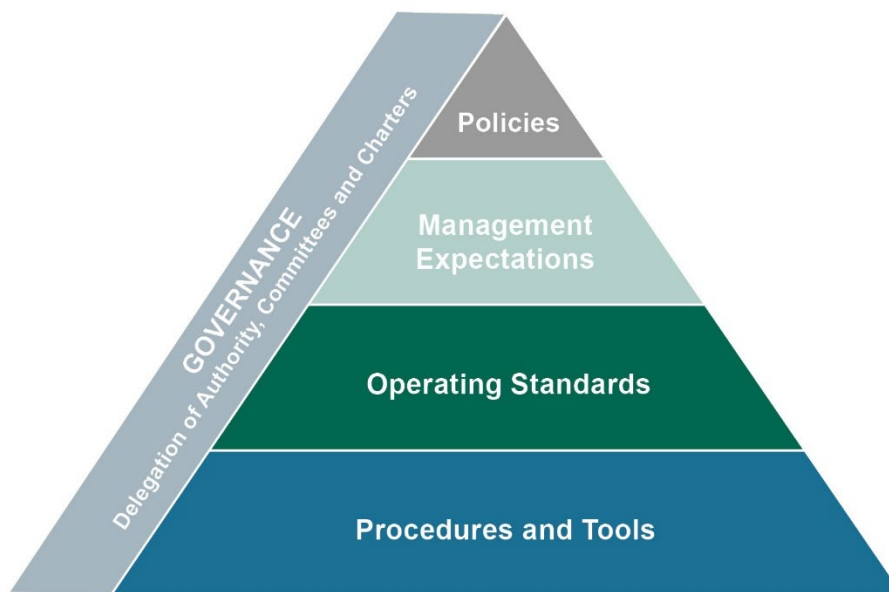
### 3.7. Standards and Guidelines

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 Packs.

## 4. ENVIRONMENTAL MANAGEMENT SYSTEM

### 4.1. Environmental Management Framework

The project will use the Future Generation Business Management System (BMS) 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 A2.</p> <p>The <i>Code of Conduct</i> outlines expectations for personal accountability to assist personnel making decisions in their day to day work, including compliance with laws.</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>
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"> <li>• <i>Environment Management Operating Standard</i></li> <li>• <i>Major Accident Event Hazard Management Operating Standard.</i></li> </ul>
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 & 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 A2.

The Policy for Environment, Sustainability and Community will be communicated to staff and Contractors via inductions and ongoing awareness programs as set out in Table 4-2.

**Table 4-2: Policy communication**

What	Who	When
Communicate environment and sustainability policies to Future Generation employees	Future Generation Project Construction Manager Future Generation Project Environmental Manager	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	Future Generation Project Construction Manager	Prior to commencement of operations

What	Who	When
	Future Generation Project Environmental Manager	
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	Full compliance with statutory approvals.	Audits, compliance reporting and tracking, 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, compliance 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, compliance reporting and tracking, audits.
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.	Compliance reporting and tracking, 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, the revised environmental management measures presented in the RTS, *ISO 14001 Environmental Management Systems* and the *Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004)*.

This EMS 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 and procedures 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.

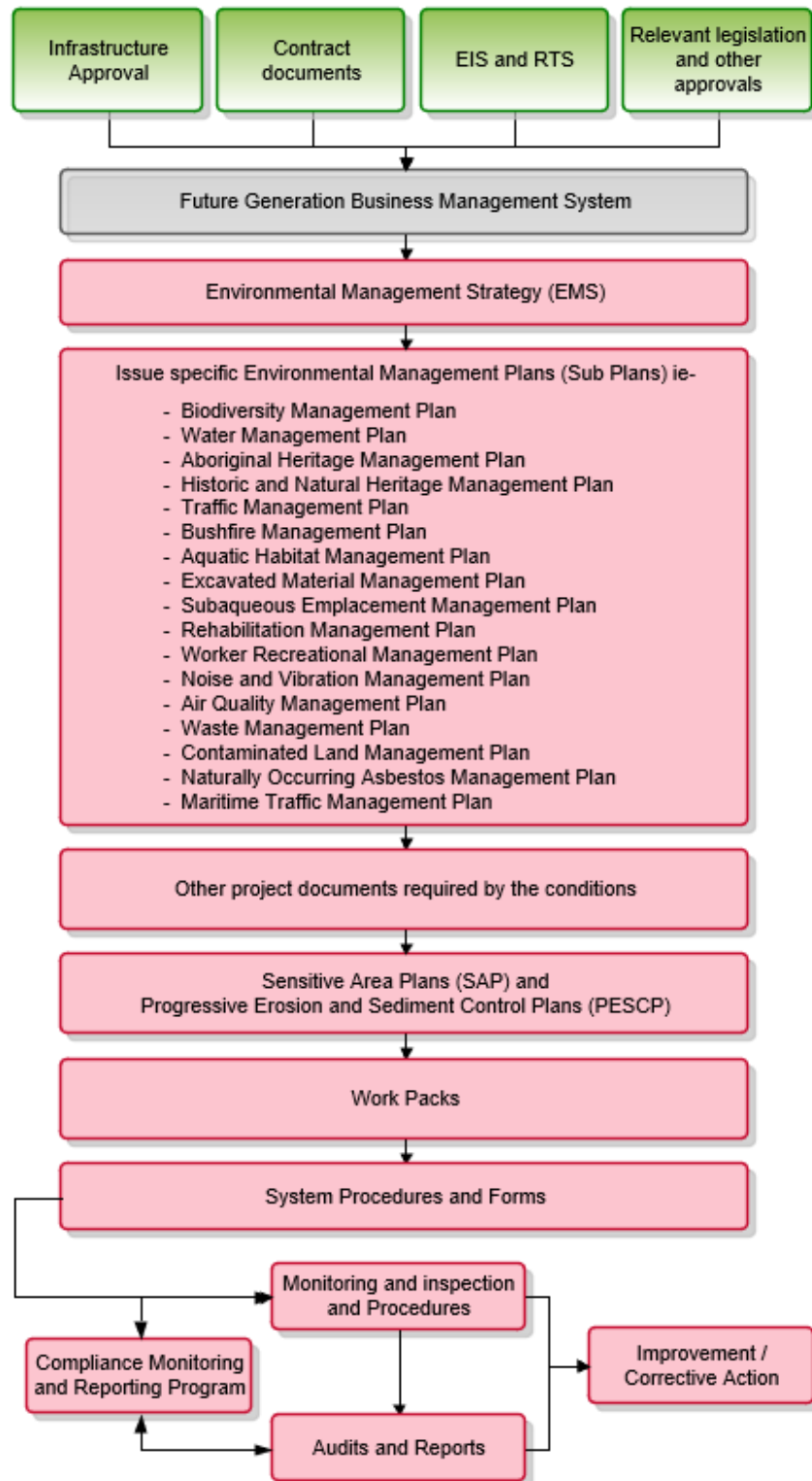


Figure 4-2: EMS Hierarchy



The EMS has been developed to give effect to Future Generation's commitment, the environmental obligations and the systems described in the HSSE Manual, to the Project. It includes subsidiary management plans and associated environmental monitoring programs to address specific significant environmental issues associated with the Project, and specific CoA.

The EMS also sets out other specific documentation required, such as:

- attachments to the management plans, including:
  - approvals register, environmental obligations register, risk register
  - sub-plans
  - worksite Sensitive Area Plans
  - procedures and work instructions for conducting particular activities
- records and checklists, including:
  - monitoring and inspection records
  - reports.

The EMS will be reviewed and amended to incorporate additional requirements as required, changes to the project team, organisational structure and responsibilities or as improvements to procedures and methodologies develop (refer Section 1.7).

#### 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 CoA 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. Figure 4-3 and Figure 4-4 set out the structure of the EMS and management plans.

**Table 4-4: EMS and management plans**

Plan	Timing and application	Has the plan been prepared for Stage 1?	Will the plan be revised and reissued for Stage 2?
Environmental Management Strategy (this document)	Prepared prior to development	Yes	Yes
Appendix B1 Biodiversity Management Plan	Prepared prior to construction	Yes	Yes
Appendix B2 Water Management Plan	Prepared prior to construction	Yes	Yes
Appendix B3 Aboriginal Heritage Management Plan	Prepared prior to development that could affect the Aboriginal heritage items listed in Table 3-1 in Appendix 3	Yes	Yes
Appendix B4 Historic and Natural Heritage Management Plan	Prepared prior to development that could affect the historic and natural heritage items listed in conditions 16, 17 and 19	Yes	Yes

Plan	Timing and application	Has the plan been prepared for Stage 1?	Will the plan be revised and reissued for Stage 2?
Appendix B5 Traffic Management Plan	Prepared prior to development	Yes	Yes
Appendix B6 Emergency Plan (Bushfire)	Prepared prior to development	Yes	Yes
Appendix B7 Aquatic Habitat Management Plan	Prepared prior to any construction in Talbingo Reservoir, Yarrangobilly River and Wallaces Creek	Yes	Yes
Appendix B8 Excavated Material Management Plan	Prepared prior to construction	Yes	Yes
Appendix B9 Subaqueous Emplacement Management Plan	Prepared prior to emplacing excavated material in the designated subaqueous emplacement area	No	Yes – will be prepared prior to emplacement
Appendix B10 Rehabilitation Management Plan	Within 6 months of carrying out the development	No	Yes – will be prepared within 6 months
Appendix B11 Worker – Recreational Management Plan	Prior to construction	Yes	Yes
Appendix B12 Noise and Vibration Management Plan	During construction (detailed in the RTS)	Yes	Yes
Appendix B13 Air Quality Management Plan	Prepared prior to construction	Yes	Yes
Appendix B14 Waste Management Plan	Prepared prior to construction	Yes	Yes
Appendix B15 Contaminated Land Management Plan	Prepared prior to construction	Yes	Yes
Appendix B16 Naturally Occurring Asbestos Management Plan	Prepared prior to construction	Yes	Yes
Appendix B17 Maritime Traffic Management Plan	Prepared prior to any waterway traffic movements	No	Yes

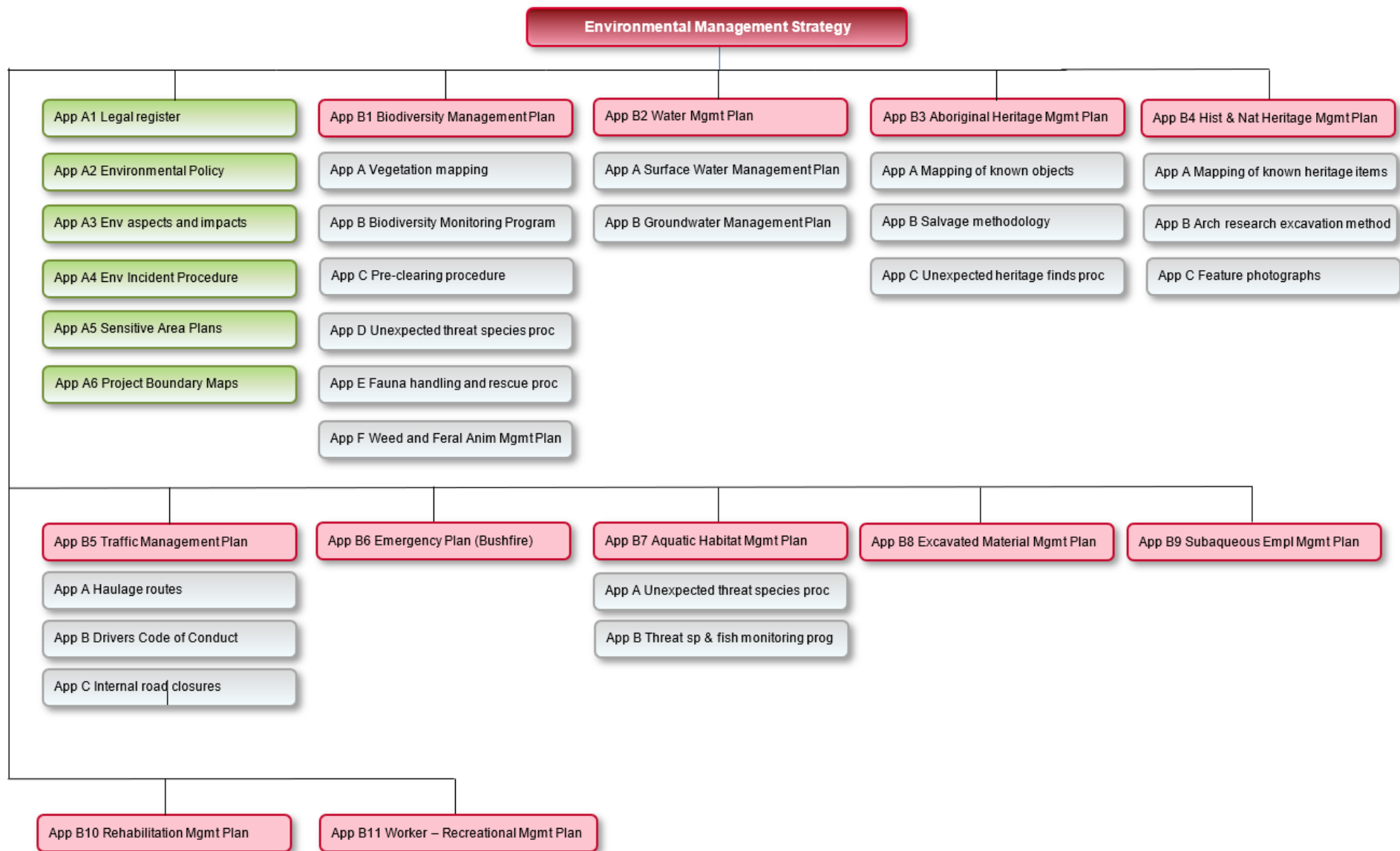
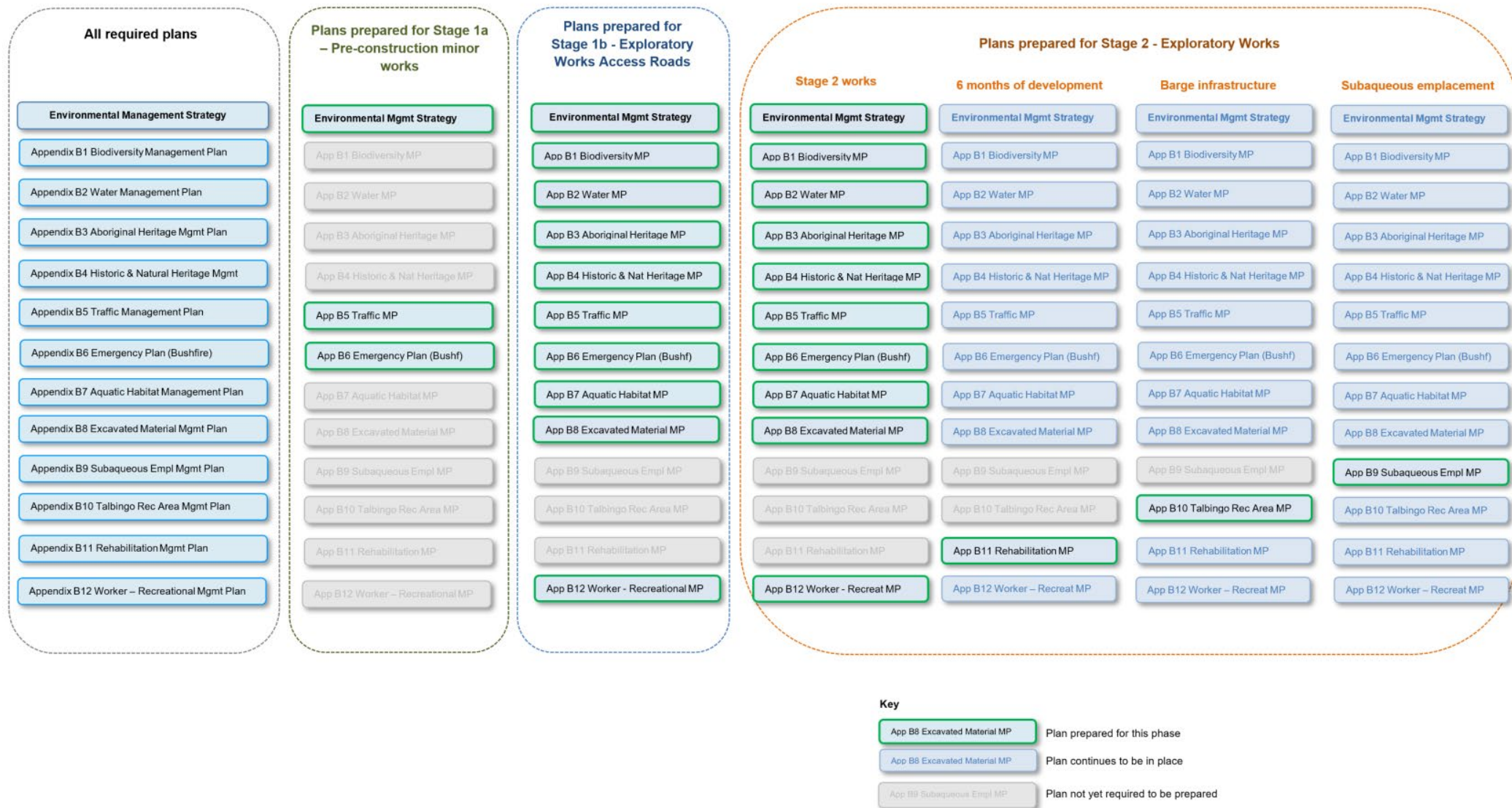


Figure 4-3: EMS Plan appendices outline



**Figure 4-4: Sequence of management plans (or as otherwise agreed by DPIE)**

Note - the Talbingo Recreation Area Management Plan is no longer required.



#### 4.1.5. Compliance Tracking

The Compliance Monitoring and Reporting Program will be implemented by Snowy Hydro and Future Generation prior to and during construction, or for a longer period as determined by the Planning Secretary (based on the outcomes of independent environmental audits and regular compliance reviews submitted through the Compliance Reports).

A complete list of the CoA and REMMS are included in the Project's Compliance Monitoring and Reporting Program. The timing, compliance status, responsibility and evidence or reference of compliance will be included in the compliance reports undertaken as described in the Program.

The Department's Compliance Reporting guidelines advise that compliance reports must be provided for a Project if the conditions of consent require the proponent to notify the Department of the commencement date of the relevant stage.

Condition 6 of Schedule 2 of the Approval requires that the Department and National Parks and Wildlife Service (NPWS) must be notified in writing of the date of commencement of:

- any public road closures;
- pre-construction minor works;
- road upgrade works;
- construction on site;
- the subaqueous emplacement trial;
- the completion of the exploratory tunnel works; and
- the decommissioning of the development and rehabilitation of the site.

Reports will be submitted prior to these stages commencing and in accordance with Section 8.4 of this EMS, unless otherwise agreed with DPIE. Where more than one stage occurs at the same time, the one report will be prepared that addresses all of the stages. Where a Six-Monthly Report is due at the same time as the submission of a stage-related compliance report, the Six-Monthly Report will be combined within the stage-related compliance report.

The compliance tracking tables within the Compliance Monitoring and Reporting Program form an integral part of this periodic review. These tables establish a format for recording compliance and include:

- a description of the environmental obligation;
- the stage of the project to which it relates;
- status;
- responsibility.

#### 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.

The Future Generation Environmental Manager will review all Work Packs to ensure that they capture and adequately address requirements in this EMS, management plans and the Sensitive Area Plans.

The Work Packs will be prepared prior to commencement of the works to which they relate. Work Packs will be developed by Future Generation for at least the following activities:

- rock processing and sorting, transporting and disposing (spoil management);
- rehabilitation and landscaping;
- construction of intake structures at Tantangara and Talbingo Reservoirs;
- construction of access roads;
- water and wastewater management;
- barge ramp construction;
- spoil placement; and
- subaqueous rock placement

All construction personnel and sub-contractors undertaking a task governed by a Work Packs must participate in training and acknowledge that they have read and understood their obligations prior to commencing work.

Regular monitoring, inspections and auditing against compliance with the Work Packs will be undertaken by Project management, quality, and environmental personnel to ensure that all controls are being followed and that any non-conformances are recorded and corrective actions 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) have been prepared. The SAPs:

- identify specific measures included in the relevant Work Packs to prevent adverse environmental impacts;
- include relevant drawings showing:
  - location and scope of works to be managed;
  - environmental constraints and 'no go' zones;
  - location and nature of environmental controls;
  - nature and frequency of monitoring for identified potential adverse impacts; and
  - Procedures for notification of incidents or hazards.

A copy of each of the worksite SAPs will be available for Future Generation personnel and subcontractors and are to be displayed at each of the worksite locations, or in the supervisor's vehicle or vessel where there is no fixed site facility.

The SAPs are working documents and will be updated throughout construction, as required.

#### 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 by Future Generation 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. A suitably qualified and experienced soil conservationist shall review all ESCPs prior to their implementation. To be suitably qualified and experienced, the soil conservationist must be a certified professional in erosion and sediment control (CPESC or equivalent) and have at least five years' experience as a soil conservationist.

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). Once approved all revisions will be controlled and allocated an appropriate revision number. Progressive ESCPs will be reviewed and endorsed by Future Generation and soil conservationist (as required).

ESCPs will generally be prepared on detailed drainage diagrams, however topographic maps (aerials) may also be utilised. ESCPs will incorporate 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 may be produced in conjunction with Work Packs for more detailed environmental mitigation measures (if required).

#### **4.1.9. Procedures, Forms and Other Documents**

The Project's Environmental Management System procedures, forms and other documents 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 the Contractor. Records will be held on site by Future Generation in electronic / hard copy form.

#### **4.1.10. Hold Points**

Future Generation will meet the requirements of the relevant Hold Point and submit this to Snowy Hydro prior to works commencing. The works will not commence until the Hold Point has been approved or released.

A Hold Point request will be required for such activities as:

- submission of EMS;
- entering and undertaking works within the vicinity of a sensitive no-go area such as a heritage item and the 50 metre Yarrangobilly no-go zone;
- environmental non-conformances notifiable to EPA;
- vegetation clearing;
- unexpected finds of heritage or contaminated land;
- out of hours works including oversized deliveries;
- installation and operation of sediment floc systems (as required); and
- discharge of waters where a water movement permit is required (refer to the SWMP).

#### **4.1.11. Document Control and Records**

Records shall be developed and maintained by Future Generation including:

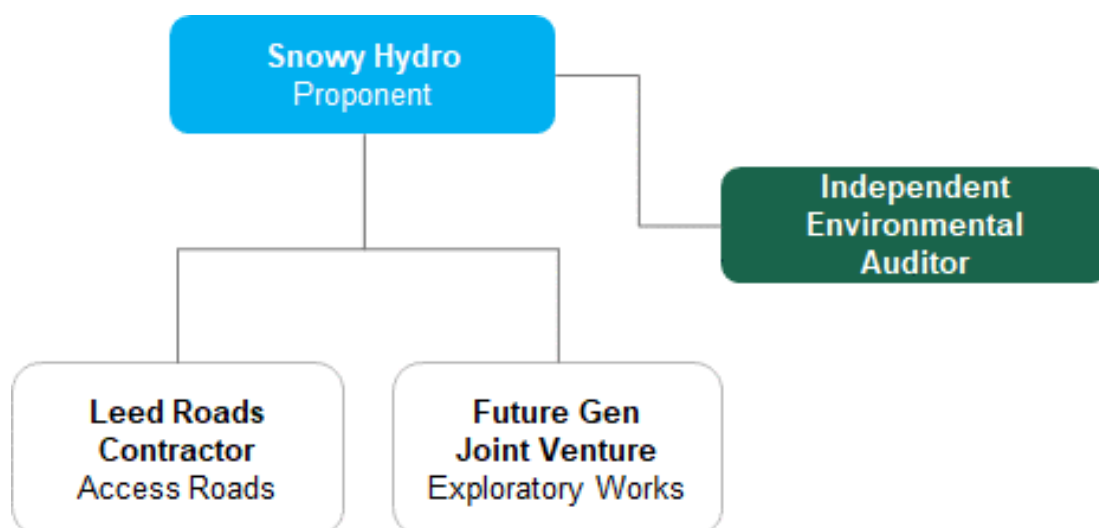
- training records;
- incident reports;
- audit and inspection forms;
- monitoring results; and
- volume of waste to landfill, waste recycled and waste disposed of offsite.

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 4-5 shows the Project parties relevant to environmental governance.



**Figure 4-5: Project parties**

As discussed in Section 2, Snowy Hydro has engaged:

- a contractor (Leed) to construct the Stage 1 - Exploratory Works Access Roads;
- Future Generation to design and construct the balance of the Exploratory Works (see Section 4 for a description).

Snowy Hydro may engage an Independent Environmental Auditor. This comprises a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary

The Future Generation organisation is described in Table 4-5. 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. Future Generation shall ensure that:

- there is an adequate level of experience within management and supervision;
- there are sufficient number of trained and skilled workers to carry out that work; and



- inspection, verification and auditing are carried out in a timely and efficient manner.

All Future Generation staff, subcontractors and visitors are required to operate fully in accordance with this EMS and related environmental management plans over the full duration of the Project.

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.

The Project environmental management structure also incorporates the following off-site environmental management personnel to assist with the design and set up of the project:

- Approvals Manager, responsible for leading agency liaison, EMS finalisation, approvals and EIS support; and
- Environmental Design Manager responsible for ensuring that environmental requirements are addressed in the design (not shown on chart).

Two key specialist advisors will be available throughout the project – the Soil Conservationist and the Decommissioning and Rehabilitation Specialist. During critical periods (particularly vegetation clearing) an ecologist will be available fulltime on site, supported by additional resources at key periods. 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 Environmental Manager

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

- review any environmental management plans and related documents prepared for the Project;
- review minor Project refinements that are consistent with the Project environmental assessment and approval documentation and recommend they be determined to the Snowy Hydro Project Director;
- monitor the environmental performance of the Project in relation to Snowy Hydro requirements; and
- Hold Point releases (as required).

##### Snowy Hydro Representative

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

- evaluate and advise on compliance with Snowy Hydro environmental requirements;
- review and approve any environmental management plans for the Project or related activities that are not required to be approved by the Planning Secretary; and
- Hold Point releases (as required).

## Future Generation Project Team

Table 4-5 summarises the roles and responsibilities of Future Generation personnel. These requirements will be communicated to personnel and incorporated into their job descriptions.

**Table 4-5: Environmental roles and responsibilities**

Team member	Responsibilities
Project Director	<ul style="list-style-type: none"> <li>Overall environmental performance of the project</li> <li>Contributing to the development, review, approval, and implementation of all project environmental management systems and standards in the field</li> <li>Providing leadership in the implementation of all project environmental initiatives, including Target Zero</li> <li>Specifying and making available resources to enable execution of project environmental management activities, including Target Zero</li> <li>Specifying and making available resources to enable execution of project emergency response systems</li> <li>Ensuring personnel delegated responsibility for environmental management are adequately trained and competent to implement the requirements of the project EMS</li> <li>Ensuring resources are allocated for project environmental hazards</li> <li>Participating in target-setting</li> <li>Coordinating and participating in project environmental incident investigations and review reports and findings</li> <li>Arranging for and participating in Hazard Identification (HAZID) workshops</li> <li>Ensuring project procedures take into account the outcomes of HAZID workshops</li> <li>Ensuring compliance of subcontractors with the project environmental standards and statutory requirement in the field, including duty of care</li> <li>Participating in Target Zero commitment workshop</li> <li>Participating in regular workplace inspections</li> <li>Reviewing environmental audit findings and ensuring items requiring corrective action are followed up and close-out reports are issued</li> <li>Reviewing overall project environmental performance</li> <li>Ensuring subcontractors conduct their environmental responsibilities as required in the contract</li> <li>Attending and participating in environmental meetings as appropriate</li> <li>Reviewing and monitoring quality of subcontractors' environmental management activities</li> <li>Reviewing work planning requirements to ensure they include adequate identification, assessment, and control of environmental hazards</li> <li>Reviewing environmental performance of subcontractors</li> <li>Reviewing environmental standards and plans developed for each project to ensure that Future Generation and legislative requirements are met</li> <li>Reviewing overall environmental performance and reporting to the Project Management and Corporate Environmental Manager</li> <li>Interfacing with major subcontractors and client management, and with environmental personnel as required regarding environmental matters.</li> </ul>
Health, Safety & Environment Manager	<ul style="list-style-type: none"> <li>Review HSE standards and plans developed for each project to ensure that Future Generation and legislative requirements are met</li> <li>Review overall HSE performance and report to the project Management and Corporate HSE Manager</li> <li>Interface with major subcontractors and Snowy Hydro management, Regulatory and with HSE personnel as required regarding HSE matters</li> <li>Coordinate third party certification audits</li> <li>Specify resources to enable execution of HSE activities on site</li> <li>Specify resources to enable execution of emergency response systems on site</li> </ul>

Team member	Responsibilities
	<ul style="list-style-type: none"> <li>• Arrange for and participate in HAZID workshops</li> <li>• Provide HSE Advisors, project line management and subcontractor with feedback on HSE performance</li> <li>• Participate in the Target Zero commitment workshop</li> <li>• Implement and coordinate Target Zero activities and strategies</li> <li>• Receive and circulate relevant HSE information</li> <li>• Coordinate and participate in scheduled HSE audits and reviews</li> <li>• Statistical analysis and injury and incident trend reviews</li> <li>• Develop training and induction schedules and content</li> <li>• Attend and participate in HSE meetings as required</li> <li>• Coordinate and participate in workplace inspections</li> <li>• Record, monitor and follow up close out of action items in InControl.</li> </ul>
Environmental Manager	<ul style="list-style-type: none"> <li>• Specifying resources to enable execution of environmental activities on site</li> <li>• Specifying resources to enable execution of emergency response systems on site</li> <li>• Arranging for and participating in HAZID workshops</li> <li>• Providing environmental advisors, project line management, and Future Generation with feedback on environmental performance</li> <li>• Participating in the Target Zero commitment workshop</li> <li>• Receiving and circulating relevant environmental information</li> <li>• Coordinating and participating in scheduled environmental audits and reviews</li> <li>• Performing statistical analysis and environmental incident trend reviews</li> <li>• Developing training and induction schedules and content</li> <li>• Attending and participating in environmental meetings as required</li> <li>• Coordinating and participating in workplace inspections</li> <li>• Recording, monitoring and following up close out of action items in InControl</li> <li>• Taking responsibility for the overall environmental performance of the site</li> <li>• Ensuring implementation of the EMS in the field</li> <li>• Hold Point releases</li> <li>• Providing leadership in the implementation of all environmental initiatives; and</li> <li>• Specifying and making available resources to enable execution of environmental activities.</li> </ul>
Design Manager	<ul style="list-style-type: none"> <li>• Ensuring detailed design progressively addresses all relevant environmental obligations</li> <li>• Ensuring works are designed to fulfil the requirements and objectives of this EMS</li> <li>• Liaising with the Client's Representative, Construction Manager, Environmental Manager, and design consultants on environmental issues.</li> </ul>
Site / Construction Manager	<ul style="list-style-type: none"> <li>• Ensuring resources are specified to eliminate or minimise environmental hazards</li> <li>• Participating in incident investigations and review all incident reports</li> <li>• Arranging for and participating in HAZID workshops</li> <li>• Ensuring construction procedures take into account the outcomes of HAZID workshops</li> <li>• Ensuring compliance in the field of subcontractors with the EMS and relevant statutes</li> <li>• Ensuring compliance with statutory requirements, including duty of care</li> <li>• Participating in workplace inspections</li> <li>• Reviewing audit findings and close out reports</li> <li>• Reviewing overall project environmental performance</li> <li>• Attending and participating in Environmental meetings</li> <li>• Participating in HAZID workshops as required</li> <li>• Participating in Target Zero commitment workshop</li> <li>• Ensuring subcontractors conduct their environmental responsibilities as required in the Contract</li> <li>• Attending and participating in environmental meetings as appropriate</li> </ul>

Team member	Responsibilities
	<ul style="list-style-type: none"> <li>• Reviewing and monitoring quality of subcontractor environmental activities</li> <li>• Reviewing work planning requirements</li> <li>• Reviewing overall project environmental performance</li> <li>• Reviewing environmental performance of subcontractors</li> <li>• Reviewing audit reports and ensuring items requiring corrective action are followed up</li> <li>• Evaluating and incorporating new design initiatives</li> <li>• Remaining abreast of all relevant environmental laws, permits and standards</li> <li>• Providing construction and field management and supervisors with environmental information current to their requirements</li> <li>• Ensuring environmental standards developed for each activity meet with Future Generation requirements</li> <li>• Reviewing overall project environmental performance</li> <li>• Scheduling and coordinating site-based environmental activities</li> <li>• Interfacing with client environmental personnel during their site visits</li> <li>• Conducting periodic drills and reviews of emergency response systems and procedures</li> <li>• Providing project line management with feedback on environmental performance.</li> </ul>
Environment Team	<ul style="list-style-type: none"> <li>• Conducting workplace inspections</li> <li>• Participating in HAZID reviews</li> <li>• Recording, monitoring and following up close out of action items</li> <li>• Updating environmental notice boards</li> <li>• Being accountable for the environmental performance of all personnel under their control</li> <li>• Selecting and delegating environmental assignments to supervisors</li> <li>• Being accountable for ongoing development and implementation of project environmental activities and practices</li> <li>• Confirming and making available resources to enable execution of environmental activities</li> <li>• Ensuring corrective actions are implemented</li> <li>• Participating in Target Zero workshops</li> <li>• Complying with statutory requirements, including duty of care</li> <li>• Liaising with supervisors on relevant environmental issues</li> <li>• Attending and participating in environmental meetings</li> <li>• Reviewing and closing out environmental incident reports</li> <li>• Providing leadership to all supervisors through positive discussions on environmental initiatives</li> <li>• Conducting weekly workplace inspections</li> <li>• Deliver inductions as directed</li> <li>• Supervising and guiding employees to perform their work in an environmentally conscious manner</li> <li>• Reporting all incidents and hazards to management</li> <li>• Monitoring the use and maintenance of spill kits at all work sites</li> <li>• Ensuring that all responsibilities for emergency response are clearly identified and understood by all personnel in a work group</li> <li>• Ensuring work group employees participate in relevant environmental activities</li> <li>• Complying with statutory requirements, including duty of care</li> <li>• Monitoring and enforcing employee adherence to environmental requirements</li> <li>• Reporting and investigating all incidents in the area of control.</li> </ul>
Superintendents	<ul style="list-style-type: none"> <li>• Participating in HAZID workshops and audits</li> <li>• Motivating employees to report all environmental incidents</li> <li>• Participating in Target Zero workshops</li> <li>• Conducting inspections of their work area per the Audit and Inspection Schedule</li> </ul>

Team member	Responsibilities
	<ul style="list-style-type: none"> <li>• Planning for and incorporating environmental management into all work plans and activities</li> <li>• Opening and maintaining external communication during emergencies</li> <li>• Maintaining a log of communications sent and received during an emergency</li> <li>• Reporting all incidents and hazards to management</li> <li>• Complying with statutory requirements, including duty of care</li> <li>• Reporting hazardous conditions</li> <li>• Participating in any relevant environmental training</li> <li>• Providing suggestions to improve environmental management on the project</li> <li>• Reporting any near miss or environmental incidents</li> <li>• Participating in site environmental meetings as required</li> <li>• Participating in Target Zero four-hour training.</li> </ul>
Supervisors	<ul style="list-style-type: none"> <li>• Planning for, and incorporating environmental management into all work plans and activities</li> <li>• Participating in workplace inspections</li> <li>• Ensuring that instructions are issued and adequate information provided to field-based employees which relate to environmental risks on site</li> <li>• Participating in any relevant environmental training</li> <li>• Reporting any near miss or environmental incidents</li> <li>• Providing suggestions to improve environmental management on the project</li> <li>• Participating in Target Zero four-hour training.</li> </ul>
All Personnel, Including Subcontractor	<ul style="list-style-type: none"> <li>• Complying with all legislative requirements including this EMS</li> <li>• Participating in any relevant environmental training</li> <li>• Reporting any near miss or environmental incidents to their Supervisors</li> <li>• Providing suggestions to improve environmental management on the project.</li> </ul>

### Specialist and other environmental resources

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

- Soil Conservationist for review of the Soil and Water Management Plans, preparation of ESCPs, assistance with implementation of erosion and sediment control measures, and ongoing inspections and advice throughout construction;
- decommissioning and rehabilitation specialist for preparation of the Rehabilitation Management Plan and for ongoing review and advice on decommissioning, rehabilitation and landscaping;
- ecologists for review of the Biodiversity Management Plan and Aquatic Habitat Management Plan, preparation and implementation of the Ecological Monitoring Program, and ongoing advice throughout construction. Ecologists are proposed to be based on site for the duration of critical activities, such as vegetation clearing;
- occupational hygienists related to risks associated with elongate mineral fibres (including asbestos) are addressed through the Health and Safety Management Plan;
- naturally occurring asbestos and acid rock specialist, if required, for review of management and monitoring techniques;
- turbidity monitoring specialist to implement and manage the turbidity monitoring program during subaqueous excavated rock placement;
- noise and vibration specialist for review of the Construction Noise & Vibration Management Plan, noise modelling, establishment and maintenance of monitoring equipment, and ongoing advice



throughout construction;

- NATA-certified laboratories for soil and water quality analysis;
- GIS, database and other software as required during the course of the Project;
- environmental monitoring hardware; and
- other resources as required during the course of the Project.

### Subcontractors and suppliers

All subcontractors are engaged and managed in accordance with relevant procedures defined in the Project Execution Plan.

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 CEMP 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 CEMP, that CEMP 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 CEMP 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.

All team-based risk assessments shall be conducted by a team of subject matter experts led by a facilitator competent in the risk management assessment method. All personnel who undertake field work will be trained and competent to undertake Job Hazard Analysis and Take 5 risk assessments.

An overview of Future Generation's approach to risk management is outlined in Table 4-6. Key elements are discussed in the following subsections.

**Table 4-6: Risk assessment process summary**

Risk assessment process	Description	Methodology	Project Planning	Project Execution	Project Close-Out	Reference Procedures
Major Accident Event Hazard Assessment	Identify, assess and control Major Accident Events Hazards	MAE Bow-ties				Major Accident Event Hazard Management Procedure
Design stage environmental risks	Identify, assess and document inherent design risks	HAZID, HAZOP, FMEA				Safety in Design Procedure
Design reviews – construction, operation, maintenance	Identify, assess and mitigate environmental hazards introduced by the design when facility is being constructed, operated or maintained	HAZID, HAZOP				Safety in Design Procedure
Project Environmental Assessment	Identify, assess and control potential v impacts specific to the Project & Site	HAZID				HSE Risk Management Procedure
Construction Package Environmental Assessment	Identify, assess and control potential environmental impacts specific to the Construction package	HAZID				HSE Risk Management Procedure
Activity and location-specific assessment and work procedures	Identify, assess and control potential environmental impacts specific to particular activities and locations	HAZID				HSE Risk Management Procedure
Subcontractor Environmental Assessment	Assess the environmental capability of subcontractors to inform management strategy	PRE-QUAL / HAZID				HSE Risk Management Procedure

Risk assessment process	Description	Methodology	Project Planning	Project Execution	Project Close-Out	Reference Procedures
	Identify, assess and control potential environmental impacts of contract scope					
Work Team Task Assessment	Work teams identify, assess and control environmental hazards of planned work	Job Hazard Analysis				HSE Risk Management Procedure
Personal Task Assessment	Individuals identify, assess and control environmental hazards of planned task	TAKE 5				HSE Risk Management Procedure

## Target Zero

Target Zero represents the Project's commitment to achieving zero harm. The zero harm values are:

- Commitment – We believe all incidents and injuries are preventable and we shall not undertake any task unless we can achieve zero harm;
- Leadership – We have the authority and responsibility to stop any activity we suspect may not achieve zero harm and we shall support each other when preparing or performing any activity;
- Accountability – We will not tolerate intentional disregard of our values and we will encourage each other to live by, not just work to, our values.

## Major Accident Prevention

The Future Generation Major Accident Prevention (MAP) Program shall be implemented on the Project to ensure that all Major Accident Event (MAE) hazards associated with the Project are identified and controlled.

MAEs are those events which have the potential to result in major or catastrophic consequences as defined in the Future Generation HSSE Risk Matrix, such as a major environmental incident (e.g. chemical spill, landslide, sediment basin structural failure).

The MAP Program provides a structured and systematic approach to the identification of MAE hazards, the communication and implementation of mandatory controls that prevent MAEs and protect the environment, as well as the monitoring and verification of the implementation of those mandatory controls.

MAE hazards are recorded in the Project Major Hazard Profile and addressed through the relevant management plans and controls.

### Managing environmental risks at design stage

Environmental risks arising from design and engineering of plant are managed in accordance with the Future Generation Safety in Design Management Procedure. The Project engineering lead will define the assessments to be conducted for the Project scope which may include:

- Hazard and Operability (HAZOP);
- Hazard Identification (HAZID) for design;
- Constructability, Operability, Maintainability reviews.

The design packages will be prioritised for those with the potential for environmental harm, whether in construction or operation. For those packages with significant risk identified, the Future Generation Environmental Manager or delegate will participate in the assessment workshops or, as a minimum, review the risk analysis and controls with the engineering lead to identify hazards and controls to be carried into the field execution stage of the project. The identified environmental hazards and controls to be carried into the field execution stage of the Project will be documented in the project Environmental Risk Register and incorporated into the Work Packs or management plans, as applicable.

### Risk management in the planning stage

Consideration of the management of environmental aspects and impacts will be given throughout the planning stage of the Project. This will include the following risk management:

- identification of MAE Hazards applicable to the Project scope of work and development of the MAP Profile and MAP Register;
- the conduct of Construction Risk Assessment Workshops (CRAW) and HAZID workshops to develop and maintain the Project Hazard Register and Environmental Risk Register; and
- the conduct of Pre-Commissioning/Commissioning HAZID workshops.

### Hazard Identification Workshops

HAZID workshops will be conducted on the Project for all high-risk activities and will include environmental aspects and impacts. HAZID workshops will be coordinated and facilitated or assisted by a member of the Future Generation environmental team, and personnel from each relevant Project function will be present.

HAZID workshops will address particular elements of the scope of work, and will typically be arranged as follows:

- project HAZID to review and identify high level project environmental risks;
- construction package risk assessment, assessing a particular package or method statement; and
- subcontractor risk assessment, assessing the scope of work allocated to a particular subcontractor.

Each HAZID workshop will identify hazards, control actions and people responsible for close out of the actions and document these in the Project Hazard Register and Environmental Risk Register. The actions will be closed prior to the work commencing and identified controls included in applicable project procedures, engineering documentation or Work Packs.

No work except emergency response activities will commence without suitable and sufficient documented hazard identification and risk assessment processes being completed.

## Job Hazard Analysis

The Job Hazard Analysis (JHA) is the day to day process through which environmental risk for a particular activity is managed.

JHAs are prepared by Future Generation for each construction activity and provided to the relevant personnel, including subcontractors. JHAs will incorporate reference to, and implementation of, environmental management measures as required under the Work Packs.

## Managing Environmental Risks of Temporary Works

Temporary works are the parts of a construction project that allow or enable construction of, protect, support or provide access to, the permanent works and which might or might not remain in at the completion of the works— e.g. sediment basins. Sometimes the temporary works are incorporated into the permanent works – e.g. permanent sediment basins or wetlands.

Failure of some temporary works e.g. sediment basins, could lead to a major environmental incident.

The Temporary Works Work Instruction will apply to all temporary works utilised on all Future Generation works. It is intended to ensure that all temporary works are safe. The work instruction is described in more detail in the Health and Safety Management Plan.

Future Generation will identify all temporary works requirements and record them in the Temporary Works Controls Register.

## Permit to Work system

The Permit to Work (PTW) system standardises the PTW and lock out / tag out processes to be applied by Future Generation to protect personnel, plant and minimise environmental impact for work conducted for the project. The PTW system is described in more detail in the Health and Safety Management Plan.

Future Generation will operate the PTW system across the works as soon as the site is under its management control. Relevant to environmental management, the PTW system includes the control and management of:

- land disturbance/clearance (for areas released by Snowy Hydro);
- area access control (including control of access to tunnels, explosive magazines);
- work over water;
- earthworks (piling/trenching/excavation/backfill);
- work involved in the use of explosives;
- blasting/painting;
- fuel transfer/refuelling;
- any work which affects critical safety systems (proximity switches, alarms, emergency trip out devices); and
- activities being conducted where known hazards exist.

The PTW system applies a system where construction high risk tasks are assessed, and simultaneous operations are considered by authorised personnel to ensure appropriate level of controls are applied. The PTW system requires a permit holder to apply for a permit for high risk tasks, which includes a risk assessment for the task, identifying which permit controls needing to be applied and timing of the work so the sequence of work can be reviewed to prevent clashes with other construction tasks. The isolations if required are identified by the appropriate Isolation



Authority and once applied independently verified by another person. Once all controls of the permit are implemented the permit issuer reviews the permit including controls (e.g. fire watch) with the permit holder who is responsible for checking and verifying the controls are implemented prior to the team commencing work.

Through a robust system of applied risk management including Work Pack task identification, Job Hazard Analysis, assessment of the environment in which the task is to be performed and MAP checks which mandate critical controls, high risk construction tasks are conducted without harm.

Personnel required to conduct work under a permit, authorise work or isolations and issue a permit undertake PTW training applicable to their role requirements under the PTW system.

The verification of Permits and the critical controls identified within the permits is managed through site inspections and the MAP verification checks.

### Management of Change

Any change or event that affects scope and may have an environmental impact or environmental compliance impact, as well as a safety, cost or schedule impact on any part of the scope of works requires management. Project changes will be formally managed through a Management of Change process.

Hazards and risks associated with temporary and permanent change relating to design, standards, regulations, work methods, procedures, facilities, materials and equipment and the project organisation and its personnel, will be identified and assessed by personnel competent in risk management and the Management of Change processes.

All significant changes will be documented and tracked and ensure that all affected personnel are kept informed of the implications and progress of the change. The implication of change will be assessed by reviewing the original risk assessment. Future Generation will revise risk registers and implement any actions to mitigate the risk resulting from the change. Future Generation will disseminate this information to its workforce.

Management of Change may require assessment of the change for consistency against the approved Project. Potential deviations from the approved Project will be considered by the Future Generation Environment Manager in accordance with Section 2.4.

#### 4.3.2. Environmental Risk (aspects and impacts) Register

An environmental risk assessment has been undertaken for the Exploratory Works and is included as Appendix A3. 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.

The initial Project risk assessment workshop identified significant environmental aspects and impacts that could eventuate during construction of the Project and is central to the selection of appropriate environmental safeguards. 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 - Low	10 - Medium	15 - High	20 - Extreme	25 - Extreme
4 - Major	4 - Low	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 - Low

The following 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 (eg 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 (eg 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 (eg 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 (eg threatened) flora or fauna. Permanent unconfined impact on previously undisturbed ecosystem.

Future Generation will maintain the environmental risk register in its Project files (separate to this EMS) to address risks specific to the scope. Risks will be required to be reviewed on a regular basis and will also be reviewed in response to incidents, changes in legal requirements, change in Project scope, findings of inspections and audits and management reviews.

## 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. The database will include the topic of the training carried out, dates, names and trainer details. Inductees will be required to sign-off that they have been informed of the environmental issues and that they understand their responsibilities.

Future Generation will develop and implement a training matrix to ensure that training requirements are identified and that relevant personnel receive the necessary training to correctly implement environmental requirements in their work areas.

### 5.1.1. 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 and submit it to the Snowy Hydro Environmental Manager prior to commencing the training. The Future Generation Environmental Manager (or delegate) will monitor its implementation during the course of the project.

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 Kosciusko 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.

### **5.1.2. 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.

A short-term worker will be supervised by a fully inducted Project Supervisor for the duration of their work scope. Personnel may not attend site more than three times working under a short-term workers induction.

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

### **5.1.3. 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.

### **5.1.4. 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 consultation 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 across the Project.

### 6.1.1. Internal Communication

The methods of communication on site 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. Environmental notice boards will be established to inform personnel of relevant environmental information such as minutes of meetings, results of monitoring, performance standards, environmental incident alerts and Snowy Hydro environmental notices. The notice boards will be refreshed periodically with up-to-date information.

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 stakeholders for the Project include:

- SHL;
- NPWS;
- DPIE;
- DPIE – Water;
- DPI Fisheries;
- EPA;
- BCD (formerly OEH);
- Snowy Valleys Shire Council;
- Snowy Monaro Shire Council;
- NSW Rural Fire Service.

Communication to these stakeholders will occur in accordance with the reporting requirements set out in Section 7 or on an as needs basis.

#### Community communication

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

- notifications of construction activities;
- notification of out of hours works (as required);
- 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 the Future Generation consistent with AS4269: Complaints Handling.

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 daily in a complaints register;
- enquiries received for the duration of the Project will be responded to verbally within 24 hours from the time contact is received. An enquiry received out of hours will be responded to on the next working day;
- complaints received for the duration of the Project will be responded to verbally within two (2) hours from the time contact is received or at least by the end of the working day; and
- all environmental-related complaints such as those relating to noise, water, or dust must be forwarded to the Future Generation Environmental Manager.

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.

Enquiries and complaints will be responded to in accordance with the Future Generation Enquiries and Complaints Management Procedure. This helps to ensure that impacts on the community are minimised wherever possible.

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

### 6.2.1. Dispute Resolution

Where a complaint cannot be resolved by the community staff, it will be referred through the dispute resolution process described in the Enquiry and Complaints Management Procedure.

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

If the dispute cannot be resolved to the satisfaction of the parties involved, the complaint will be referred to Snowy Hydro's Representative for further resolution.

If the dispute cannot be resolved, senior project staff and an independent facilitator may become involved to assist the parties to reach a mutually agreeable solution.

## 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 A4. The Future Generation Procedure is consistent with Snowy Hydro Quality Management System procedure 'QP14-07 - *Incident Management Procedure*' (Procedure).

An environmental incident is defined as an unplanned event impacting or potentially impacting the environment with consequences as defined in the Incident Classification Matrix provided within Appendix A of the Procedure.

A Regulatory Compliance Incident is an event which results in or increases the risk of non-compliance with a regulatory obligation. This includes but is not limited to non-compliance with the CoA or licence conditions and non-compliance with general performance standards.

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;
- breaches of hygiene management requirements;
- fires which result from project works.

The Incident Management Procedure provides details of:

- the criteria for classifying environmental incidents and regulatory compliance incidents;
- processes for first response and further actions required in emergency or crisis situations;
- processes for reporting and internal and external notification of an environmental incident and regulatory compliance incident;
- incident investigation, action and closeout.

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.

Incidents will be closed out as quickly as possible, taking all required action to resolve each

environmental incident and regulatory compliance 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 with or witness.

Snowy Hydro are to be informed of any environmental incidents or regulatory compliance incidents immediately, verbally and within 24 hours in writing. The written notification is to occur through completion of the Snowy Hydro 'incident notification form'.

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

Any information or documents which the Future Generation may provide to regulatory agencies in response to an incident will be provided to Snowy Hydro beforehand for the information of, or where relevant review by, Snowy Hydro. Snowy Hydro are also to be provided details of all correspondence provided to agencies when it is issued. Refer to Appendix A4.

### 7.2.1. Incident Reporting in Accordance with the Conditions

Future Generation will immediately notify Snowy Hydro of an incident which arises through the Infrastructure Approval. The notification must be in writing to enable notification to DPIE and must include:

- the application number (SSI 9208);
- the time and date of the incident;
- details of the incident (including location); and
- any non-compliance with the approval.

Snowy Hydro will then immediately notify DPIE. Notification to DPIE must be in writing via the Major Projects portal.

Within 7 days of the incident occurring, Future Generation will provide Snowy Hydro with a detailed report of the incident and any further reports as may be requested.

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

Future Generation will participate in any investigations undertaken by Snowy Hydro and at the direction of the Snowy Hydro Environmental Manager.

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 for notification to the EPA of pollution incidents on or around the site 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. 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
All suspected environmental incidents will be reported to the Snowy Hydro.	Future Generation
The cause will be investigated as soon as reasonably practicable (generally within 24 hours of the incident).	Future Generation
The responsible Contractor will undertake any required remediation works or measures.	Future Generation
The responsible Contractor will provide a briefing to all site personnel following the investigation of a confirmed environmental incident. The briefing will include any identified construction process improvements that could prevent reoccurrence of the same environmental incident.	Future Generation

## 7.3. Environmental Emergencies

Appendix B of the EMS includes an Bushfire Management Plan (S2-FGJV-HSA-PLN-0003). The project also has in place an Emergency Response Management Plan (ERMP) (S2-FGJV-HSA-PLN-0002).

An emergency as 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 Emergency Plan (Bushfire) will be implemented in the event of an environmental emergency which is a bushfire.

Further details for safety related emergencies are documented in the Future Generation Safety Management Plan.

An emergency spill response procedure is provided within the Water Management Plan (S2-FGJV-ENV-PLN-0024). 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 by Future Generation's environmental staff. The weekly checklist for the Project will be developed by Future Generation prior to commencement of construction. The purpose of the checklist is to:

- provide a surveillance tool to ensure that safeguards are being implemented and housekeeping

is maintained;

- 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/ sub-contractors.

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 Manager and Supervisors and Snowy Hydro environment staff will jointly undertake regular inspections of works 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	Location	Responsibility	Record
Daily Workplace Inspections	Daily	Immediate work area and equipment in work area	Supervisors	None – observation only
Pre-start equipment inspections	Daily	The equipment/machinery being used	Equipment/Operators	Pre-start checklist
Environmental Site Inspection	Weekly	Site wide	Future Generation Environmental Manager	Site inspection checklist
Joint Environmental Site Inspection	Fortnightly or at a greater frequency as requested by Snowy Hydro	As requested by Snowy Hydro	Snowy Hydro, Future Generation Environmental Manager and Foreman / engineer	Snowy Hydro inspection report
Management Site Visit Inspections	Min Quarterly	Site wide	Corporate Senior Management	Inspection Report
Rainfall Inspection (assessed when there is a greater than 80% potential for 10mm or greater rainfall)	Within 3 hours of the start of a rainfall event during work hours* Within 24 hours of the start of a rainfall event (or on the following working day)*	Site wide	Future Generation Environmental Manager or nominated representative	Site inspection checklist

\* The events are to cause runoff to occur (i.e. when rainfall exceeds 10mm in a 24-hour period).



## 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 and will highlight any non-conformances or potential non-conformances across the life of the Project. Specific monitoring programs have been developed for high risk aspects of the Project and these are included within the relevant management plans.

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

- baseline data available, additional data to be obtained and timing;
- the parameters to be monitored and the location and frequency;
- the reporting of monitoring and analysis results against relevant criteria;
- methods that will be used to analyse the monitoring data; and
- procedures to identify and implement additional mitigation measures where results of monitoring are unsatisfactory; and
- any consultation to be undertaken in relation to the monitoring programs.

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.

**Table 8-2: Environmental monitoring summary**

Activity	Management Plan	Frequency	Responsibility	Record	Timing
Receiving waters – Yarrangobilly River Wallaces Creek Talbingo Reservoir	Surface Water Management Plan	Water quality monitoring (comprehensive) – 12 times per year for each location upstream and downstream of the project  Continuous monitoring for flow, pH and conductivity at nominated locations	Future Generation	Field sampling and testing records and laboratory tests reports	All construction
Surface water – construction disturbance areas and access roads	Surface Water Management Plan	Water quality monitoring (comprehensive) – 4 times per year at least once during wet weather  Daily basic testing during wet weather events	Future Generation	Field sampling and testing records and laboratory tests reports	All construction
Groundwater	Groundwater Management Plan	Monthly monitoring of groundwater wells (groundwater quality) 6-hourly monitoring of groundwater wells (groundwater level) Monitoring of tunnel groundwater ingress (dependent on tunnelling progress/ km)	Snowy Hydro / Future Generation	Field sampling and testing records and NATA tests reports	During all tunnelling activities and associated operations
Dredging	Dredge Management Plan	During dredging Prior to removal of silt curtain	Future Generation	Field sampling and testing records and NATA tests reports	During dredging works
Weeds	Weeds and Feral Animal Management Plan	Monthly monitoring following initial identification of weeds	Future Generation	Weed monitoring report	All construction
Feral Animals	Weeds and Feral Animal Management Plan	Spot checks through environmental inspections.	Future Generation	Feral animal monitoring report	During all tunnelling activities and associated operations
Threatened species – Smoky Mouse Booroolong Frog	Biodiversity Management Plan	Smokey Mouse - Biannually for habitat monitoring, three monitoring events per year for occupancy and population monitoring. Booroolong Frog – two events during breeding season for population monitoring, annual habitat monitoring.	Snowy Hydro / Future Generation	Records within the Biodiversity Monitoring Program	All construction
Threatened species –	Aquatic Habitat Management	During bank disturbance at Talbingo	Snowy Hydro /	Monitoring	During dredging

Activity	Management Plan	Frequency	Responsibility	Record	Timing
Murray Crayfish	Plan	Reservoir and when disturbance is occurring within Talbingo Reservoir.	Future Generation	records	and subaqueous rock placement
Aquatic Habitats	Aquatic habitat Management Plan	Within two weeks prior to commencement of Talbingo Reservoir disturbance Restoration of riparian areas	Snowy Hydro / Future Generation	Monitoring records	2 months after 'successful restoration;
Excavated rock	Excavated Material Management Plan	Weekly inspection of excavated tunnel rock placement area. Laboratory testing of rock sampled at the frequency described in the Excavated Material Management Plan	Snowy Hydro / Future Generation	Inspection report  Laboratory test report	During tunnel rock excavation
Noise	Noise & Vibration Management Plan	At commencement of works and of any new works at Spillway Road and/or barge facility During blasting at the nearest sensitive receiver	Future Generation	Field record	At commencement of works During blasting
Vibration	Noise & Vibration Management Plan	During blasting at sensitive structures (including heritage)	Future Generation	Field record and/or waveform data report	During blasting

### 8.2.2. Monitoring non-conformities

Irrespective of the type of monitoring conducted, the results will be used to identify potential or actual problems arising from construction processes. Where a non-conformance is detected or monitoring results are outside of the expected range, the process described in Section 8.5 will be implemented, which will include:

- the results will be analysed by the Future Generation Environmental Manager or Environmental Coordinator in more detail with the view of determining possible causes for the non-conformance including a review of the potential construction activities impacting that site of the exceedance;
- a site inspection will be undertaken by the Future Generation Environmental Manager or Environmental Coordinator;
- 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 non-conformances resulting from monitoring and the corrective actions within the monthly report. Any exceedances which may 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, Snowy Hydro contract documentation).

### 8.3.1. Internal Audits

Internal auditing will be undertaken on a minimum six-monthly basis throughout the Project or more frequently where required based on the environmental risk. Future Generation will submit an integrated audit schedule to Snowy Hydro for acceptance at the commencement of the Project. 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.

An audit checklist will be developed by Future Generation and amended as necessary to reflect changes to this EMS, subsequent approvals and changes to Acts, regulations or guidelines. Future Generation will submit the completed audit checklists/reports to Snowy Hydro. The findings arising from internal audits will be recorded as corrective actions and managed to close out in agreed time frames.

### 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 and every three years thereafter, unless the Planning Secretary directs otherwise. The audit is to be carried out by a suitably qualified lead

auditor and suitably qualified, experienced and independent team of experts, whose appointment has been endorsed by the Planning Secretary. The audit shall:

- be undertaken in accordance with the *Independent Audit Post Approval Requirements* (DPE 2018);
- include consultation with relevant agencies,
- 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);
- review the adequacy of any strategies, plans or programs required under the abovementioned approvals;
- 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
- be conducted and reported to the satisfaction of 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, together a response to any recommendations and a timetable for implementation.

As deemed necessary by Snowy Hydro, Snowy Hydro will conduct an audit of the EMS, management plan or contract requirements on Future Generation. Snowy Hydro will provide Future Generation with a copy of the audit reports, identifying non-compliance and corrective actions required.

Audit findings will be recorded in the quality system database by Future Generation for action and close out. The action register will detail the source of the action (e.g. audit, inspection or other), the action required, target close out date, actual close out date and the person responsible for the action item.

Further details are provided in Section 8.5 in relation to non-conformance and corrective action.

## 8.4. Reporting

### 8.4.1. Compliance Tracking and Reporting

A Compliance Monitoring and Reporting Program has been developed in accordance with Condition 7 of Schedule 4 of the Infrastructure Approval and will be implemented for the duration of construction.

The environmental obligations identified for the Project have been incorporated into the Compliance Monitoring and Reporting Program. The compliance reporting required to occur as part of the conditions is presented in Section 4.1.5.



**Table 8-3: Compliance reporting**

Report	Stage	Timing / Indicative Date	Frequency	Responsibility	Recipient
Stage related Compliance Report	Any public road closures	Report to be submitted to the Planning Secretary prior to commencement of the public road closure Date dependent on program and commencement date of project	Single report prior to construction	Future Generation and Snowy Hydro	DPIE and NPWS
Stage related Compliance Report	Pre-construction minor works	Report to be submitted to the Planning Secretary prior to commencement of construction February / March 2019	Single report prior to construction	Future Generation and Snowy Hydro	DPIE and NPWS
Stage related Compliance Report	Road upgrade works	Report to be submitted to the Planning Secretary prior to commencement of construction	Single report prior to construction	Future Generation and Snowy Hydro	DPIE and NPWS
Stage related Compliance Report	Pre-construction	Report to be submitted to the Planning Secretary prior to commencement of construction	Single report prior to construction	Future Generation and Snowy Hydro	DPIE and NPWS
Construction Compliance Report	Construction	Reporting required for the duration of construction August / September 2019 February / March 2020 August / September 2020 February / March 2021	6 monthly from the commencement of construction	Future Generation Snowy Hydro for Snowy Hydro conditions	DPIE and NPWS
Pre-completion	Pre-completion	Report to be prepared prior to completion of the project Date to be advised closer to pre-completion	Single report	Future Generation Snowy Hydro for Snowy Hydro conditions	DPIE and NPWS

The compliance reports will be prepared by Future Generation and will include:

- details of the activities undertaken during the reporting period;
- compliance status summary;
- non-compliances;
- incidents;
- community complaints;
- compliance tables that include:
- a unique identification number (ID);
- the compliance requirement to be complied with;
- the stage of the project to which the compliance requirement applies;
- the proposed monitoring methodology for each compliance requirement; and

- the evidence to be collected to assess compliance with each compliance requirement.

The compliance reports will be prepared in accordance with the *Compliance Reporting Post Approval Requirements* (DPE 2018) and submitted to DPIE and NPWS.

Procedures for rectifying any non-compliances identified during environmental auditing, review of compliance or incident management are also documented in the Compliance Monitoring and Reporting Program.

#### 8.4.2. Reporting non-compliances

Future Generation is to notify Snowy Hydro as soon as possible and at least within 24 hours of becoming aware of a non-compliance.

Future Generation is to prepare a report for Snowy Hydro within 5 days of becoming aware of the non-compliance. The report shall be prepared in accordance with Condition 6 of Schedule 4 of the Infrastructure Approval, which details:

- the application number (SSI 9208);
- set out the Condition of Approval that the project 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.

Snowy Hydro will notify DPIE in writing via the Major Projects portal within 7 days of becoming aware of any non-compliance, with the details provided above.

#### 8.4.3. Other Reporting

Future Generation are required to prepare and submit various reports to Snowy Hydro and to undertake their own reporting needs including those under the Conditions of Approval. A summary of these reports is provided in Table 8-4. This table will be updated as required by Future Generation during the progress of the Project.

**Table 8-4: Other reporting requirements**

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Monthly environmental report	For incorporation in Project Monthly Reports including environmental statistics (i.e. incidents, regulatory action, complaints on environmental issues), regulatory and authority considerations, monitoring program performance and key environmental issues.	Monthly	Future Generation Environmental Manager	Snowy Hydro
2	EPL Monthly Report	As required by the EPL	As required by the EPL	Future Generation Environmental Manager	EPA and Snowy Hydro
3	EPL Annual Return		Annual based on date of EPL issue	Future Generation Environmental Manager	EPA and Snowy Hydro

No.	Report	Requirement	Timing	Responsibility	Recipient
4	Monitoring results	Report on monitoring data recorded and potential exceedances against criteria. Reporting for environmental performance also required on the website as detailed in item 6.	Monthly	Future Generation Environmental Manager, Environmental Coordinators	Snowy Hydro
5	Snowy Hydro and/or EPA environmental inspection reports	Response to matter raised in Snowy Hydro and/or EPA site inspections.	As required. Timing of close out of actions dependent on risk. Response to report typically every week for Snowy Hydro inspection reports.	Future Generation Environmental Manager, Environmental Coordinators	Snowy Hydro / EPA
6	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	Future Generation Environmental Manager and Snowy Hydro	Public
7	Environmental risk assessment workshop	Conducted for each construction stage, work changes and significant issues.	Prior to construction during development of EMS and as required thereafter	Future Generation Environmental Manager	Snowy Hydro

#### 8.4.4. Project Website

In addition to the reporting above, Future Generation will maintain a website that contains the following information:

- 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 DPIE.

The Project website is available at [snowyhydro.com.au](http://snowyhydro.com.au). Further to this Future Generation have a website at [www.futuregenerationjv.com.au](http://www.futuregenerationjv.com.au).

#### 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 by the Future Generation Environmental Manager;
- 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;
- strategies will be identified to prevent reoccurrence;
- 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 detail 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. The corrective actions register shall be provided to Snowy Hydro at the regular site meetings.

## 9. DOCUMENTATION

### 9.1. Records

The Future Generation Environmental Manager is responsible for maintaining all environmental management documents as required by the CoA, the EPL, this EMS, the Contract, NPWS Lease and any other licences and approvals. 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 records, unexpected finds etc;
- waste classification records, waste disposal and recycling records, and section 143 notices for transporting and disposing of waste;
- plans, strategies and reports, and revisions thereof, to ensure compliance with the CoA, NOWS Lease and EPL;
- reports on environmental incidents, environmental non-conformances, and corrective actions;
- compliance reports, monthly reports and annual reports;
- audit reports.

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

Refer to Section 1.7 for details around revisions to this EMS.

All relevant schedules/ records will be on site at all times during the construction stage. The Future Generation Environmental Manager is to make available all environmental records to Snowy Hydro and if requested, provide this information on a regular basis, or upon Snowy Hydro request provide this information in a timely manner (i.e. within 24 hours).

## 9.2. Document and Data Control

The Future Generation Environmental Manager will coordinate the preparation, review and distribution, as appropriate, of the environmental documents listed above. During construction, environmental documents will be stored at the main site office and can be accessed on request to the Future Generation Environmental Manager.

A document and data control procedure will be implemented to control the flow of documents and data within the Future Generation teams and between the Future Generation and the Snowy Hydro, stakeholders and sub-contractors.

Documents and data that are to be issued and liable to change will be controlled to ensure that they are approved before issue and that the current issue or revision is known to and available to those requiring them. Controlled documents and data will be uniquely identified and will bear a defined revision number recorded on each page of the document.

After a number of changes have been made to a document it will be withdrawn and reissued as a new revision. Data will be issued on a revision basis only. Obsolete documents and data may be kept for contractual or other reasons but will be clearly marked 'superseded'.



## APPENDIX A1 – LEGAL AND OTHER REQUIREMENTS

### LEGISLATION

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
<b>General</b>					
<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	Yes  Snowy Hydro including the Exploratory Works is declared to be Critical State significant infrastructure (CSSI) with the declaration coming into effect on 9 March 2018. Exploratory 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.  The Environmental Impact Statement for the Exploratory Works for Snowy 2.0 was submitted to Department of Planning and Environment in July 2018 and publicly exhibited between 23 July 2018 and 20 August 2018. In October 2018, the response to submissions was prepared (Response to Submissions Exploratory Works for Snowy 2.0).  Approval for the Exploratory Works project was granted by the Minister for Planning on 7 February 2019.
<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.		No  The Australian Alps National Parks and Reserves; and the Snowy Mountains Scheme are both listed on the Australian National Heritage List. The <i>Environment Protection and Biodiversity Conservation Act 1999</i> aims to protect matters of national environmental significance (MNES) including national heritage places. MNES relevant to Exploratory Works are nationally threatened species and ecological communities, and national heritage places.
<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.	-	On 28 May 2018, a referral was submitted for a proposed action under the EPBC Act for the Exploratory Works. On 10 July 2018, the Assistant Minister for the Environment confirmed that Exploratory Works was not a controlled action and therefore, did not require any further assessment or approval under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> . On the same day, the Assistant Minister declared that the Exploratory Works is a class of action to which Section 28 of the EPBC Act (i.e. activities of Commonwealth agencies) does not apply.

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
<i>National Parks and Wildlife Act 1974</i>	Kosciuszko National Park		<p>All activities on reserved land must be consistent with the objects and purpose of the NPW Act.</p> <p>All activities within KNP must be consistent with the KNP Plan of Management in accordance with Part 5 of the National Parks and Wildlife Act 1974.</p>	Snowy Hydro	<p>Yes</p> <p>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 National Parks and Wildlife Regulation 2009, to comply with the environmental management obligations imposed on the company under the Snowy Management Plan.</p> <p>Approval for Snowy 2.0 Exploratory Works occurred on 7 February 2019. The Snowy Management Plan Procedures Agreement will be reviewed and updated as required.</p>
<i>Snowy Hydro Corporatisation Act 1997</i>	All	Section 37	Section 37(2) of the Snowy Hydro Corporatisation Act 1997 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	<p>Yes</p> <p>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 Snowy Hydro Corporatisation Act 1997 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 National Parks and Wildlife Act 1974</p>
<i>Snowy Hydro Corporatisation Act 1997</i>	All	Section 37	Section 37(2) of the Snowy Hydro Corporatisation Act 1997 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	<p>The new proposed surface infrastructure works within KNP associated with the Exploratory Works are not covered by the existing Snowy Park Lease.</p> <p>Minor amendments will therefore be required to the Snowy Hydro Corporatisation Act 1997 to enable extension of the Snowy Park Lease to include the areas that will be accessed and occupied by Snowy Hydro during Exploratory Works.</p>
	Water use	Section 23	<p>Part 5, Section 23 of the Snowy Hydro Corporatisation Act 1997 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.</p> <p>The Snowy Water Licence is a statutory instrument issued under Part 5 of the Snowy Hydro Corporatisation Act 1997.</p>	-	<p>The rights are subject to section 32 of the Snowy Hydro Corporatisation Act 1997 and Part 1 of Chapter 3 of the <i>Water Management Act 2000</i>.</p> <p>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.</p> <p>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 Exploratory Works project.</p> <p>The Response to Submissions Exploratory Works for Snowy 2.0 (RTS) recommended in Section 4.4.1 that Snowy Hydro</p>

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
					explore with Department of Industry (DoI) the scope for the Snowy Water Licence to be utilised by agreement to enable water to be used for limited purposes associated with the Exploratory Works.
<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 then transferred to Contractor. Any initial application will not include marine based extractive activities and would need to be applied for by the contractor.	<p>The EPA provided a submission on the EIS and advised that an EPL would be required for:</p> <ul style="list-style-type: none"> <li>Land based extractive activities;</li> <li>Marine based extractive activities (for the dredging component of the proposal).</li> </ul> <p>The submission also stated that in addition to these, ancillary activities that may be reflected within an EPL would include the operation and discharge from the sewage treatment plant and process water treatment plant.</p>
<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.	It remains the responsibility of the Contractor to ensure that all works are carried out in accordance with relevant legislative requirements.	<p>The EIS advised that chemical storage may also be applicable. In accordance with Schedule 1 of the POEO Act, scheduled activities which may be relevant to the Exploratory Works include:</p> <p><b>9 Chemical storage</b></p> <p>In the event that:</p> <p>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;</p> <p>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;</p> <p>Petroleum products storage – capacity to store more than 200 tonnes (liquified gases) or 2000 tonnes (chemicals in any other form);</p> <p>An EPL would be required for the scheduled activity of chemical storage.</p> <p>As there is currently no proposal to store chemicals above these amounts, an EPL is not considered to be required. In the event that this changes, it will be the responsibility of SHL and Future Generation to apply for this EPL.</p> <p><b>13 Concrete works</b></p> <p>A concrete batch plant may be required for various concrete related products during Exploratory Works. This scheduled activity does not apply to concrete batching (refer clause 13 of</p>

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
					<p>Schedule 1). It is therefore considered that an EPL for concrete works is not required.</p> <p><b>15 Contaminated soil treatment</b></p> <p>The requirement to have this scheduled activity is subject to discussion with EPA based on emplacement works under the Excavated Materials Management Plan.</p> <p><b>15A Contaminated groundwater treatment</b></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> <p><b>16 Crushing, grinding or separating</b></p> <p>This is not a required schedule activity as any processing and screening is permitted under Extractive Activity, which the licence will be applicable to.</p> <p><b>19 Extractive activities</b></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>Water-based extractive activity - means clay, sand, soil, stone, gravel, rock, sandstone or similar substances that are not minerals within the meaning of the Mining Act 1992.</p> <p>A water based extractive activity EPL means the extraction of extractive materials, either for sale or re-use, by means of dredging or other such water-based methods.</p> <p>Extraction on land is not occurring for the purpose of sale or re-use. Further discussions are required with EPA in relation to this scheduled activity.</p> <p><b>20 Helicopter-related activities</b></p> <p>Means the landing, taking-off or parking of helicopters being an activity that has an intended use of more than 30 flight movements per week (where take-off and landing are 2 flight movements) and that is conducted within 1 kilometre of a dwelling.</p>

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
					<p>An EPL is not required as, although helicopters may be used by FGJV, their use will be limited to emergencies only and therefore will not constitute the frequency element of the Scheduled activity definition.</p> <p><b>36 Sewage treatment</b>          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.          The sewage treatment system is not expected to exceed these volumes however in the event that this may occur, an EPL would be required.</p> <p>39 Waste disposal (application to land)          This scheduled activity relates to the 'application to land of waste received from off site...'          Material will not be received on the project from off site.</p> <p><b>Non-scheduled activities</b>          The POEO Act permits under section 43 that EPLs can be issued for the carrying out of non-scheduled activities for the purpose of regulating water pollution. An EPL for this purpose is not required but does provide a defence to the offence of polluting waters.</p>
	Harming the environment	Section 115 Section 116 Section 117	Do not risk harming the environment by wilfully or negligently: 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.	Contractor	Yes  Management measures included within the Surface Water Management Plan, the Waste Management Plan and the Air Quality Management Plan.
	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 / Contractor	Yes  Included within the EMS.
	PIRMP prepared if EPL required	Section 153A-F	Requires the holder of an EPL to prepare a pollution incident	Snowy Hydro / Contractor	A PIRMP will be prepared as part of the EPL.



Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
			response management plan (PIRMP)		
	Control equipment	Section 167	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	Contractor	Yes Included within 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	Contractor	Yes ROLs will be required to be obtained by the Contractor. If any works occur on Link Road, approval will be obtained.
<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	The legislation aims to minimise the risks to human health and the environment from hazardous industrial chemicals. Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	Contractor	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 Environmentally Hazardous Chemicals Act 1985 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.'  A licence to carry out an activity prohibited by a chemical control order must be obtained from EPA.  EPA currently have five chemical control orders in place for: <ul style="list-style-type: none"> <li>• aluminium smelter wastes containing fluoride and / or cyanide;</li> <li>• dioxin-contaminated waste materials;</li> <li>• organotin waste materials;</li> <li>• polychlorinated biphenyl compounds;</li> <li>• scheduled chemical wastes.</li> </ul> There is no known handling of these substances which would occur, however should the requirements of the Environmentally Hazardous Chemicals Act 1985 be triggered, then a licence may be required.  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.

Legislation	Activity / 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.	Contractor	<p>Dangerous goods are required to be transported in a safe manner.</p> <p>Vehicles that transport dangerous goods are required to be licensed.</p> <p>Drivers transporting dangerous goods are required to be licensed.</p> <p>Licences to transport dangerous goods will be obtained if required.</p>
<i>Pesticides Act 1999</i>	Hazards and risks	Section 12 Section 13 Section 14 Section 15 Section 17	<p>Use pesticides in an environmentally sensitive manner.</p> <p>Do not use an unregistered pesticide without a permit.</p> <p>Read the label or permit for the pesticide.</p> <p>Use registered pesticides in accordance with instructions on the label.</p> <p>Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act.</p> <p>Compliance with pesticide codes of practice is required.</p>	Contractor	<p>The Contractor is required to undertake project works in accordance with relevant legislative requirements including (if required), the application of pesticides in accordance with the <i>Pesticides Act 1999</i>.</p> <p>In the event that an unregistered pesticide is used, a permit will be required to be obtained.</p>
<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	<p>Yes</p> <p>Applicability dependent on thresholds.</p>
<b>Water</b>					
<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.		<p>Yes</p> <p>Management measures have been incorporated within the Surface Water Management Plan.</p>
<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 ground and	Snowy Hydro / Contractor	<p>Yes</p> <p>The <i>Water Management Act 2000</i> applies to areas of New South Wales that have a water sharing plan.</p> <p>The project area is subject to the following water sharing plans:</p>

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
			includes coastal waters) without an access licence.		<p>Water sharing plan for the Murrumbidgee unregulated and alluvial water sources 2012, Upper Tumut surface water source;</p> <p>Water sharing plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011, Lachlan Fold Belt Murray Darling Basin Groundwater Source; and</p> <p>Water sharing plan for the South Coast Groundwater Sources 2016, Lachlan Fold Belt Coast Groundwater Source.</p> <p>Section 21 of the <i>Water Management (General) Regulation 2018</i> states that a person is exempt if the person is specified in any provision of Part 1 of Schedule 4 of the <i>Water Management (General) Regulation 2018</i> and takes water for any of those purposes.</p> <p>Relevant exemptions from Part 1 of Schedule 4 are detailed below:</p> <ul style="list-style-type: none"> <li>• clause 5 provides an exemption for any public authority lawfully engaged in the use of water for dust suppression.</li> <li>• clause 7 provides an exemption for water taken in course of certain aquifer interference activities (in relation to taking up to 3 ML of groundwater from a groundwater source).</li> <li>• 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.</li> </ul> <p>Water access licences would therefore not be required if used for dust suppression; or if in the course of certain aquifer interference activities (in relation to taking up to 3ML of groundwater from a groundwater source).</p> <p>Each proposed use of water would require assessment under these exclusions (to determine if they are excluded) and possible consultation with DPIE Water.</p> <p>Any other water required for construction purposes would however require a water access licence.</p>
	Access licence for mining	Section 60I	Access licences for mining	-	<p>Appendix N of the EIS advises that DoI Water have advised that an access licence for mining is required. Section 60I relates to mining and a definition of this is provided within section 60I (4).</p> <p>Mining is the 'winning or removal of materials by methods such as excavating, dredging drilling or tunnelling for the purpose of obtaining minerals or petroleum...'. As this is not occurring as part of the Exploratory Works project, it is considered that an approval under section 60I is not applicable.</p>

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
					Consultation with DoI will however continue in finalising approval requirements.
	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.	-	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 a water use approval under section 89.
	Water management works approval	Section 90	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	-	No There are three kinds of water management work approvals, namely, water supply work approvals, drainage work approvals and flood work approvals: 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. A flood work approval confers a right on its holder to construct and use a specified flood work at a specified location. 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 management work approval under section 90.
	Activity approvals	Section 91 Section 91E Section 91F	Controlled activity approvals and aquifer interference approvals.	-	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 when an activity involves any of the following: (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).

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
					<p>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.</p> <p>If aquifer interference is expected to occur through excavation, deep excavations and dewatering then an aquifer interference licence may be required. Further consultation with DPIE Water is recommended.</p>
<p><i>Water Act 1912</i> Note that this Act is being progressively repealed by the <i>Water Management Act 2000</i></p>	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> <p>Water sharing plan for the Murrumbidgee unregulated and alluvial water sources 2012, Upper Tumut surface water source;</p> <p>Water sharing plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011, Lachlan Fold Belt Murray Darling Basin Groundwater Source; and</p> <p>Water sharing plan for the South Coast Groundwater Sources 2016, Lachlan Fold Belt Coast Groundwater Source.</p> <p>As the project is subject to water sharing plans, the Water Management Act 2000 applies.</p> <p>Under section 60A of the Water Management Act 2000, a water access licence is required to extract water.</p>
	Groundwater	Section 112 Section 121A	Obtain a licence where interference with groundwater is likely to occur.	-	<p>The EIS advises that in Section 4.5 of Appendix C that monitoring bore licences are required under the Water Act 1912.</p> <p>The Water Act 1912 does not apply to areas where a water sharing plan is in place.</p> <p>As the project is subject to water sharing plans, the project works are governed by the Water Management Act 2000.</p>
	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.	-	<p>The Water Act 1912 does not apply to areas where a water sharing plan is in place.</p> <p>As the project is subject to water sharing plans, the project works are governed by the <i>Water Management Act 2000</i>.</p>



Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
<b>Biodiversity</b>					
<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 BC Act, together with the Biodiversity Conservation Regulation 2017, established the Biodiversity Offsets Scheme.	Snowy Hydro	Yes A Biodiversity Offsets Strategy has been incorporated into the RTS.
<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'.	Contractor	Yes  The Riverina Regional Strategic Weed Management Plan 2017 - 2022 (RLLS 2017) outlines how government, industry, and the community will share responsibility and work together to identify, minimise, respond to and manage weeds within the Riverina Region, which includes the Exploratory Works project area. The plan also supports regional implementation of the Biosecurity Act.  Blackberry ( <i>Rubus fruticosus</i> species aggregate), a weed of national significance and State Priority was identified within the Exploratory Works survey area. The Biosecurity Act 2015 requires mandatory measures are implemented as per Part 2, Division 8, clause 33 of the NSW Biosecurity Regulation 2018; a person must not import into the State or sell.  Sweet Briar ( <i>Rosa rubiginosa</i> ), identified within the Exploratory Works survey area, is identified in Appendix 2 of RLLS (2017) as another weed of concern to the Riverina Region. Weeds identified in Appendix 2 may be subject to the General Biosecurity Duty, as outlined in the Biosecurity Act 2015, and may be a focus for local management plans and coordinated campaigns by the community and other stakeholders in the region.  A Weed and Feral Animal Management Plan will be prepared and implemented for the project.
<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.	Contractor	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

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
					<p>of the EP&amp;A Act, SSI projects are exempt from requiring approvals under section 201 of the Fisheries Management Act 1994.</p> <p>Section 5.23 of the EP&amp;A Act is silent on s199 and therefore the requirement for notification remains.</p> <p>Section 199 requires a government authority to give notice of dredging or reclamation. This is not relevant to Stage 1 works but is relevant to Stage 2 works.</p>
	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	<p>No</p> <p>Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&amp;A Act, SSI projects are exempt from requiring approvals under section 205 of the Fisheries Management Act 1994.</p>
	Fish passage	Section 219	Do not block fish passage without a permit	Not applicable	<p>No</p> <p>Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&amp;A Act, SSI projects are exempt from requiring approvals under section 219 of the Fisheries Management Act 1994.</p>
<b>Heritage</b>					
<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	<p>No</p> <p>Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&amp;A Act, SSI projects are exempt from requiring approvals under Part 4 of the Heritage Act 1977. Section 57 is within Part 4 of the Heritage Act 1977.</p>
		Section 139	<p>An excavation permit is required under certain circumstances.</p> <p>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</p>	Not applicable	<p>No</p> <p>Certain approvals and authorisations are not required for approved SSI projects. In accordance with s 5.23 of the EP&amp;A Act, SSI projects are exempt from requiring approvals under section 139 of the Heritage Act 1977.</p>

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
			has been discovered or exposed.		
		Section 146	Notify the heritage Council on discovery of a relic.	Contractor / 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 Historic Heritage Management Plan.
National Parks and Wildlife Act 1974	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 National Parks and Wildlife Act 1974.
		S89A	Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	Snowy Hydro / Contractor	Yes Notification requirements are included within the Aboriginal Heritage Management Plan.
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 / Contractor	Yes
		Section 22	Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	Snowy Hydro / Contractor	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	Contractor	Yes

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
			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.)		
<i>Contaminated Land Management Act 1997</i>	Reporting contamination	Section 60	Duty to report contamination.	Snowy Hydro / Contractor	<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 Contaminated Land Management Act 1997 to notify the EPA.</p> <p>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.</p>
<b>Noise</b>					
<i>Protection of the Environment Operations Act 1997</i>	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.	Contractor	Yes
<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.	Contractor	Yes
<b>Waste</b>					
<i>Protection of the Environment Operations Act 1997</i>	Littering	Part 5.6A	<p>Do not litter in a public place or an open private place. Do not litter from a vehicle.</p> <p>Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises.</p> <p>Do not deposit advertising material on or in vehicles.</p>	Contractor	Yes
		Part 3.2	Do not undertake a scheduled waste activity unless in	Contractor	Yes

Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
	Waste and transportation	Section 47 Schedule 1	accordance with an environment protection licence.		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 trackable waste should 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 Operations (Waste) Regulation 2005</i>	Waste and transportation	Regulation cl.49	Comply with general requirements for the transport of waste.	Contractor	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 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.	Contractor	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.	Contractor	The EIS advises that approval from Snowy Valleys Council will be required prior to the construction of the sewage treatment plant.  Consultation is ongoing in relation to this approval and any approvals which may be required will be obtained prior to operation of sewage treatment.
<b>Notification requirements (summarised from the details above)</b>					
<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.	Contractor / Snowy Hydro	Yes



Legislation	Activity / Aspect	Reference	Requirement	Responsibility	Applicable
<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.	Contractor / 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.	Contractor / 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 Historic Heritage Management Plan.
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)</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 / Contractor	Yes
<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 / Contractor	Yes
<i>Contaminated Land Management Act 1997</i>	Reporting contamination	Section 60	Duty to report contamination.	Snowy Hydro / Contractor	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.

## CONDITIONS OF APPROVAL (SSI 9208)

Schedule	CoA	Requirement	Plan Allocation
Sch 2	1	In addition to meeting the specific performance criteria established under this approval, the Proponent must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable or feasible, minimise any material harm to the environment that may result from the construction and operation of the project, and any rehabilitation required under this approval.	Environmental Management Strategy
Sch 2	2-a	The Proponent must carry out the development: (a) generally in accordance with the EIS; and	Environmental Management Strategy
Sch 2	2-b	(b) in accordance with the conditions of this approval. Note: The general layout of the development is shown in Appendix 2.	Environmental Management Strategy
Sch 2	3	If there is any inconsistency between the documents in condition 2 above, the most recent document must prevail to the extent of the inconsistency. However, the conditions of this approval will prevail to the extent of any inconsistency.	Environmental Management Strategy
Sch 2	4	The Proponent must comply with any reasonable requirement/s of the Planning Secretary arising from the Department's assessment of:	Environmental Management Strategy
Sch 2	4-a	(a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval (including any stages of these documents);	Environmental Management Strategy
Sch 2	4-b	(b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with this approval; and	Environmental Management Strategy
Sch 2	4-c	(c) the implementation of any actions or measures contained in these documents.	Environmental Management Strategy
Sch 2	5	This approval will lapse if the Proponent does not physically commence the development within 5 years of the date on which it is granted.	Environmental Management Strategy
Sch 2	6	The Proponent must notify the Department and NPWS in writing of the date of commencement of:	Environmental Management Strategy
Sch 2	6-a	The Proponent must notify the Department and NPWS in writing of the date of commencement of: (a) any public road closures;	Traffic Management Plan
Sch 2	6-b	The Proponent must notify the Department and NPWS in writing of the date of commencement of: (b) pre-construction minor works;	Environmental Management Strategy
Sch 2	6-c	The Proponent must notify the Department and NPWS in writing of the date of commencement of: (c) road upgrade works;	Traffic Management Plan
Sch 2	6-d	The Proponent must notify the Department and NPWS in writing of the date of commencement of: (d) construction on site;	Environmental Management Strategy

Schedule	CoA	Requirement	Plan Allocation
Sch 2	6-e	The Proponent must notify the Department and NPWS in writing of the date of commencement of: (e) the subaqueous emplacement trial;	Subaqueous Emplacement Management Plan
Sch 2	6-f	The Proponent must notify the Department and NPWS in writing of the date of commencement of: (f) the completion of the exploratory tunnel works; and	Environmental Management Strategy
Sch 2	6-g	The Proponent must notify the Department and NPWS in writing of the date of commencement of: (g) the decommissioning of the development and rehabilitation of the site.	Rehabilitation Management Plan
Sch 2	7	The Proponent must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. Notes: • Under Part 6 of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and • Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.	Other - Construction &/or Design Requirement /
Sch 2	8	The Proponent must ensure that all demolition work is carried out in accordance with AS 2601-2001: The Demolition of Structures, or its latest version.	Other - Construction &/or Design Requirement /
Sch 2	9	Unless the Proponent and the applicable authority agree otherwise, the Proponent must:	Environmental Management Strategy, Other - Construction &/or Design Requirement /
Sch 2	9-a	Unless the Proponent and the applicable authority agree otherwise, the Proponent must: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and	Environmental Management Strategy, Other - Construction &/or Design Requirement /
Sch 2	9-b	Unless the Proponent and the applicable authority agree otherwise, the Proponent must: (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development. Note: This condition does not apply to any damage to roads caused by the development.	Environmental Management Strategy, Other - Construction &/or Design Requirement /
Sch 2	10	The Proponent must ensure that all plant and equipment used on site, or to monitor the performance of the development is:	Air Quality Management Plan
Sch 2	10-a	The Proponent must ensure that all plant and equipment used on site, or to monitor the performance of the development is: (a) maintained in a proper and efficient condition; and	Air Quality Management Plan
Sch 2	10-b	The Proponent must ensure that all plant and equipment used on site, or to monitor the performance of the development is: (b) operated in a proper and efficient manner.	Air Quality Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	1	Prior to carrying out any development under this approval, unless the Planning Secretary agrees otherwise, the Proponent must pay the NPWS \$4,962,777. Note: The NPWS will use these funds and any interest generated by these funds to enhance the Kosciuszko National Park and offset the impacts of the development on the conservation and recreational values of the park. The NPWS will: • develop a detailed program for the allocation of these funds to specific projects; • monitor, evaluate and publicly report on the spending of these funds and the effectiveness of these projects.	Other (Non-FGJV)
Sch 3	2	Prior to carrying out any construction, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Worker – Recreational Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	Worker Recreation Management Plan
Sch 3	2-a	(a) be prepared in consultation with the NPWS;	Worker Recreation Management Plan
Sch 3	2-b	(b) identify the measures that would be implemented to minimise the impacts of workers on the values of the Kosciuszko National Park outside the approved disturbance area for the project,	Worker Recreation Management Plan
Sch 3	2-c	(c) include a program to monitor the impacts of the development outside the approved disturbance area;	Worker Recreation Management Plan
Sch 3	2-d	(d) include a trigger action and response plan that would be implemented if monitoring shows the values of the Kosciuszko National Park are being adversely affected by the development.	Worker Recreation Management Plan
Sch 3	3	The Proponent must implement the approved Worker – Recreational Management Plan.	Worker Recreation Management Plan
Sch 3	4	The Proponent:	Talbingo Recreational Management Plan
Sch 3	4-a	(a) may only use the Talbingo Boat Ramp, O'Hares Campground Boat Ramp and/or Middle Bay Barge Ramp to launch and remove vessels associated with the development to and from Talbingo Reservoir;	Traffic Management Plan
Sch 3	4-b	(b) must minimise any disruption to other boat ramp users when it is using the Talbingo Boat Ramp; and	Traffic Management Plan
Sch 3	4-c	(c) keep the local community informed about any use and/or temporary closure of the Talbingo Boat Ramp.	Community and Stakeholder Engagement Plan
Sch 3	5	Prior to carrying out any development under this approval, unless the Planning Secretary agrees otherwise, the Proponent must pay the NPWS \$5,548,222. Note: The NPWS will use these funds and any interest generated by these funds to offset the biodiversity impacts of the development. These funds will be spent on activities to enhance the biodiversity values of the Kosciuszko National Park. The NPWS will: • develop a detailed program for the allocation of these funds to specific projects; • monitor, evaluate and publicly report on the spending of these funds and the effectiveness of these projects.	Other (Non-Future Generation)
Sch 3	5A	Within 2 months of the approval of Modification 1, unless the Planning Secretary agrees otherwise, the proponent must pay the NPWS an additional \$2,639,697.	Other (Non-Future Generation)

Schedule	CoA	Requirement	Plan Allocation
Sch 3	5B	Within 2 months of the approval of Modification 2, unless the Planning Secretary agrees otherwise, the proponent must pay the NPWS an additional \$304,990.	Other (Non-Future Generation)
Sch 3	6	Prior to carrying out any construction, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Biodiversity Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	Biodiversity Management Plan
Sch 3	6-a	(a) be prepared in consultation with the NPWS and BCD;	Biodiversity Management Plan
Sch 3	6-b	(b) include a description of the measures that would be implemented to:	Biodiversity Management Plan
Sch 3	6-b	• protect vegetation and fauna habitat outside the approved disturbance area;	Biodiversity Management Plan, Pre-clearing Procedure/
Sch 3	6-b	• minimise native vegetation clearing in the approved disturbance area;	Biodiversity Management Plan, Pre-clearing Procedure/
Sch 3	6-b	• minimise the tree trimming required along Lobs Hole Ravine Road to allow OSOM vehicles to access the site;	Biodiversity Management Plan
Sch 3	6-b	• minimise the loss of key fauna habitat;	Biodiversity Management Plan, Pre-clearing Procedure/
Sch 3	6-b	• undertake pre-clearance surveys of fauna;	Biodiversity Management Plan, Pre-clearing Procedure/
Sch 3	6-b	• minimise the impacts of the development on threatened flora and fauna species, including the: - Smoky Mouse ( <i>Pseudomys fumeus</i> ); - Boorolong Frog ( <i>Litoria booroolongensis</i> ); - Eastern Pygmy possum ( <i>Cercartetus nanus</i> ); - Regent Honeyeater ( <i>Anthochaera phrygia</i> ),	Biodiversity Management Plan
Sch 3	6-b	• maximise the salvage of resources within the approved disturbance area - including native vegetative material and topsoil containing vegetative matter and native seed bank – for beneficial reuse in the rehabilitation of the site;	Biodiversity Management Plan, Pre-clearing Procedure/
Sch 3	6-b	• collect and propagate seed for use in rehabilitation;	Biodiversity Management Plan, Rehabilitation Management Plan
Sch 3	6-b	• control the spread of weeds and pathogens, including Phytophthora ( <i>Phytophthora cinnamomi</i> );	Biodiversity Management Plan, Weed and Feral Animal Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	6-b	• control the spread of feral pests;	Biodiversity Management Plan, Weed and Feral Animal Management Plan
Sch 3	6-b	• minimise the potential for erosion; and	Biodiversity Management Plan, Surface Water Management Plan
Sch 3	6-b	• minimise bushfire risk;	Biodiversity Management Plan, Emergency Plan (Bushfire)/
Sch 3	6-c	(c) include a program to monitor and report on the effectiveness of these measures.	Biodiversity Management Plan, Biodiversity Monitoring Program/
Sch 3	7	The Proponent must implement the approved Biodiversity Management Plan for the development.	Biodiversity Management Plan
Sch 3	8	Prior to carrying out any construction in Talbingo Reservoir, Yarrangobilly River, and Wallaces Creek, unless the Planning Secretary agrees otherwise, the Proponent must prepare an Aquatic Habitat Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	Aquatic Habitat Management Plan
Sch 3	8-a	(a) be prepared in consultation with the NPWS and DPI Fisheries;	Aquatic Habitat Management Plan
Sch 3	8-b	(b) include a description of the measures that would be implemented to:	Aquatic Habitat Management Plan
Sch 3	8-b	• protect the aquatic habitat outside the approved disturbance areas;	Aquatic Habitat Management Plan
Sch 3	8-b	• minimise the loss of key aquatic habitat;	Aquatic Habitat Management Plan
Sch 3	8-b	• undertake surveys of the condition of aquatic habitat and the presence of any threatened aquatic species: - in and surrounding the approved disturbance areas prior to disturbing these areas; and - at suitable control sites within the reservoir;	Aquatic Habitat Management Plan
Sch 3	8-b	• minimise the impacts of the development on threatened fauna species, including the Murray crayfish ( <i>Euastacus armatus</i> ) and Macquarie Perch ( <i>Macquaria australasica</i> );	Aquatic Habitat Management Plan
Sch 3	8-b	• minimise the impact of the development on fish habitat, particularly from the following activities: - in Talbingo Reservoir: o subaqueous emplacement; o dredging; o barge infrastructure; o water treatment outlet; o water intake pipe; and o seismic surveys. - in Yarrangobilly River, and Wallaces Creek: o Wallaces Creek temporary and permanent bridges; o Yarrangobilly River temporary and permanent bridges.	Aquatic Habitat Management Plan
Sch 3	8-b	• maximise the relocation of any large mobile invertebrates from the shallower parts of the approved disturbance areas prior to disturbing these areas;	Aquatic Habitat Management Plan
Sch 3	8-b	• salvage woody debris from the dredging area and the shallower parts of the designated subaqueous emplacement areas prior to disturbing these areas, and use this debris to enhance the habitat of other parts of the reservoir;	Aquatic Habitat Management Plan, Dredge Management Plan



Schedule	CoA	Requirement	Plan Allocation
Sch 3	8-b	• notify DPI – Fisheries of any fish kills;	Aquatic Habitat Management Plan
Sch 3	8-c	(c) include a trigger action and response plan for the Murray Crayfish, which would be implemented if monitoring shows the development is adversely affecting the species;	Aquatic Habitat Management Plan
Sch 3	8-d	(d) include a program to restore and enhance the aquatic habitat of the approved disturbance area as soon as practicable following the completion of development in these areas;	Aquatic Habitat Management Plan
Sch 3	8-e	(e) include a program to monitor and report on the effectiveness of these measures.	Aquatic Habitat Management Plan
Sch 3	9	The Proponent must implement the approved Aquatic Habitat Management Plan.	Aquatic Habitat Management Plan
Sch 3	10	If the Planning Secretary determines, after reviewing monitoring results of the impacts of the development, that the development has had a significant impact on the Murray Crayfish in the Talbingo Reservoir, then the Proponent must offset these impacts to the satisfaction of the Planning Secretary.	Aquatic Habitat Management Plan, Other (Non-FGJV)
Sch 3	11	The Proponent must ensure that the development does not affect any Aboriginal heritage items outside the approved disturbance area (see Appendix 3).	Aboriginal Heritage Management Plan
Sch 3	12	The Proponent must undertake archival recording, test excavation and/or salvage of the items listed in Table 3-1 in Appendix 3, in accordance with the approved program under the Aboriginal Heritage Management Plan.	Aboriginal Heritage Management Plan
Sch 3	13	The Proponent may damage the Aboriginal heritage items listed in Table 3-2 of Appendix 3 without carrying out any further management or mitigation measures.	Aboriginal Heritage Management Plan
Sch 3	14	Prior to carrying out any development that could affect the Aboriginal heritage items listed in Table 3-1 in Appendix 3, unless the Planning Secretary agrees otherwise, the Proponent must prepare an Aboriginal Heritage Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	Aboriginal Heritage Management Plan
Sch 3	14	Prior to carrying out any development that could affect the Aboriginal heritage items listed in Table 3-1 in Appendix 3, unless the Planning Secretary agrees otherwise, the Proponent must prepare an Aboriginal Heritage Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	Aboriginal Heritage Management Plan
Sch 3	14-a	(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;	Aboriginal Heritage Management Plan
Sch 3	14-b	(b) be prepared in consultation with the NPWS, BCD, RAPs, NPWS Tumut Brungle Gundagai Aboriginal Community Executive Advisory Committee;	Aboriginal Heritage Management Plan
Sch 3	14-c	(c) include a description of the measures that would be implemented to mitigate the impacts of the development on the Aboriginal heritage items listed in Table 3-1, including:	Aboriginal Heritage Management Plan
Sch 3	14-c	• test excavation and salvage of certain sites; and	Aboriginal Heritage Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	14-c	• archival recording of cultural features within the approved disturbance area shown in Appendix 3;	Aboriginal Heritage Management Plan
Sch 3	14-d	include a description of the measures that would be implemented to	Aboriginal Heritage Management Plan
Sch 3	14-d	• consult the RAPs on the conservation and management of Aboriginal cultural heritage onsite;	Aboriginal Heritage Management Plan
Sch 3	14-d	• maintain reasonable access for Aboriginal stakeholders to cultural heritage sites on site;	Aboriginal Heritage Management Plan
Sch 3	14-d	• protect and monitor the Aboriginal heritage sites outside the approved disturbance area;	Aboriginal Heritage Management Plan
Sch 3	14-d	• manage the discovery of human remains or previously unidentified Aboriginal artefacts;	Aboriginal Heritage Management Plan
Sch 3	14-d	• store and manage any salvaged Aboriginal heritage items; and	Aboriginal Heritage Management Plan
Sch 3	14-d	• ensure workers on site receive adequate training and inductions on Aboriginal heritage management.	Aboriginal Heritage Management Plan
Sch 3	15	The Proponent must implement the approved Aboriginal Heritage Management Plan for the development.	Aboriginal Heritage Management Plan
Sch 3	16	The Proponent must ensure that the development does not affect:	Historic and Natural Heritage Management Plan
Sch 3	16-a	(a) any historic heritage items outside the approved disturbance	Historic and Natural Heritage Management Plan
Sch 3	16-b	(b) the historic heritage items listed in Table 4-2 in Appendix 4.	Historic and Natural Heritage Management Plan
Sch 3	17	The Proponent must undertake archival recording, test excavation and/or salvage of the items listed in Table 4-1 in Appendix 4 in accordance with the approved program under the Historic and Natural Heritage Management Plan.	Historic and Natural Heritage Management Plan
Sch 3	18	Within one year of the completion of the archival recording, test excavation and salvage works required under this approval, unless the Planning Secretary agrees otherwise, the Proponent must:	Historic and Natural Heritage Management Plan
Sch 3	18-a	(a) produce a detailed archival record, to publication standard, of the salvage, excavation and storage of heritage artefacts and history of settlement and mining in the Lobs Hole Ravine area; and	Historic and Natural Heritage Management Plan
Sch 3	18-b	(b) provide a copy of this record to the Heritage Council, NPWS, Department, and relevant local libraries.	Historic and Natural Heritage Management Plan
Sch 3	19	The Proponent must:	Historic and Natural Heritage Management Plan
Sch 3	19-a	(a) minimise the impact of the development on the: • fossiliferous beds and boulder streams on Lobs Hole Ravine Road;	Historic and Natural Heritage Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	19-b	(b) for the fossiliferous beds disturbed by the Lobs Hole Ravine Road upgrade works: <ul style="list-style-type: none"> <li>• retain a representative sample of spoil from the fossiliferous beds, and</li> <li>• carry out scientific research on this sample of spoil;</li> </ul>	Historic and Natural Heritage Management Plan
Sch 3	19-c	(c) for the boulder streams disturbed by the Lobs Hole Ravine upgrade works: <ul style="list-style-type: none"> <li>• undertake detailed mapping of the block stream extents and morphology; and</li> <li>• prepare a detailed archival record of the block streams, prior to disturbing the block streams;</li> </ul>	Historic and Natural Heritage Management Plan
Sch 3	19-d	(d) ensure the development does not adversely affect the tufa deposits at Lick Hole Gully and Cave Gully and the Former Copper Mine shown in Appendix 4; and	Historic and Natural Heritage Management Plan
Sch 3	19-e	(e) carry out a detailed investigation of any unidentified karst features intercepted during the tunnel works	Historic and Natural Heritage Management Plan
Sch 3	20	Prior to carrying out any development that could affect the historic or natural heritage items listed in Conditions 16, 17 and 19 above, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Historic and Natural Heritage Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	Historic and Natural Heritage Management Plan
Sch 3	20-a	(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;	Historic and Natural Heritage Management Plan
Sch 3	20-b	(b) be prepared in consultation with the BCD and NPWS;	Historic and Natural Heritage Management Plan
Sch 3	20-c	(c) describe the measures that would be implemented to:	Historic and Natural Heritage Management Plan
Sch 3	20-c	<ul style="list-style-type: none"> <li>• protect the historic heritage items outside the approved disturbance area;</li> </ul>	Historic and Natural Heritage Management Plan
Sch 3	20-c	<ul style="list-style-type: none"> <li>• mitigate the impacts of the development on the historic heritage items listed in Table 4-1, including a detailed archaeological research design and excavation program for the proposed test excavations;</li> </ul>	Historic and Natural Heritage Management Plan
Sch 3	20-c	<ul style="list-style-type: none"> <li>• protect or minimise the impacts of the development on the natural heritage items referred to in Condition 19 above;</li> </ul>	Historic and Natural Heritage Management Plan
Sch 3	20-d	include a detailed program for the archival recording of the history of settlement and mining in the Lobs Hole Ravine area;	Historic and Natural Heritage Management Plan
Sch 3	20-e	include a program to:	Historic and Natural Heritage Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	20-e	• carry out scientific research on the representative sample of spoil from the fossiliferous beds disturbed by the Lobs Hole Ravine Road upgrade works and publicly report on the findings of this research;	Historic and Natural Heritage Management Plan
Sch 3	20-e	• undertake the field mapping and photographic recording of the block streams disturbed by the Lobs Hole Ravine Road upgrade works	Historic and Natural Heritage Management Plan
Sch 3	20-e	• carry out a detailed investigation of any unidentified karst features intercepted during the tunnel works and publicly report on the findings of this investigation; and	Historic and Natural Heritage Management Plan
Sch 3	20-e	• provide educational interpretative signage of the fossiliferous beds and boulder streams	Historic and Natural Heritage Management Plan
Sch 3	20-f	describe the measures that would be implemented to:	Historic and Natural Heritage Management Plan
Sch 3	20-f	• manage the discovery of human remains and previously unidentified heritage items;	Historic and Natural Heritage Management Plan
Sch 3	20-f	• relocate moveable historic heritage items within the disturbance area;	Historic and Natural Heritage Management Plan
Sch 3	20-f	• store and manage any salvaged heritage items;	Historic and Natural Heritage Management Plan
Sch 3	20-f	• investigate any unidentified karst features discovered during the tunnel works; and	Historic and Natural Heritage Management Plan
Sch 3	20-f	• ensure workers on site receive adequate training and inductions on historic and natural heritage management; and	Historic and Natural Heritage Management Plan
Sch 3	20-g	include a program to:	Historic and Natural Heritage Management Plan
Sch 3	20-g	• undertake baseline monitoring of the condition of the historic and natural heritage items that must be protected;	Historic and Natural Heritage Management Plan
Sch 3	20-g	• monitor the impacts of the development on the historic heritage items referred to in Condition 16 above; and	Historic and Natural Heritage Management Plan
Sch 3	20-g	• monitor the impacts of the development on the natural heritage items referred to in Condition 19 above.	Historic and Natural Heritage Management Plan
Sch 3	21	The Proponent must implement the approved Historic and Natural Heritage Management Plan for the development.	Historic and Natural Heritage Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	22	The Proponent must:	Excavated Materials Management Plan
Sch 3	22-a	(a) conduct detailed testing of the physical and chemical characteristics of the excavated material;	Excavated Materials Management Plan
Sch 3	22-b	(b) classify, handle, store and/or dispose of this material in accordance with the results of this testing;	Excavated Materials Management Plan
Sch 3	22-c	(c) not place dredge material in the eastern and western emplacement areas;	Excavated Materials Management Plan, Dredge Management Plan
Sch 3	22-d	(d) not place any material obtained from tunnel excavation using the tunnel boring machine in Talbingo Reservoir;	Excavated Materials Management Plan
Sch 3	22-e	(e) only place excavated material in the western emplacement area that is non-reactive, has low geochemical risk and will be reused;	Excavated Materials Management Plan
Sch 3	22-f	(e) develop and implement suitable procedures for handling, storing and disposing of any material from tunnel excavation:	Excavated Materials Management Plan
Sch 3	22-f	• potentially acid forming material;	Excavated Materials Management Plan
Sch 3	22-f	• asbestiform mineral fibres;	Excavated Materials Management Plan
Sch 3	22-f	• contaminated material; and	Excavated Materials Management Plan
Sch 3	22-g	(f) avoid and/or minimise the water quality impacts of the emplacement areas.	Excavated Materials Management Plan, Water Management Plan
Sch 3	23	Subject to obtaining the further approvals required under this approval, the Proponent may:	Excavated Materials Management Plan
Sch 3	23-a	(a) provide excavated material to the NPWS for reuse within the Kosciuszko National Park;	Excavated Materials Management Plan
Sch 3	23-b	(b) reuse excavated material in the rehabilitation of the site;	Excavated Materials Management Plan
Sch 3	23-c	(c) place excavated material in the designated subaqueous emplacement areas; and	Excavated Materials Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	23-d	(d) return the excavated material to the exploratory tunnel.	Excavated Materials Management Plan
Sch 3	24	Within 3 years of the completion of the exploratory tunnel works, unless the Planning Secretary directs otherwise, the Proponent must remove any remaining extractive material from the Kosciuszko National Park. Note: In this Condition, the remaining extractive material refers to the extractive material on site that cannot be disposed of under Condition 23 above.	Excavated Materials Management Plan
Sch 3	25	Prior to emplacing any excavated material from the development in the designated subaqueous emplacement areas in the Talbingo Reservoir, the Proponent must prepare a Subaqueous Emplacement Management Plan for the development to the satisfaction of the Planning Secretary. The plan is to focus initially on the proposed trial of emplacing up to 50,000m of excavated material into the designated subaqueous emplacement area in Plain Creek Bay and must:  Note: The designated subaqueous emplacement areas in the Talbingo Reservoir are shown in the figures in Appendix 2.	Subaqueous Emplacement Management Plan
Sch 3	25-a	(a) be prepared in consultation with the EPA, NPWS and DPI Fisheries;	Subaqueous Emplacement Management Plan
Sch 3	25-b	(b) identify criteria for excavated material to be considered suitable for emplacement in the reservoir;	Subaqueous Emplacement Management Plan
Sch 3	25-c	(c) include site specific water quality criteria for the trial;	Subaqueous Emplacement Management Plan
Sch 3	25-d	(d) describe the measures that would be implemented to:	Subaqueous Emplacement Management Plan
Sch 3	25-d	• minimise the water quality impacts of the trial;	Subaqueous Emplacement Management Plan
Sch 3	25-d	• minimise the aquatic habitat and species impacts of the trial; and	Subaqueous Emplacement Management Plan
Sch 3	25-d	• stabilise the emplaced material within the subaqueous emplacement area;	Subaqueous Emplacement Management Plan
Sch 3	25-e	(e) include a program to monitor the impacts of the trial on water quality, aquatic habitat and species and the bed of the reservoir in the subaqueous emplacement areas; and	Subaqueous Emplacement Management Plan, Aquatic Habitat Management Plan
Sch 3	25-f	(f) a plan to respond to any exceedances of the surface water trigger levels and/or assessment criteria and mitigate and/or offset any adverse surface water impacts of the development.	Subaqueous Emplacement Management Plan



Schedule	CoA	Requirement	Plan Allocation
Sch 3	26	The Proponent must implement the approved Subaqueous Emplacement Management Plan for the development.	Subaqueous Emplacement Management Plan
Sch 3	27	Within 3 months of completing the trial emplacement of material in the designated subaqueous emplacement area in Plain Creek Bay, unless the Planning Secretary agrees otherwise, the Proponent must submit a Trial Review Report to the Planning Secretary that:	Subaqueous Emplacement Management Plan
Sch 3	27-a	(a) documents the findings of the trial;	Subaqueous Emplacement Management Plan
Sch 3	27-b	(b) evaluates the:	Subaqueous Emplacement Management Plan
Sch 3	27-b	• impacts and effectiveness of the trial;	Subaqueous Emplacement Management Plan
Sch 3	27-b	• whether more excavated material can be placed in the designated subaqueous emplacement area in Plain Creek Bay or the trial may be extended to the other two designated subaqueous emplacement areas; and	Subaqueous Emplacement Management Plan
Sch 3	27-c	(c) includes recommendations on additional measures that could be implemented to further minimise the impacts of any future emplacement in the reservoir.	Subaqueous Emplacement Management Plan
Sch 3	28	If, after considering the Trial Review Report, the Planning Secretary agrees that further excavated material from the development may be put in the designated subaqueous emplacement areas in Plain Creek Bay, Cascade Bay and Ravine Bay within Talbingo Reservoir, then the Proponent must update the Subaqueous Emplacement Management Plan for the development to the satisfaction of the Planning Secretary before any more excavated material from the development is put in Talbingo Reservoir.	Subaqueous Emplacement Management Plan
Sch 3	29	Prior to carrying out any construction under this approval, the Proponent must prepare an Excavated Material Management Plan for the development to the satisfaction of the Planning Secretary/NPWS. This plan must:	Excavated Materials Management Plan
Sch 3	29-a	(a) be prepared in consultation with the EPA;	Excavated Materials Management Plan
Sch 3	29-b	(b) identify opportunities for the reuse of excavated material in the construction of the development, rehabilitation of the site, or in other parts of the Kosciuszko National Park;	Excavated Materials Management Plan
Sch 3	29-c	(c) describe the measures that would be implemented to comply with Condition 22 above;	Excavated Materials Management Plan
Sch 3	29-d	(d) describe the measures that would be implemented during dredging, and construction of barge and other infrastructure in Talbingo Reservoir to:	Excavated Materials Management Plan, Dredge Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	29-d	• minimise the water quality impacts;	Excavated Materials Management Plan, Dredge Management Plan
Sch 3	29-d	• minimise the aquatic habitat and species impacts; and	Aquatic Habitat Management Plan
Sch 3	29-e	(e) include a copy of the Subaqueous Emplacement Management Plan (once it has been approved); and	Excavated Materials Management Plan, Subaqueous Emplacement Management Plan
Sch 3	29-f	(f) include a program to monitor and review the effectiveness of these measures.	Excavated Materials Management Plan
Sch 3	30	The Proponent must implement the approved Excavated Material Management Plan for the development.	Excavated Materials Management Plan
Sch 3	31	The Proponent must ensure that it has sufficient water for all stages of the development; and if necessary, stage the development to match its available water supply. Note: Under the Water Management Act 2000, the Proponent must obtain the necessary water licences for the development.	Water Management Plan
Sch 3	32	Unless an environment protection licence authorises otherwise, the Proponent must comply with Section 120 of the POEO Act. Note: Section 120 of the POEO Act makes it an offence to pollute any waters.	Water Management Plan
Sch 3	33	The Proponent must:	Water Management Plan
Sch 3	33-a	(a) minimise the use of clean water on site;	Water Management Plan, Surface Water Management Plan
Sch 3	33-b	(b) maximise the diversion of clean water runoff around the approved disturbance areas on site;	Water Management Plan, Surface Water Management Plan
Sch 3	33-c	(c) minimise the flow rates from any clean water runoff diversions to adjoining watercourses;	Water Management Plan, Surface Water Management Plan
Sch 3	33-d	(d) minimise any soil erosion associated with the development;	Water Management Plan, Surface Water Management Plan
Sch 3	33-e	(e) ensure all chemical and hydrocarbon products are stored on site in bunded areas in accordance with the relevant Australian Standards.	Water Management Plan, Surface Water Management Plan
Sch 3	34	Prior to carrying out any construction, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Water Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	Water Management Plan, Surface Water Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	34-a	(a) be prepared in consultation with the EPA, NPWS, DoI Water and DPI - Fisheries by a suitably qualified and experienced person/s whose appointment has been approved by the Planning Secretary;	Water Management Plan, Surface Water Management Plan
Sch 3	34-b	(b) include a Site Water Balance for the development and a program to review and update the site water balance each calendar year;	Water Management Plan, Surface Water Management Plan
Sch 3	34-c	(c) include a Surface Water Management Plan with:	Water Management Plan, Surface Water Management Plan
Sch 3	34-c	• detailed baseline data on surface water flows and quality in the watercourses that could potentially be affected by the development;	Water Management Plan, Surface Water Management Plan
Sch 3	34-c	• a program to augment the baseline data during the development;	Water Management Plan, Surface Water Management Plan
Sch 3	34-c	• a description of the measures that would be implemented to minimise the impacts of: <ul style="list-style-type: none"> <li>○ any subaqueous emplacement;</li> <li>○ the dredging within Talbingo Reservoir;</li> <li>○ the barge infrastructure;</li> <li>○ the water intake;</li> <li>○ the water treatment pipes and outlets;</li> <li>○ any in-stream works;</li> <li>○ stockpiles;</li> <li>○ eastern emplacement area;</li> <li>○ western emplacement area;</li> <li>○ construction portal;</li> <li>○ accommodation camp;</li> <li>○ Lobs Hole substation;</li> <li>○ road upgrades, and in particular the road works in the vicinity of the Yarrangobilly River;</li> <li>○ chemical and hydrocarbon storage.</li> </ul>	Water Management Plan, Surface Water Management Plan
Sch 3	34-c	• surface water assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts of the development;	Water Management Plan, Surface Water Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	34-c	• a description of the measures that would be implemented to minimise the surface water impacts of the development;	Water Management Plan, Surface Water Management Plan
Sch 3	34-c	• a program to monitor and report on the surface water impacts of the development including water monitoring locations, analytes and sampling frequency for each monitoring location;	Water Management Plan, Surface Water Management Plan
Sch 3	34-c	• a program to monitor and report on the surface water impacts of the development	Water Management Plan, Surface Water Management Plan
Sch 3	34-c	• a plan to respond to any exceedances of the surface water trigger levels and/or assessment criteria and mitigate and/or offset any adverse surface water impacts of the development;	Water Management Plan, Surface Water Management Plan
Sch 3	34-d	(d) include a Dredging Management Plan with:	Water Management Plan, Dredge Management Plan
Sch 3	34-d	• a description of the measures that would be implemented to minimise the generation and dispersion of sediments outside the identified works zone during dredging;	Water Management Plan, Dredge Management Plan
Sch 3	34-d	• monitoring at representative locations to determine the extent of suspended sediment concentrations and any other potential pollutants dispersed by dredging;	Water Management Plan, Dredge Management Plan
Sch 3	34-d	• a plan to respond to any exceedances of the surface water trigger levels and/or assessment criteria and mitigate and/or offset any adverse surface water impacts of the development;	Water Management Plan, Dredge Management Plan
Sch 3	34-e	(e) include a Groundwater Management Plan with:	Water Management Plan, Groundwater Management Plan
Sch 3	34-e	• detailed baseline data on groundwater levels, yield and quality on the aquifers that could be affected by the development;	Water Management Plan, Groundwater Management Plan
Sch 3	34-e	• a program to augment the baseline data during the development;	Water Management Plan, Groundwater Management Plan
Sch 3	34-e	• groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;	Water Management Plan, Groundwater Management Plan
Sch 3	34-e	• a description of the measures that would be implemented to minimise the groundwater impacts of the development	Water Management Plan, Groundwater Management Plan
Sch 3	34-e	• a program to monitor and report on: - groundwater inflows to the tunnel, including inflows to relevant water sources; - groundwater - take from the groundwater bores; o the impacts of the development on: - regional and local (including alluvial) aquifers; - groundwater dependent ecosystems, stygofauna and riparian vegetation; and - base flow to surface water sources;	Water Management Plan, Groundwater Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	34-e	<ul style="list-style-type: none"> <li>a plan to respond to any exceedances of the trigger levels and/or assessment criteria and mitigate and/or offset any adverse groundwater impacts of the development.</li> </ul>	Water Management Plan, Groundwater Management Plan
Sch 3	35	The Proponent must implement the approved Water Management Plan for the development.	Water Management Plan
Sch 3	36	<p>The Proponent must implement Option 2 (Cut into existing face) in the EIS for upgrading the Lobs Hole Ravine Road adjacent to the fossiliferous beds.</p> <p>Note: The layout of Option 2 is shown in Appendix 2.</p>	Other - Construction &/or Design Requirement / Historic and Natural Heritage Management Plan
Sch 3	37	<p>The Proponent must implement the Wide Cut Design Option for any excavation required on the upside slope side into the boulder streams for upgrading Lobs Hole Ravine Road .</p> <p>Note: The layout of upgrade is shown in Appendix 2 (get new maps for Appendix 2)</p>	Other - Construction &/or Design Requirement /Historic and Natural Heritage Management Plan
Sch 3	37A	<p>Prior to carrying out the upgrades to Lobs Hole Ravine Road within the boulder streams, the Proponent must prepare detailed plans for the proposed upgrades in consultation with the NPWS, and to the satisfaction of the Secretary. These plans must:</p> <ul style="list-style-type: none"> <li>(a) avoid impacts on the downslope section of Block Stream B;</li> <li>(b) minimise the extent of excavation into the upslope block streams;</li> <li>(c) minimise moving or damaging blocks in areas beyond the excavation zone;</li> <li>(d) ensure the remaining sections of the boulder streams are safe and stable, using stabilisation measures that would maintain any impacts to landscape values of the streams to the greatest extent practicable and maximise their visibility for future viewing;</li> <li>(e) minimise the use of outside materials onto the block streams (such as soil or fill);</li> <li>(f) include suitable drainage controls to ensure water flow through the upslope block streams are not impeded; and</li> <li>(g) include a program to monitor the implementation of the plans; and if necessary, undertake corrective action to maintain the stability of the block streams.</li> </ul> <p>The Proponent must implement the approved plans for these road upgrades.</p>	Other - Construction &/or Design Requirement /Historic and Natural Heritage Management Plan
Sch 3	38	<p>Within 3 months of completing the upgrade of Lobs Hole Road, unless the Planning Secretary agrees otherwise, the Proponent must close the sections of Lobs Hole Road that are no longer required and rehabilitate the land to the satisfaction of the NPWS.</p> <p>Note: The sections to be closed and rehabilitated are shown in Appendix 2.</p>	Other - Construction &/or Design Requirement / Rehabilitation Management Plan
Sch 3	39	39. The Proponent must:	Aquatic Habitat Management Plan
Sch 3	39-a	(a) ensure the temporary bridges over Wallaces Creek and the Yarrangobilly River incorporate, to the greatest extent practicable, the requirements:	Aquatic Habitat Management Plan
Sch 3	39-a	<ul style="list-style-type: none"> <li>Guidelines for Controlled activities on Waterfront Land (NRAR, 2018); and</li> </ul>	Aquatic Habitat Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	39-a	• Policy and Guidelines for Fish Habitat Conservation (DPI 2013) and Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003);	Aquatic Habitat Management Plan
Sch 3	39-b	(b) remove temporary bridges as soon as practicable after the construction of the permanent bridges, and rehabilitate the land to the satisfaction of the NPWS;	Aquatic Habitat Management Plan
Sch 3	39-c	(c) consider scheduling to minimise in stream works between October to January, the migratory period of the Macquarie Perch ( <i>Macquaria australasica</i> ).	Aquatic Habitat Management Plan
Sch 3	40	The Proponent must:	Aquatic Habitat Management Plan
Sch 3	40-a	(a) ensure that permanent bridges over Wallaces Creek and the Yarrangobilly River are designed and constructed to comply with the relevant requirements of the:	Aquatic Habitat Management Plan
Sch 3	40-a	• Guidelines for Controlled activities on Waterfront Land (NRAR, 2018); and	Aquatic Habitat Management Plan
Sch 3	40-a	• Policy and Guidelines for Fish Habitat Conservation (DPI 2013) and Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003);	Aquatic Habitat Management Plan
Sch 3	40-b	(b) ensure that the permanent bridges over Wallace Creek and the Yarrangobilly River are designed and constructed to comply with the relevant requirements of the relevant Austroads Standards (such as elevating them above the 1% AEP flood level);	Aquatic Habitat Management Plan
Sch 3	40-c	(c) minimise in stream works between October to January, the migratory period of the Macquarie Perch ( <i>Macquaria australasica</i> ).	Aquatic Habitat Management Plan
Sch 3	40A	Prior to using Lobs Hole Ravine Road – North, unless the Planning Secretary agrees with otherwise, the Proponent must:	Traffic Management Plan
Sch 3	40A-a	(a) upgrade Lobs Hole Road – North in accordance with the approved plans (see the figures in Appendix 2) to the satisfaction of NPWS; and	Traffic Management Plan
Sch 3	40A-b	(b) seal the last 30 metres of Lobs Hole Road – North before its intersection with the Snowy Mountains Highway to the satisfaction of the TfNSW.	Traffic Management Plan
Sch 3	40B	Once Lobs Hole Ravine Road - North has been upgraded in accordance with Condition 40A above, the Proponent must restrict the use of the road by the development to:	Traffic Management Plan
Sch 3	40B-a	(a) access to and egress from the site during emergencies; and	Traffic Management Plan
Sch 3	40B-b	(b) light vehicles at all other times with: • 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).	Traffic Management Plan



Schedule	CoA	Requirement	Plan Allocation
Sch 3	41	The Proponent must ensure the Miles Franklin Drive/Snowy Mountains Highway intersection complies with the relevant Austroads sight distance requirements for a reaction time of 2.5 seconds for the posted speed limit, as amended by any relevant supplements adopted by the TfNSW.	Traffic Management Plan
Sch 3	42	Prior to using any OSOM vehicles to deliver the tunnel boring machine or concrete segments required to line the exploratory tunnel to the site, the Proponent must:	Traffic Management Plan
Sch 3	42-a	(a) prepare detailed designs for the upgrade of the following intersections to the satisfaction of TfNSW and Snowy Monaro Regional Council: <ul style="list-style-type: none"> <li>• Snowy Mountains Highway/Sharp Street and Bombala Street intersection; and</li> <li>• Snowy Mountains Highway/Sharp Street and Vale Street intersection;</li> </ul>	Traffic Management Plan
Sch 3	42-b	(b) ensure the designs comply with the relevant requirements in the <i>Austroads Guide to Road Design</i> (as amended by TfNSW supplements), and include works to the existing kerbs, signage and internal roundabout pavement to accommodate OSOM vehicle movements; and	Traffic Management Plan
Sch 3	42-c	(c) carry out the approved upgrades to the satisfaction of TfNSW.	Traffic Management Plan
Sch 3	43	The Proponent must:	Traffic Management Plan
Sch 3	43-a	(a) prepare a dilapidation survey in accordance with guidelines and standards established by Austroads of the relevant section of Miles Franklin Drive, Link Road and Kings Cross Road:	Traffic Management Plan
Sch 3	43-a	• prior to the commencement of any construction and/or decommissioning works;	Traffic Management Plan
Sch 3	43-a	• within 2 months of the completion of any construction and/or decommissioning works;	Traffic Management Plan
Sch 3	43-b	(b) rehabilitate and/or make good any development-related damage:	Traffic Management Plan
Sch 3	43-b	• identified during the carrying out of the relevant construction and/or decommissioning works if it could endanger road safety, as soon as possible after the damage is identified, but within 7 days at the latest; and	Traffic Management Plan
Sch 3	43-b	• identified during any dilapidation survey carried out following the completion of the relevant construction and/or decommissioning works within 2 months of the completion of the survey, unless the relevant roads authority agrees otherwise, to the satisfaction of the relevant roads authorities.	Traffic Management Plan
Sch 3	43-c	If there is a dispute about the scope of any remedial works or the implementation of these works, then either party may refer the matter to the Planning Secretary for resolution. Note: For the purposes of this condition Snowy Valleys Council/Crown Lands is the relevant road authority for Miles Franklin Drive and the NPWS is the relevant road authority for Link Road and Kings Cross Road.	Traffic Management Plan
Sch 3	44	During the development, the Proponent may close the following to the public:	Traffic Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	44-a	(a) Lobs Hole Ravine Road from the Blue Creek Trail intersection (in the north) to the Link Road (in the south);	Traffic Management Plan
Sch 3	44-b	(b) Ravine campground; and	Traffic Management Plan
Sch 3	44-c	(c) Middle Bay Boat Ramp. Note: The roads to be closed to the public are shown in Appendix 2.	Traffic Management Plan
Sch 3	45	All OSOM and heavy vehicles associated with the development must travel to and from the site via the:	Traffic Management Plan
Sch 3	45-a	(a) Snowy Mountains Highway, Miles Franklin Drive and Spillway Road; or	Traffic Management Plan
Sch 3	45-b	(b) Snowy Mountains Highway, Link Road, and Lobs Hole Ravine Road.	Traffic Management Plan
Sch 3	45-c	(c) Snowy Mountains Highway, Coppermine Trail and Wallaces Creek Trail; or	Traffic Management Plan
Sch 3	45-d	(d) Snowy Mountains Highway, Tantangara Road and Quarry Trail. Note: The Proponent is required to obtain relevant permits under the Heavy Vehicle National Law (NSW) for the use of OSOM vehicles on the road network.	Traffic Management Plan
Sch 3	46	Prior to carrying out any development, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Traffic Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	Traffic Management Plan
Sch 3	46-a	(a) be prepared in consultation with the NPWS, TfNSW, Snowy Valleys Council and Snowy Monaro Regional Council;	Traffic Management Plan
Sch 3	46-b	(b) include a description of the measures that would be implemented to:	Traffic Management Plan
Sch 3	46-b	<ul style="list-style-type: none"> <li>• minimise the traffic safety impacts of the development on: <ul style="list-style-type: none"> <li>- road users on Miles Franklin Drive and Link Road;</li> <li>- road users on the Snowy Mountains Highway in proximity to the intersections with Link Road, Tantangara Road and Coppermine Trail during the borehole investigations at Tantangara and Marica;</li> <li>- road users at the Snowy Mountains Highway/Lobs Hole Ravine Road – North intersection;</li> <li>- recreational water users in the Talbingo Reservoir;</li> </ul> </li> </ul>	Traffic Management Plan, Maritime Traffic Management Plan
Sch 3	46-b	• notify the local community about development-related traffic impacts;	Traffic Management Plan
Sch 3	46-b	<ul style="list-style-type: none"> <li>• restrict the following along the Upper Lobs Hole Ravine Road: <ul style="list-style-type: none"> <li>- vehicle speeds to 40 km/h;</li> <li>- hours of operation to between sunrise and sunset;</li> </ul> </li> </ul>	Traffic Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	46-b	• restrict vehicle speeds along Coppermine Trail, Wallaces Creek Trail and access tracks in the Marica area to 20 km/h between sunrise and sunset;	Traffic Management Plan
Sch 3	46-b	• maintain suitable access to the site for NPWS vehicles required to carry out any park or emergency operations;	Traffic Management Plan
Sch 3	46-b	• schedule the use of heavy vehicles to minimise convoy length or congestion on the public road network;	Traffic Management Plan
Sch 3	46-b	• ensure loaded vehicles entering or leaving the site have their loads covered or contained;	Traffic Management Plan
Sch 3	46-b	• minimise dirt being tracked on the public road network from development-related traffic;	Traffic Management Plan
Sch 3	46-b	• minimise workers using private vehicles to get to and from the site;	Traffic Management Plan
Sch 3	46-b	• minimise light vehicles using routes to the site other than the Coppermine Trail, Wallaces Creek Trail, Tantangara Road, Quarry Trail, Miles Franklin Drive, Spillway Road, Link Road and Lobs Hole Ravine Road to get to and from the site;	Traffic Management Plan
Sch 3	46-b	• provide sufficient parking on-site for all development-related traffic;	Traffic Management Plan
Sch 3	46-c	(c) include a detailed strategy for the use of OSOM vehicles, and the repair of any damage caused by these vehicles;	Traffic Management Plan
Sch 3	46-d	(d) include a heavy vehicle salvage strategy for the development, covering the salvage of heavy vehicles on the road network in KNP and on the public road network;	Traffic Management Plan
Sch 3	46-e	(e) include a driver's code of conduct that addresses:	Traffic Management Plan
Sch 3	46-e	• travelling speeds;	Traffic Management Plan
Sch 3	46-e	• procedures to ensure that drivers adhere to the designated OSOM and heavy vehicle routes;	Traffic Management Plan
Sch 3	46-e	• procedures to ensure drivers implement safe driving practices;	Traffic Management Plan
Sch 3	46-f	(f) include a program to monitor and report on the effectiveness of these measures and the code of conduct Note: Sunrise and sunset times are to be taken from the nearest Bureau of Meteorology centre	Traffic Management Plan
Sch 3	47	The Proponent must implement the approved Traffic Management Plan for the development.	Traffic Management Plan
Sch 3	48	The Proponent must:	Air Quality Management Plan
Sch 3	48-a	(a) minimise the dust, odour, fume, and blast emissions of the development; and	Air Quality Management Plan, Blast Management Plan
Sch 3	48-b	(b) minimise the surface disturbance of the site.	Air Quality Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	49	The Proponent must:	Noise and Vibration Management Plan
Sch 3	49-a	(a) minimise the noise of the development, including any associated traffic noise; and	Noise and Vibration Management Plan
Sch 3	49-b	(b) ensure that the noise generated by the development is managed in accordance with the best practice requirements outlined in the Interim Construction Noise Guideline (DECC, 2009), or its latest version.	Noise and Vibration Management Plan
Sch 3	50	<p>Unless the Planning Secretary agrees otherwise, the Proponent may only carry out construction activities on those parts of the site that are located outside the Kosciuszko National Park between:</p> <ul style="list-style-type: none"> <li>• 7 am to 6 pm Monday to Saturday; and</li> <li>• at no time on Sundays and NSW public holidays.</li> </ul> <p>The following construction activities may be undertaken outside these hours without the approval of the Planning Secretary:</p> <ul style="list-style-type: none"> <li>• the delivery of materials requested by the NSW Police Force or other authorities for safety reasons; or</li> <li>• emergency work to avoid the loss of life, property and/or material harm to the environment.</li> </ul> <p>Note: For the purposes of this condition, outside of Kosciuszko National Park relates to the parts of the site that are adjacent to the township of Talbingo</p>	Noise and Vibration Management Plan
Sch 3	51	The Proponent may:	Noise and Vibration Management Plan
Sch 3	51-a	(a) carry out blasting underground at any time; and	Noise and Vibration Management Plan, Blast Management Plan
Sch 3	51-b	(b) only carry out blasting on the surface of the site between 9am and 5pm Monday to Sunday.	Noise and Vibration Management Plan, Blast Management Plan
Sch 3	52	The Proponent must:	Other - Construction &/or Design Requirement
Sch 3	52-a	(a) minimise the lighting impacts of the development;	Other - Construction &/or Design Requirement
Sch 3	52-b	(b) ensure that all external lighting associated with the development:	Other - Construction &/or Design Requirement
Sch 3	52-b	<ul style="list-style-type: none"> <li>• is consistent with the good lighting design principles in the Dark Sky Planning Guideline, (DPIE 2016), or its latest version; and</li> </ul>	Other - Construction &/or Design Requirement

Schedule	CoA	Requirement	Plan Allocation
Sch 3	52-b	• complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting, or its latest version.	Other - Construction &/or Design Requirement
Sch 3	53-a	The Proponent must: (a) include suitable asset protection measures into the final design of the development in accordance with the Planning for Bushfire Protection (RFS 2006) guidelines, or its latest version; and	Emergency Plan (Bushfire)
Sch 3	53-b	The Proponent must: b) ensure any fire trails or asset protection zones associated with the development are wholly contained within the approved disturbance area.	Emergency Plan (Bushfire)
Sch 3	54	Prior to carrying out the development on site, the Proponent must prepare an Emergency Plan for the development to the satisfaction of the NPWS. This plan must:	Emergency Plan (Bushfire)
Sch 3	54-a	(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the NPWS;	Emergency Plan (Bushfire)
Sch 3	54-b	(b) be consistent with the Kosciuszko National Park Fire Management Strategy 2008-2013 (NPWS 2008), or its latest version;	Emergency Plan (Bushfire)
Sch 3	54-c	(c) describe the measures that would be implemented to:	Emergency Plan (Bushfire)
Sch 3	54-c	• minimise the risk of bushfires on site;	Emergency Plan (Bushfire)
Sch 3	54-c	• protect the assets on site from bushfires;	Emergency Plan (Bushfire)
Sch 3	54-c	• respond to any bushfires on or in the vicinity of the site	Emergency Plan (Bushfire)
Sch 3	54-c	• evacuate the site in an emergency	Emergency Plan (Bushfire), Emergency Response Management Plan
Sch 3	54-d	(d) monitor and review the effectiveness of these measures.	Emergency Plan (Bushfire), Emergency Response Management Plan
Sch 3	55	The Proponent must:	Waste Management Plan
Sch 3	55-a	(a) minimise the waste generated by the development;	Waste Management Plan
Sch 3	55-b	(b) classify all waste generated on site in accordance with the Waste Classification Guidelines (NSW EPA 2014), or its latest version;	Waste Management Plan
Sch 3	55-c	(c) store and handle all waste generated on site in accordance with its classification; and	Waste Management Plan

Schedule	CoA	Requirement	Plan Allocation
Sch 3	55-d	(d) ensure all waste is disposed of off-site at appropriately licenced facilities.	Waste Management Plan
Sch 3	56	The Proponent must: Note: The restoration of the land capability of the site required [see CSSI TABLE 2 Rehabilitation Objectives]	Rehabilitation Management Plan
Sch 3	56-a	(a) rehabilitate the site to the satisfaction of NPWS, and comply with the objectives in Table 2;	Rehabilitation Management Plan
Sch 3	56-b	(b) ensure the rehabilitation of the site is substantially complete within 5 years of the completion of the exploratory tunnel works, unless the Planning Secretary agrees otherwise.	Rehabilitation Management Plan
Sch 3	57	The Proponent must:	Rehabilitation Management Plan
Sch 3	57-a	(a) rehabilitate the site progressively, as soon as reasonably practicable following disturbance;	Rehabilitation Management Plan, Surface Water Management Plan
Sch 3	57-b	(b) minimise the disturbance area at any time;	Rehabilitation Management Plan, Surface Water Management Plan
Sch 3	57-c	(c) employ interim rehabilitation strategies to minimise dust generation, soil erosion and weed incursion on parts of the site that cannot yet be permanently rehabilitated.	Rehabilitation Management Plan
Sch 3	58	Within 6 months of carrying out any development, unless otherwise agreed by the Planning Secretary, the Proponent must prepare a Rehabilitation Management Plan for the development to the satisfaction of NPWS. This plan must:	Rehabilitation Management Plan
Sch 3	58-a	(a) include a detailed plan for rehabilitation of the site;	Rehabilitation Management Plan
Sch 3	58-b	(b) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary);	Rehabilitation Management Plan
Sch 3	58-c	(c) describe the measures that would be implemented to:	Rehabilitation Management Plan
Sch 3	58-c	• comply with the rehabilitation objectives and associated performance and completion criteria;	Rehabilitation Management Plan
Sch 3	58-c	• progressively rehabilitate the site;	Rehabilitation Management Plan
Sch 3	58-d	(d) include a program to monitor and report on the effectiveness of these measures.	Rehabilitation Management Plan
Sch 3	59	The Proponent must implement the approved Rehabilitation Management Plan for the development.	Rehabilitation Management Plan
Sch 4	1	Prior to carrying out any development, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:	Environmental Management Strategy
Sch 4	1-a	(a) provide the strategic framework for environmental management of the development;	Environmental Management Strategy
Sch 4	1-b	(b) identify the statutory approvals that apply to the development;	Environmental Management Strategy



Schedule	CoA	Requirement	Plan Allocation
Sch 4	1-c	(c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Environmental Management Strategy
Sch 4	1-d	(d) describe the procedures that would be implemented to:	Environmental Management Strategy
Sch 4	1-d	• keep the local community and relevant agencies informed about the development being carried out;	Environmental Management Strategy, Community and Stakeholder Engagement Plan
Sch 4	1-d	• receive, handle, respond to, and record complaints;	Environmental Management Strategy, Community and Stakeholder Engagement Plan
Sch 4	1-d	• resolve any disputes that may arise during the course of the development;	Environmental Management Strategy, Community and Stakeholder Engagement Plan
Sch 4	1-d	• respond to any non-compliance;	Environmental Management Strategy
Sch 4	1-d	• respond to emergencies; and	Environmental Management Strategy
Sch 4	1-e	include:	Environmental Management Strategy
Sch 4	1-e	• copies of any strategies, plans and programs approved under the conditions of this approval; and	Environmental Management Strategy
Sch 4	1-e	• a clear plan depicting all the monitoring to be carried out in relation to the development.	Environmental Management Strategy
Sch 4	2	The Proponent must implement the approved Environmental Management Strategy for the development.	Environmental Management Strategy

Schedule	CoA	Requirement	Plan Allocation
Sch 4	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>Notes: • 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.</p>	Environmental Management Strategy
Sch 4	4	<p>Within 3 months, unless otherwise agreed with the Planning Secretary, of:</p> <ul style="list-style-type: none"> <li>(a) the submission of an incident report under Condition 5 below;</li> <li>(b) the submission of an audit report under Condition 7 below; and</li> <li>(c) the approval of any modification to the conditions of this approval; or</li> <li>(d) a direction of the Planning Secretary under Condition 4 of schedule 2;</li> </ul> <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>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.</p>	Environmental Management Strategy
Sch 4	5	<p>The Department must be notified in writing to <a href="mailto:compliance@planning.nsw.gov.au">compliance@planning.nsw.gov.au</a> and <a href="mailto:snowy2.0@environment.nsw.gov.au">snowy2.0@environment.nsw.gov.au</a> immediately after the Proponent becomes aware of incident on site. The notification must identify the development, including the application number, and set out the location and nature of the incident.</p>	Environmental Management Strategy

Schedule	CoA	Requirement	Plan Allocation
Sch 4	6	The Department must be notified in writing to <a href="mailto:compliance@planning.nsw.gov.au">compliance@planning.nsw.gov.au</a> and <a href="mailto:snowy2.0@environment.nsw.gov.au">snowy2.0@environment.nsw.gov.au</a> within 7 days after the Proponent becomes aware of any noncompliance. 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.	Environmental Management Strategy
Sch 4	7	The Proponent must provide regular compliance reporting to the Department and NPWS on the development in accordance with the relevant Compliance Reporting requirements (DPIE 2018).	Environmental Management Strategy
Sch 4	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.	Environmental Management Strategy
Sch 4	9	Within one year of the commencement of construction and every 3 years thereafter, unless the Planning Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:  Note: This audit must be undertaken in accordance with the Independent Audit requirements (DPIE 2018).	Environmental Management Strategy
Sch 4	9-a	(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;	Environmental Management Strategy
Sch 4	9-b	(b) include consultation with the relevant agencies;	Environmental Management Strategy
Sch 4	9-c	(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);	Environmental Management Strategy
Sch 4	9-d	(d) review the adequacy of any strategies, plans or programs required under the abovementioned approvals; and	Environmental Management Strategy
Sch 4	9-e	(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	Environmental Management Strategy
Sch 4	9-f	(f) be conducted and reported to the satisfaction of the Planning Secretary.	Environmental Management Strategy
Sch 4	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.	Environmental Management Strategy
Sch 4	11	The Proponent must implement these recommendations, to the satisfaction of the Planning Secretary.	Environmental Management Strategy

Schedule	CoA	Requirement	Plan Allocation
Sch 4	12	From the commencement of development under this approval, the Proponent shall:	Environmental Management Strategy
Sch 4	12-a	(a) Make copies of the following information publicly available on its website:	Environmental Management Strategy
Sch 4	12-a	• the EIS;	Environmental Management Strategy
Sch 4	12-a	• current statutory approvals for the development;	Environmental Management Strategy
Sch 4	12-a	• approved strategies, plans or programs required under the conditions of this approval;	Environmental Management Strategy
Sch 4	12-a	• 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;	Environmental Management Strategy
Sch 4	12-a	• a summary of complaints, which is to be updated monthly;	Environmental Management Strategy
Sch 4	12-a	• any independent environmental audit, and the Proponent's response to the recommendations in any audit;	Environmental Management Strategy
Sch 4	12-a	• any other matter required by the Planning Secretary; and	Environmental Management Strategy
Sch 4	12-b	(b) keep this information up to date.	Environmental Management Strategy

## REVISED ENVIRONMENTAL MANAGEMENT MEASURES (REMMS)

Aspect	Impact	Reference	Requirement		Plan Allocation
Air Quality	Air quality impacts during construction	AIR01	1	Air quality management procedures to cover the proposed Exploratory Works will be developed in an Air Quality Management Plan prior to commencement.	Air Quality Management Plan
			2a	The AQMP would provide procedures and measures to address the following activities: hauling spoil on unsealed roads;	Air Quality Management Plan
			2b	The AQMP would provide procedures and measures to address the following activities: loading and unloading of excavated material;	Air Quality Management Plan
			2c	The AQMP would provide procedures and measures to address the following activities: shaping excavated rock emplacement areas;	Air Quality Management Plan
			2d	The AQMP would provide procedures and measures to address the following activities: excavated rock emplacement areas; and	Air Quality Management Plan
			2e	The AQMP would provide procedures and measures to address the following activities: machinery exhausts and plant and equipment.	Air Quality Management Plan
	Greenhouse gas emissions	AIR02	1	Greenhouse gas emissions will be reduced where possible during construction through the implementation of the following measures: energy efficiency can be considered during the design of mechanical and electrical systems such as the tunnel ventilation system and tunnel lighting. Energy efficient systems can be installed where reasonable and practicable;	Air Quality Management Plan
			2	Greenhouse gas emissions will be reduced where possible during construction through the implementation of the following measures: options for the installation of renewable energy generation (small scale wind or solar photovoltaics) to power electronic equipment associated with ancillary and support facilities (e.g. communications locations, outlying works) can be considered;	Air Quality Management Plan
			3	Greenhouse gas emissions will be reduced where possible during construction through the implementation of the following measures: opportunities to use low emission construction materials, such as recycled aggregates in road pavement and surfacing, steel with recycled content, and cement replacement materials, can be investigated and incorporated where feasible and cost effective;	Air Quality Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
			4 Greenhouse gas emissions will be reduced where possible during construction through the implementation of the following measures: construction plant and equipment can be operated and maintained to maximise efficiency and reduce emissions, with construction planning used to minimise vehicle wait times and idling onsite and machinery turned off when not in use;	Air Quality Management Plan
			5 Greenhouse gas emissions will be reduced where possible during construction through the implementation of the following measures: locally produced goods and services can be procured where feasible and cost effective to reduce transport fuel emissions; and	Air Quality Management Plan
			6 Greenhouse gas emissions will be reduced where possible during construction through the implementation of the following measures: cut and fill balances for earthworks can be reviewed to make sure that material is transported the least possible distances.	Air Quality Management Plan
Biodiversity	Impacts to biodiversity	ECO01	1 The Biodiversity Management Plan (BMP) will include the following: identification of guidelines relevant to construction, the matters they apply to and what is required to ensure compliance	Biodiversity Management Plan
			2a The Biodiversity Management Plan (BMP) will include the following: pre-disturbance inspection requirements to identify features of conservation significance and select appropriate management measures and environmental controls which will include: · exclusion fencing around all areas of retained significant vegetation and fauna habitat adjacent to construction compounds and the camp	Biodiversity Management Plan
			2b The Biodiversity Management Plan (BMP) will include the following: ● pre-disturbance inspection requirements to identify features of conservation significance and select appropriate management measures and environmental controls which will include: · where works are to be undertaken within the 50 m buffer zone, all vegetation, rocks, logs and other shelter are to be carefully inspected for frog species; and	Biodiversity Management Plan, Pre-clearing Procedure
			2c The Biodiversity Management Plan (BMP) will include the following: pre-disturbance inspection requirements to identify features of conservation significance and select appropriate management measures and environmental controls which will include: · vegetation clearing is to follow a two-staged process based on non-habitat and habitat vegetation.	Biodiversity Management Plan, Pre-clearing Procedure



Aspect	Impact	Reference	Requirement	Plan Allocation
		3	The Biodiversity Management Plan (BMP) will include the following: standard precautions and mitigation measures in Fisheries NSW Policy and Guidelines for Fish Habitat Conservation and Management (2013 update) (Fisheries NSW 2013)	Biodiversity Management Plan, Aquatic Habitat Management Plan
		4	The Biodiversity Management Plan (BMP) will include the following: tree assessment and management protocols consistent with AS 4970-2009 Protection of trees on development sites; and	Biodiversity Management Plan, Pre-clearing Procedure
		5a	The Biodiversity Management Plan (BMP) will include the following: terrestrial and aquatic weed, pest and pathogen prevention and management protocols, including; · construction of wash-down stations or alternate hygiene protocols at suitable locations where practicable;	Biodiversity Management Plan, Weed and Feral Animal Management Plan
		5b	The Biodiversity Management Plan (BMP) will include the following: terrestrial and aquatic weed, pest and pathogen prevention and management protocols, including; wash-down or alternate hygiene protocols will be applied to all vehicles prior to movement from Link Road to Lobs Hole Ravine and vice versa where practicable;	Biodiversity Management Plan, Weed and Feral Animal Management Plan
		5c	The Biodiversity Management Plan (BMP) will include the following: terrestrial and aquatic weed, pest and pathogen prevention and management protocols, including; implementation of a weed and pathogen monitoring program;	Biodiversity Management Plan, Weed and Feral Animal Management Plan
		5d	The Biodiversity Management Plan (BMP) will include the following: terrestrial and aquatic weed, pest and pathogen prevention and management protocols, including; implementation of a weed control program if weeds are identified within the site;	Biodiversity Management Plan, Weed and Feral Animal Management Plan
		5e	The Biodiversity Management Plan (BMP) will include the following: terrestrial and aquatic weed, pest and pathogen prevention and management protocols, including; no food waste will be left outside in open areas accessible to feral animals and waste will be stored appropriately in lidded, inaccessible bins and disposed off-site;	Biodiversity Management Plan, Weed and Feral Animal Management Plan
		5f	The Biodiversity Management Plan (BMP) will include the following: terrestrial and aquatic weed, pest and pathogen prevention and management protocols, including; remote camera monitoring for feral animals at the accommodation camp;	Biodiversity Management Plan, Weed and Feral Animal Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
			5g The Biodiversity Management Plan (BMP) will include the following:  terrestrial and aquatic weed, pest and pathogen prevention and management protocols, including; · a predator control program will be implemented, in conjunction with OEH and NPWS, to control feral animals;	Biodiversity Management Plan, Weed and Feral Animal Management Plan
			5h The Biodiversity Management Plan (BMP) will include the following: terrestrial and aquatic weed, pest and pathogen prevention and management protocols, including; · all equipment and vessel components, such as propellers, hulls, anchors and any other equipment used should be inspected for pest aquatic plants (particularly fragments of Canadian pondweed ( <i>Elodea canadensis</i> ) known to be present in Talbingo Reservoir) and pest fish;	Biodiversity Management Plan, Weed and Feral Animal Management Plan
			5i The Biodiversity Management Plan (BMP) will include the following: terrestrial and aquatic weed, pest and pathogen prevention and management protocols, including; vessels and vehicles should be washed down and cleaned prior to arriving at the boat ramp to be launched onto the reservoir and before travelling off-site from the reservoir; and	Biodiversity Management Plan, Weed and Feral Animal Management Plan
			5j The Biodiversity Management Plan (BMP) will include the following: terrestrial and aquatic weed, pest and pathogen prevention and management protocols, including; all personnel working within the waters should be instructed on how to identify potential pests.	Biodiversity Management Plan, Weed and Feral Animal Management Plan
			6 The Biodiversity Management Plan (BMP) will include the following: pre-clearance procedures; and	Biodiversity Management Plan, Pre-clearing Procedure
			7 The Biodiversity Management Plan (BMP) will include the following: an unexpected threatened species finds procedure.	Biodiversity Management Plan, Unexpected Threatened Species Procedure
		ECO02	1 Other than for Yarrangobilly River Bridge, Wallaces Creek Bridge and sections of Mine Trail Road and Lobs Hole Road required for permanent infrastructure ground disturbance within the avoidance footprint (Yarrangobilly River and Smoky Mouse habitat) will be prohibited and marked with environmental controls as an exclusion area.	Biodiversity Management Plan, Pre-clearing Procedure
		ECO03	1 The accommodation camp will be sited in areas of lower quality vegetation where practicable.	Biodiversity Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
	Impacts on threatened species	ECO04	1 Potential impacts to Threatened Species will be managed through the Biodiversity Management Plan during construction.	Biodiversity Management Plan, Unexpected Threatened Species Procedure
			2a The Biodiversity Management Plan will include: • Murray Crayfish monitoring program (Talbingo Reservoir);	Biodiversity Management Plan, Biodiversity Monitoring Program
			2b The Biodiversity Management Plan will include: • Smoky Mouse monitoring program; and	Biodiversity Management Plan, Biodiversity, Monitoring Program
			2c The Biodiversity Management Plan will include: • Booroolong Frog monitoring program.	Biodiversity Management Plan, Biodiversity Monitoring Program
		ECO05	1a Vehicle traffic movements along Upper Lobs Hole Ravine Road will be: I limited to daytime hours only (except for emergencies). Day time hours are to be taken as the time between First Light and Last Light;	Traffic Management Plan
			1b Vehicle traffic movements along Upper Lobs Hole Ravine Road will be: I limited to 40km/h;	Traffic Management Plan, Biodiversity Management Plan
			1c Vehicle traffic movements along Upper Lobs Hole Ravine Road will be: I where practicable, reduced through the use of Talbingo Reservoir to barge heavy machinery, construction equipment and materials.	Traffic Management Plan, Biodiversity Management Plan
		ECO06	1 During Exploratory Works frog exclusion fencing will be installed in key areas where infrastructure is located in close proximity to Booroolong Frog primary habitats such as the bridge crossings. The fencing will be designed to minimise frogs from being able to access the road crossing.	Biodiversity Management Plan, Pre-clearing Procedure
		ECO07	1 Fauna spotters will check areas adjacent to Yarrangobilly River prior to clearing for Booroolong Frog and translocate them to adjacent habitats away from impacts.	Biodiversity Management Plan, Pre-clearing Procedure

Aspect	Impact	Reference	Requirement	Plan Allocation
		ECO08	1 During construction the Yarrangobilly River buffer zone will be revegetated and weed species removed, where possible.	Biodiversity Management Plan, Weed and Feral Animal Management Plan
		ECO09	1 Where works are to be undertaken within the 50 m buffer zone of Yarrangobilly River, all vegetation, rocks, logs and other shelter are to be carefully inspected for frog species.	Biodiversity Management Plan, Pre-clearing Procedure
	Impacts on fish eggs and larvae due to extraction of water from Talbingo Reservoir	ECO10	1a The water pipeline intake will be designed to: • prevent adult fish from entering the intake and discourage adult fish from approaching the intake which may include: – incorporation of an enclosed, dark and long passage approach to the intake;	Aquatic Habitat Management Plan
			1b The water pipeline intake will be designed to: • prevent adult fish from entering the intake and discourage adult fish from approaching the intake which may include: – if feasible, screening of the intake with at least 5 mm 3 mm mesh screen;	Aquatic Habitat Management Plan
			1c The water pipeline intake will be designed to: • prevent adult fish from entering the intake and discourage adult fish from approaching the intake which may include: – if feasible, installation of a coarse mesh (e.g. cm aperture) screen / cage a few metres around the intake and removal and control of any aquatic vegetation and wood debris within and immediately adjacent to the intake location; and	Aquatic Habitat Management Plan
			1d The water pipeline intake will be designed to: • prevent adult fish from entering the intake and discourage adult fish from approaching the intake which may include: – if feasible, limiting the approach water velocity at the headwall during normal operation ideally to 0.1 m/s.	Aquatic Habitat Management Plan
		ECO10	2 The water pipeline intake will be designed to: locate the intake pump in deeper water where possible	Aquatic Habitat Management Plan
			3 The water pipeline intake will be designed to: allow for pump start up procedures involving initial slow water velocity to reduce likelihood of aquatic biota being drawn into the pump.	Aquatic Habitat Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
	Impacts to fish passage	ECO11	1 The permanent bridges at Yarrangobilly River and at Wallaces Creek will be designed with consideration of Policy and Guidelines for Fish Habitat Conservation - Update 2013 (DPI 2013) and Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge 2003).	Aquatic Habitat Management Plan
		ECO12	1a The temporary bridges at Yarrangobilly River and at Wallaces Creek will be designed, constructed and removed to: • where practicable implement measures in line with the guidelines for temporary structures in Fisheries NSW Policy and Guidelines for Fish Habitat Conservation and Management (2013 update) (DPI 2013) and recommended crossing design considerations in Fairfull and Witheridge (2003) which includes: - temporary in-stream structures will avoid spanning the full width of the waterway channel to ensure base flow conditions are maintained down the waterway where practicable;	Aquatic Habitat Management Plan
			1b The temporary bridges at Yarrangobilly River and at Wallaces Creek will be designed, constructed and removed to: • where practicable implement measures in line with the guidelines for temporary structures in Fisheries NSW Policy and Guidelines for Fish Habitat Conservation and Management (2013 update) (DPI 2013) and recommended crossing design considerations in Fairfull and Witheridge (2003) which includes: - maintaining some unmodified channel so that a weir effect or flow through rock interstices only is not created where practicable; and	Aquatic Habitat Management Plan
			1c The temporary bridges at Yarrangobilly River and at Wallaces Creek will be designed, constructed and removed to: • where practicable implement measures in line with the guidelines for temporary structures in Fisheries NSW Policy and Guidelines for Fish Habitat Conservation and Management (2013 update) (DPI 2013) and recommended crossing design considerations in Fairfull and Witheridge (2003) which includes: temporary in-stream structures will be inserted during low-flow periods where practicable	Aquatic Habitat Management Plan
			2 The temporary bridges at Yarrangobilly River and at Wallaces Creek will be designed, constructed and removed to: • ensure any build-up of debris which potentially obstructs fish passage will be removed; and	Aquatic Habitat Management Plan
			3 The temporary bridges at Yarrangobilly River and at Wallaces Creek will be designed, constructed and removed to: • the temporary structures will be removed and the river channel rehabilitated following construction of the permanent bridges.	Aquatic Habitat Management Plan

Aspect	Impact	Reference		Requirement	Plan Allocation
		ECO13	1	Construction and removal of the temporary bridge at Yarrangobilly River will avoid or minimise in stream works during the migration time of Macquarie Perch (October to January) where possible.	Aquatic Habitat Management Plan
	Impact to aquatic ecology from erosion and sedimentation	ECO14	1	The water quality controls described in in WAT01 to WAT05 and WM1.1 to WM 8.8 will be implemented.	Surface Water Management Plan
	Impacts to aquatic habitat and biota during dredging and subaqueous placement	ECO15	1	The subaqueous placement monitoring program for Talbingo Reservoir will be developed and implemented.	Subaqueous Emplacement Management Plan, Dredge Management Plan
			2	Measures relevant to aquatic ecology will be implemented as described below including: • monitoring of water quality indicators including turbidity, pH and dissolved oxygen within and downstream of the construction area and, if a decline in water quality is detected as a result of the works, investigate potential causes and develop and implement an appropriate response;	Subaqueous Emplacement Management Plan, Dredge Management Plan
			3	Measures relevant to aquatic ecology will be implemented as described below including: • the extent of the placement area will be minimised as far as practicable;	Subaqueous Emplacement Management Plan, Dredge Management Plan
			4	Measures relevant to aquatic ecology will be implemented as described below including: • the extent of the dredge footprint will be minimised as far as practicable;	Subaqueous Emplacement Management Plan, Dredge Management Plan
			5	Measures relevant to aquatic ecology will be implemented as described below including: • subaqueous placement would not occur shallower than 3 m below minimum operating level (i.e. where aquatic habitat, such as aquatic plants are less likely to occur);	Subaqueous Emplacement Management Plan, Dredge Management Plan



Aspect	Impact	Reference	Requirement	Plan Allocation
			6 Measures relevant to aquatic ecology will be implemented as described below including: • placement of large rocks within the placement area will occur and is expected to enhance the value of this habitat for fish and mobile invertebrates by providing hard surface and refuges;	Subaqueous Emplacement Management Plan, Dredge Management Plan
			7 Measures relevant to aquatic ecology will be implemented as described below including: • un-necessary noise and vibration disturbances should be kept to a minimum where practicable to avoid impacts to fish and other aquatic species;	Subaqueous Emplacement Management Plan, Dredge Management Plan
			8 Measures relevant to aquatic ecology will be implemented as described below including: • removing wood debris from within the dredge footprint and subaqueous placement location and spreading it back into the reservoir in relatively shallow water (0-10 m) where fish are more likely to occur;	Subaqueous Emplacement Management Plan, Dredge Management Plan
			9 Measures relevant to aquatic ecology will be implemented as described below including: • where feasible, mapping/identification of aquatic habitats within and adjacent to the subaqueous placement areas and other reference areas to characterise the habitat and place this in context of that present throughout the entire reservoir; and	Subaqueous Emplacement Management Plan, Dredge Management Plan
			10 Measures relevant to aquatic ecology will be implemented as described below including: • mapping of aquatic habitats would include searches for crayfish burrows along the shoreline, as these could indicate the presence of Murray crayfish and would inform the final placement area extent. Deployment of crayfish traps along the shorelines adjacent to the placement area and within the placement area could be used to re-locate any large mobile invertebrates (including any Murray crayfish) from these areas to nearby sections of the reservoir that would not be affected by placement;	Subaqueous Emplacement Management Plan, Dredge Management Plan
			11 Measures relevant to aquatic ecology will be implemented as described below including: • prior to commencement of seismic surveys, smaller releases of compressed air will be undertaken just below the surface;	Subaqueous Emplacement Management Plan, Dredge Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
			12 Measures relevant to aquatic ecology will be implemented as described below including: <ul style="list-style-type: none"> <li>during seismic surveys, operators will be vigilant to potential harm to fish and invertebrates. If any harmed or dead biota are observed during works then this would result in the scaling back of works or review and adjustment of methodology (e.g. magnitude, frequency and/or duration of releases);</li> </ul>	Subaqueous Emplacement Management Plan, Dredge Management Plan
			13 Measures relevant to aquatic ecology will be implemented as described below including: <ul style="list-style-type: none"> <li>minimising suspension of sediment and turbidity by implementing WAT14 and WAT15.</li> </ul>	Subaqueous Emplacement Management Plan, Dredge Management Plan
MOD 1 - Biodiversity	Dangerous tree removal	M1.1	<p>The following controls will be implemented during dangerous tree removal:</p> <ul style="list-style-type: none"> <li>Wherever feasible, trees will be delimbed to reduce safety risks, reduced in height by at least 50% and retained in-situ as habitat trees. This will be determined on a case-by-case basis, with the priority being safety of construction workers and road users. Where this is not feasible, due to safety risks etc. complete removal will be required.</li> <li>Trees will be removed in a manner which avoids and minimises impacts to adjacent vegetation. Wherever feasible, trees will be removed using sectional dismantling of the tree, with upper limbs removed using tree climbers and elevated work platforms, and gently lowered to the ground or felled onto the road. The trunk will be removed using a tree harvester. This removal method will minimise impacts to adjacent vegetation and threatened species habitat. The removal of any hollow bearing limbs will be undertaken in accordance with the pre-clearance and clearing procedures outlined in the Exploratory Works Biodiversity Management Plan, as updated, including staged clearing. All hollow-bearing limbs and sections of trunk will be retained adjacent to the works area (but outside the disturbance boundary wherever possible) as habitat. These limbs and trunk sections should be gently placed into these areas, minimising vegetation disturbance.</li> </ul>	Biodiversity Management Plan
MOD 1 - Biodiversity	Smoky Mouse	M1.2	The existing Smoky Mouse monitoring program will be extended to include the Marica area.	Biodiversity Management Plan
MOD 1 - Biodiversity	Fauna Strike	M1.3	Restrictions on vehicle movements in the Marica area limited to speeds of 20 km/h between dusk and dawn.	Biodiversity Management Plan
MOD 2 - Biodiversity	Biodiversity management measures	MOD2 - 006	<p>The Biodiversity Management Plan will be updated to include:</p> <ul style="list-style-type: none"> <li>procedures for dangerous tree removal and vegetation trimming; and</li> <li>a protocol for post-approval vegetation removal.</li> </ul>	
Heritage	Impact to known and unknown	HER01	1 An Aboriginal Heritage Management Plan (AHMP) will be prepared and implemented to guide the process for management and mitigation of impacts to Aboriginal cultural and heritage.	Aboriginal Heritage Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
	heritage sites and items		2 The AHMP will: be prepared in consultation with RAPs, NPWS Tumut Brungle Gundagai Aboriginal Community Executive Advisory Committee and OEH;	Aboriginal Heritage Management Plan
			3 The AHMP will: Set out guidelines for ongoing consultation and opportunities for cultural values assessment;	Aboriginal Heritage Management Plan
			4 The AHMP will: include procedures relating to the conduct of additional archaeological assessment, including monitoring and salvage excavations after clearance, if required. Should the additional archaeological assessment be required to occur prior to finalisation of the AHMP, the archaeological assessment will be prepared as a separate document, with any recommendations for monitoring incorporated into the AHMP;	Aboriginal Heritage Management Plan
			5 The AHMP will: Set out an unexpected finds protocol for Aboriginal objects and sites and human skeletal material	Aboriginal Heritage Management Plan
			6 A 50 m buffer zone from the bank of the Yarrangobilly River will be established to protect the likely presence of Aboriginal cultural items, except for those areas required for creek or river crossings and road construction.	Aboriginal Heritage Management Plan
	Loss of Aboriginal cultural heritage	HER02	1 Specific management and mitigation measures are listed for each individual heritage item below: monitoring after vegetation clearance and salvage excavation will occur for sites – SU2, SU6, SU7 salvage excavation will occur for sites– SU10, SU12, SU25	Aboriginal Heritage Management Plan
			2 Aboriginal cultural heritage management measures to be included in the AHMP and implemented during construction include: impacts to ground surfaces should be kept to an absolute minimum;	Aboriginal Heritage Management Plan
			3 Aboriginal cultural heritage management measures to be included in the AHMP and implemented during construction include: for Survey Units which are assessed to be of higher significance values, mitigated impacts in the form of partial impacts only (i.e. conservation of part of an Aboriginal site or Survey Unit) and/or salvage in the form of further research and archaeological analysis will occur prior to impacts. Should the additional archaeological analysis be required to occur prior to finalisation of the AHMP, the archaeological analysis will be prepared as a separate document, with any recommendations for monitoring incorporated into the AHMP;	Aboriginal Heritage Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
			4 Aboriginal cultural heritage management measures to be included in the AHMP and implemented during construction include: salvage excavations in the Survey Units in order to mitigate impacts to the archaeological resource in the project area; and	Aboriginal Heritage Management Plan
			5 Aboriginal cultural heritage management measures to be included in the AHMP and implemented during construction include: the AHMP is to include management measures of any further Aboriginal cultural heritage values which may be identified during construction.	Aboriginal Heritage Management Plan
	Loss of historic heritage	HER03	1 A Historic Heritage Management Plan (HHMP) will be prepared and implemented to guide the process for management and mitigation of impacts to historic cultural heritage.	Historic and Natural Heritage Management Plan
			2 The HHMP will: Set out procedures to manage impacts, avoidance of impacts and impact mitigation in accordance with the HCHAR recommendations;	Historic and Natural Heritage Management Plan
			3 The HHMP will: Set out an unexpected finds protocol and the procedure to be followed for monitoring to undertaken for the purposes of inspecting areas for unrecorded heritage, when preliminary clearance of vegetation is made;	Historic and Natural Heritage Management Plan
			4 The HHMP will: Outline a protocol for the management of potential unmarked graves and other human skeletal material in the project area;	Historic and Natural Heritage Management Plan
			5 The HHMP will: Set out guidelines for the management of movable heritage located anywhere in or near the project areas, to ensure that it is not inadvertently impacted or removed.	Historic and Natural Heritage Management Plan
		HER04	1 The following will occur to confirm the mitigation measures provided for the individual heritage items below: 1. Archival recording of the entire Lobs Hole historic landscape to capture the industrial, residential and agricultural features at the site. The recording would use photographic techniques and topographic survey. Orthographically corrected photographs would be the most effective way of doing this as it combines both techniques (the methods for archival recording will be developed in the HHMP stage);	Historic and Natural Heritage Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
		2	2. with the data obtained from '1' (above), an analysis of the site would be made of the areas of potential relics and determine what the research potential is and if test excavation is justified;	Historic and Natural Heritage Management Plan
		3	3. if the answer is yes for archaeological potential, a research design and excavation method would be prepared to support and guide archaeological test excavation; this will determine what and how much of the site can provide information that no other source can before it is removed by the project; and	Historic and Natural Heritage Management Plan
		4	4. ensuing from the above, a comprehensive historic document would be produced which would include, but not be limited to, the results of the archival recording and archaeological investigations, and the on-going oral and historical research.	Historic and Natural Heritage Management Plan
		5	Specific management and mitigation measures are listed for each individual heritage items below. These shall be implemented prior to and during construction as applicable and include:	Historic and Natural Heritage Management Plan
		5	– R1, R2 – archaeological research design, archival recording and archaeological test excavation within disturbance areas;	Historic and Natural Heritage Management Plan
		5	– R3, R4, R5, R6, R7, R8, R10, R12, R13, R21, R23, R26, R30, R31, R33, R35, R36, R37, R43, R44, R46, R51, R52, R53, R54, R55, R56, R57, R58, R59, R62, R65, R67, R68, R70, R73, R75, R76, R77, R78, R79, R81, R82, R83, R84, R85, R86, R87, R94, R95, R97, R98, R101, R102, R103, R104, R105, R106, R107, R108, R110, R111, R112, R114, R115, R116, R117, R119, R120, R121 – archival recording;	Historic and Natural Heritage Management Plan
		5	– R9, R74, R88 – archival recording and no-go buffer to be provided to avoid inadvertent impacts;	Historic and Natural Heritage Management Plan
		5	– R11, R14, R49, R50, R100 – archival recording and implement measures to protect moveable heritage;	Historic and Natural Heritage Management Plan
		5	R15, R17, R22 – archival recording and include in the archaeological research design for the Pinbeyan Station Homestead;	Historic and Natural Heritage Management Plan
		5	R16, R18 – archival recording, implement measures to protect moveable heritage and include in the archaeological research design for the Pinbeyan Station Homestead;	Historic and Natural Heritage Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
		5	– R19 – avoid impacts;	Historic and Natural Heritage Management Plan
		5	– R20 – archival recording, implement measures to protect fabric and moveable heritage, ensure no inadvertent impacts, determine curtilage around the item and prepare and archaeological research design to ascertain what, if any parts of the hotel complex are in the disturbance area and reassess the significance of component parts;	Historic and Natural Heritage Management Plan
		5	– R24, R25, R27, R28, R29, R34, R38, R39, R40, R41, R42, R61, R63, R66, R69, R80, R90, R91, R92, R93, R96, R99, R122 – archival recording. Test excavation may be warranted;	Historic and Natural Heritage Management Plan
		5	– R45 – archival recording and limit impacts as much as possible;	Historic and Natural Heritage Management Plan
		5	– R47 – archival recording. Test excavation may be warranted. Avoid impacts as much as possible;	Historic and Natural Heritage Management Plan
		5	R48, R60 – archival recording. Test excavation may be warranted. Implement measures to protect moveable heritage;	Historic and Natural Heritage Management Plan
		5	– R64 – archival recording program. Test excavation may be warranted. Ensure no inadvertent impacts;	Historic and Natural Heritage Management Plan
		5	– R47 - archival recording. Test excavation may be warranted. Avoid impacts as much as possible;	Historic and Natural Heritage Management Plan
		5	– R71, R72 - archival recording. Test excavation may be warranted. Avoid disturbance to the site if feasible;	Historic and Natural Heritage Management Plan
		5	– R109, R118 – archival recording, avoid disturbance, ensure no inadvertent impacts;	Historic and Natural Heritage Management Plan



Aspect	Impact	Reference	Requirement	Plan Allocation
			5 – R113 - archival recording. Avoid disturbance to the site if feasible; and	Historic and Natural Heritage Management Plan
			5 – R128 – test excavation maybe warranted.	Historic and Natural Heritage Management Plan
			6 A qualified heritage consultant is to undertake a pre-work condition assessment (including photographic records) for the Washington Hotel ruins. Following initial condition assessment, a monitoring regime is to be implemented to ensure vibration associated with the works avoid harm to pisé structure.  Where possible, further avoidance is recommended for the Ravine cemetery.	Historic and Natural Heritage Management Plan
			7 A comprehensive research project on the history and heritage of the area will be undertaken to fill in the gaps in the existing history of settlement and mining and the archival recording of heritage items in the Lobs Hole Ravine area.	Historic and Natural Heritage Management Plan
MOD 1 - Heritage	Aboriginal heritage	M1.4	The Aboriginal heritage management plan (AHMP) will be updated to account for the additional areas assessed for the proposed modification.	Aboriginal Heritage Management Plan
MOD 1 - Heritage	Historical heritage	M1.5	The historical heritage management plan (HHMP) will be updated to account for the additional areas assessed for the proposed modification.	Historic and Natural Heritage Management Plan
MOD 2 - Heritage	Impacts to Aboriginal and historic heritage	MOD 2 - 002	The Exploratory Works Aboriginal heritage management plan (AHMP) and historical heritage management plan (HHMP) will be updated to account for the additional areas assessed for the proposed modification.	Aboriginal Heritage Management Plan, Historic and Natural Heritage Management Plan
Kosciusko National Park	Impacts to amenity	KNP01	1a Mitigation measures relevant to noise and air quality will be implemented as part of the Noise and Vibration Management Plan, including: • those referred to in NO01 to NO03;	Noise and Vibration Management Plan
			1b Mitigation measures relevant to noise and air quality will be implemented as part of the Noise and Vibration Management Plan, including: • those referred to in AIR01.	Air Quality Management Plan

Aspect	Impact	Reference	Requirement		Plan Allocation
		KNP02	1	Construction contractor should minimise construction lighting and resulting glare to the maximum extent practicable where it can be shown that to do so would not compromise safety.	Other - Construction &/or Design Requirement
		KNP03	1	All lighting should incorporate cut-off shields and be directed downward toward work activities, away from the night sky and away from known locations of light-sensitive habitat.	Other - Construction &/or Design Requirement
	Recreational users	KNP04	1	Mitigation measures relevant to recreational users will implemented including: • those referred to in SEC01 to SEC08.	Other (Non-FGJV)
	Visual impacts	KNP05	1	Consider potential visual impacts when determining disturbance footprint and consider amending design and reducing or modifying the extent of the clearing as appropriate.	Other - Construction &/or Design Requirement
		KNP06	1	The landscape management plan (including rehabilitation and revegetation) should take potential visual impacts into consideration.	Rehabilitation Management Plan
	Conservation impacts	KNP07	1	Mitigation measures relevant to conservation will be implemented as part of the Biodiversity Management Plan, including: • those referred to in ECO01 to ECO10.	Biodiversity Management Plan
	Land	Disturbance of existing contamination, including areas of naturally occurring asbestos	CON01	1	A Contaminated Land Management Plan will be prepared and implemented during construction.
2				The Plan will include: additional mitigation and remediation if confirmed during detailed design for areas of environmental concern which includes adit South and Lobs Hole shallow groundwater;	Contaminated Land Management Plan, Groundwater Management Plan, Excavated Materials Management Plan
3a				The Plan will include: management procedures to: - manage unexpected finds in the event that unexpected contamination sources are identified. This would include steps to cease works in the affected area, undertake further investigation to assess the extent, magnitude and type of contaminants and identify appropriate remedial actions.	Contaminated Land Management Plan
3b				The Plan will include: management procedures to: - manage areas of known or potential contamination that would be impacted during Exploratory Works;	Contaminated Land Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
			4 The Plan will include: an outline of the control measures required to divert or capture and limit exposure of surface runoff to the contaminated area;	Contaminated Land Management Plan
			5 The Plan will include: an outline of the qualifications and experience required of persons who will conduct contamination investigations in accordance with guidelines made or approved under the Contaminated Land Management Act 1997;	Contaminated Land Management Plan
			5 The Plan will include: an outline of the remediation and rehabilitation techniques, the waste classification and disposal requirements, and the subsequent validation criteria that may be considered during construction	Contaminated Land Management Plan
			6 A site specific asbestos management plan (AMP) for the identified 600 m section of Lobs Hole Ravine Road where there is potential for asbestos to occur will be developed and implemented. The plan would be prepared to satisfy the relevant legislative requirements and guidelines and include a procedure for the identification, testing, and where required, remediation of areas identified as containing asbestos.	Naturally Occurring Asbestos Management Plan
		CON02	1 An Excavated Rock Management Plan will be prepared prior to the commencement of tunnelling.	Excavated Materials Management Plan
			2 The Plan will include: protocols for handling, geochemical testing, classification, storage and disposal/placement of excavated rock will be implemented to ensure that excavated material is appropriately managed; and	Excavated Materials Management Plan
			3 The Plan will include: monitoring measures to be included as part of the Surface and Groundwater Monitoring Program, to monitor potential impacts from the placement of excavated rock material.	Surface Water Management Plan, Groundwater Management Plan
			3a The Plan will include: management measures which include: – stockpile designs will incorporate benching and bunding to avoid mobilisation of sediment and rock;	Excavated Materials Management Plan
			3b The Plan will include: management measures which include: – controls to avoid the risk of acid or metal laden run off into the Yarrangobilly River;	Excavated Materials Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
			3c The Plan will include: management measures which include: – progressive verification of the adequacy of controls;	Excavated Materials Management Plan
			3d The Plan will include: management measures which include: – minimisation of placement footprint where practicable; and	Excavated Materials Management Plan
			3e The Plan will include: management measures which include: – minimising the construction footprint and extent to which soil and vegetation within the riparian zone are disturbed.	Excavated Materials Management Plan
	Disposal of contaminated material	CON03	1 Excavated material, which is classified as contaminated, which is not suitable for reuse on site or on onsite remediation, will be transported to a disposal facility that is legally able to accept the material for reuse or disposal. The material will be classified and disposed of to an appropriately licensed facility in accordance with the Waste Classification Guidelines (NSW EPA 2014).	Contaminated Land Management Plan
	Geodiversity – rock streams	GEO01	1 Measures to avoid and minimise impacts to geodiversity features will be implemented as part of the CEMP and include:	Historic and Natural Heritage Management Plan
			2 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;	Historic and Natural Heritage Management Plan
			3 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;	Historic and Natural Heritage Management Plan
			4 educational signage should be provided in a nearby suitably widened area to provide information on the periglacial rock stream geoheritage features;	Historic and Natural Heritage Management Plan
			5 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.	Historic and Natural Heritage Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
	Geodiversity – fossiliferous beds	GEO02	1 Measures to avoid and minimise impacts to geodiversity features will be implemented as part of the CEMP and include: 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;	Historic and Natural Heritage Management Plan
			2 Measures to avoid and minimise impacts to geodiversity features will be implemented as part of the CEMP and include: 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.	Historic and Natural Heritage Management Plan
	MOD 1 - Block streams	M1.14	Carry out field mapping of block stream extents and morphology within the construction footprint prior to works. Use this data to assist preparation of final design and construction plans which minimise potential impacts on these features and enable management of impacts during construction.	Historic and Natural Heritage Management Plan
	MOD 1 - Block streams	M1.15	Consider visual amenity in the final road design and aim, where possible, to avoid the use of construction methods and materials that detract from the landscape values of the block streams and their surrounds.	Historic and Natural Heritage Management Plan
	MOD 1 - Block streams	M1.16	In order to maintain feature integrity in a near-natural state, construction activities should, where practical: <ul style="list-style-type: none"> <li>• minimise the extent of excavation into the upslope block streams;</li> <li>• minimise moving or damaging blocks in areas beyond the excavation zone;</li> <li>• minimise the use of outside materials onto the block streams (e.g. soil or fill);</li> <li>• minimise use of any stabilisation measures that permanently cover the block streams, for example with shotcrete or other construction materials which would preclude their future viewing and study.</li> </ul>	Historic and Natural Heritage Management Plan
	MOD 1 - Block streams	M1.17	Road design will incorporate adequate drainage controls to ensure water flow through the upslope block streams are not impeded as this may impact local stability of the features.	Historic and Natural Heritage Management Plan
	MOD 1 - Block streams	M1.18	Erosion and sediment control measures will be implemented during and after construction with the aim to minimise adverse impacts on and around the block streams.	Historic and Natural Heritage Management Plan
	MOD 1 - Block streams	M1.19	The proposed works should implement controls in accordance with the Biodiversity Management Plan to ensure they do not promote the spread of weeds near the boulder streams, and thereby reduce their visibility.	Historic and Natural Heritage Management Plan

Aspect	Impact	Reference	Requirement		Plan Allocation
	MOD 1 - Block streams	M1.20		Care will be taken to minimise impacts on the downslope section of Block Stream B which features well-preserved evidence of ice age block flow in the form of ridges and other low relief surface topography.	Historic and Natural Heritage Management Plan
	Impacts to soil resources	SOIL01	1	Soil management procedures (including stripping, stockpiling and application) will be implemented as part of the CEMP.	Surface Water Management Plan
			2a	The objectives of soil management will be to: preserve as much of the topsoil and subsoil as possible;	Surface Water Management Plan
			2b	The objectives of soil management will be to: minimise the risk of contamination;	Surface Water Management Plan
			2c	The objectives of soil management will be to: minimise the risk of any topsoil degradation or compaction during construction and following reinstatement;	Surface Water Management Plan
			2d	The objectives of soil management will be to: ameliorate subsoil where required for use in rehabilitation works;	Surface Water Management Plan
			2e	The objectives of soil management will be to: minimise topsoil mixing with unsuitable soil and spoil materials during stripping and stockpiling; and	Surface Water Management Plan
			2f	The objectives of soil management will be to: ensure reinstatement of soil horizons in the correct order and required depths to allow for rehabilitation.	Surface Water Management Plan
			3	Topsoil and subsoil will be stripped, stockpiled and handled during construction to avoid degradation.	Surface Water Management Plan
			4a	Management measures that will be implemented include: the topsoil stripping procedure and stockpiling procedure will be developed and implemented to maximise the salvage of materials and minimise soil degradation;	Surface Water Management Plan
			4b	Management measures that will be implemented include: structural decline of soil will be minimised by using suitable machinery, timing stripping where practicable, using correct stockpile development techniques and minimising handling of topsoil materials;	Surface Water Management Plan



Aspect	Impact	Reference	Requirement	Plan Allocation
			4c Management measures that will be implemented include: topsoil and subsoil will be stockpiled, with stockpiles designed and located to minimise contamination, development of anaerobic conditions, and to avoid erosion and dust generation;	Surface Water Management Plan
			4d Management measures that will be implemented include: nutrient decline will be minimised by managing stockpile methods and heights;	Surface Water Management Plan
			4e Management measures that will be implemented include: stockpiles will be regularly inspected for weeds; and	Surface Water Management Plan
			4f Management measures that will be implemented include: to minimise the risk of loss from wind and water erosion to stockpiled topsoil, a vegetative cover will be established or the stockpile covered.	Surface Water Management Plan
	Erosion and sediment transport	SOILO 2	1 Erosion and sedimentation controls will be implemented as part of the Water Management Plan to minimise erosion potential in accordance with the guideline Managing Urban Stormwater, Volumes 1 and 2, or equivalent.	Surface Water Management Plan
	Changes to landform and land use	SOILO 3	1 A Landscape Management Plan will be prepared for the rehabilitation of disturbed areas;	Rehabilitation Management Plan
			2 The Plan and management controls will include: objectives for landform rehabilitation at each site;	Rehabilitation Management Plan
			3a measures to ensure successful rehabilitation and stabilisation of soils which includes implementing the following; collection of indigenous/native seed and alpine sods for propagation;	Rehabilitation Management Plan
			3b measures to ensure successful rehabilitation and stabilisation of soils which includes implementing the following; native species will be chosen that are representative of the surrounding area;	Rehabilitation Management Plan
			3c measures to ensure successful rehabilitation and stabilisation of soils which includes implementing the following; establishment of an indigenous/native plant nursery within Lobs Hole, to establish tube stock for revegetation;	Rehabilitation Management Plan
			3d measures to ensure successful rehabilitation and stabilisation of soils which includes implementing the following; only clean and contaminant-free soil materials will be bought to site and used in construction;	Rehabilitation Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
		3e	measures to ensure successful rehabilitation and stabilisation of soils which includes implementing the following; organic material from construction cuts and clearances will be stockpiled and reused in the works where practicable;	Rehabilitation Management Plan
		3f	measures to ensure successful rehabilitation and stabilisation of soils which includes implementing the following; the topsoil application procedure will be developed and implemented;	Rehabilitation Management Plan
		3g	measures to ensure successful rehabilitation and stabilisation of soils which includes implementing the following; soil will be applied to provide sufficient depth for plant growth and in a manner which minimises any degradation of soil characteristics;	Rehabilitation Management Plan
		3h	measures to ensure successful rehabilitation and stabilisation of soils which includes implementing the following; soil nutrient decline will be amended at the time of rehabilitation by utilising fertilisers and amendment techniques (e.g. gypsum, organic matter or lime application);	Rehabilitation Management Plan
		3i	measures to ensure successful rehabilitation and stabilisation of soils which includes implementing the following; disturbed areas would be re-vegetated progressively during construction of the Exploratory Works; and	Rehabilitation Management Plan
		3j	measures to ensure successful rehabilitation and stabilisation of soils which includes implementing the following; erosion and sediment control measures will not be removed until the sites have been rehabilitated and suitably stabilised.	Rehabilitation Management Plan
		4	The Plan and management controls will include: minimum depths of soils to be reapplied in particular areas during rehabilitation.	Rehabilitation Management Plan
		5a	The Plan and management controls will include: measures to ensure successful rehabilitation and stabilisation of disturbed riparian zones including; revegetation of disturbed banks and areas cleared of vegetation with appropriate native species;	Rehabilitation Management Plan
		5b	The Plan and management controls will include: measures to ensure successful rehabilitation and stabilisation of disturbed riparian zones including; native species selected for planting beneath the bridge structures should be tolerant of shade; and	Rehabilitation Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
			5c The Plan and management controls will include: measures to ensure successful rehabilitation and stabilisation of disturbed riparian zones including; re-instatement of any wood debris and boulders removed during construction	Rehabilitation Management Plan
	Compatibility of land use post Exploratory Works	SOIL04	1 A Final Rehabilitation Strategy will be prepared to guide the long term rehabilitation of the site. Rehabilitation goals and objectives for the domains of the project area will be determined through the final land use.	Rehabilitation Management Plan
			2 This strategy will be developed in consultation with NPWS and other relevant government agencies.	Rehabilitation Management Plan
MOD2 – Excavated material	Excavated material management	MOD2 - 005	The Excavated Material Management Plan will be updated and the Subaqueous Emplacement Management Plan will be prepared to provide consideration to the management of excavated material generated by TBM tunnelling.	Excavated Materials Management Plan and Subaqueous Emplacement Management Plan
Noise and Vibration	Construction noise and vibration	NOI01	1 A Construction Noise and Vibration Management Plan will be prepared and implemented during construction.	Noise and Vibration Management Plan
			2 The main objective plan would be to manage construction activities to meet ICNG NMLs and applicable vibration criteria across the project.	Noise and Vibration Management Plan
		NOI02	1 Snowy Hydro will notify noise affected residents (including R2) of the scheduled construction works and the potential noise impacts.	Noise and Vibration Management Plan
			2 Noise monitoring during the initial stages of construction will be undertaken to determine if actual construction noise levels are above NMLs.	Noise and Vibration Management Plan
			3a If NMLs are exceeded, the proponent will: • identify feasible and reasonable mitigation measures that reduce construction noise levels to at or below NMLs;	Noise and Vibration Management Plan
			3b If NMLs are exceeded, the proponent will: • limit road construction for areas where there are noise affected residents to ICNG standard hours only; or	Noise and Vibration Management Plan
			3c If NMLs are exceeded, the proponent will: • enter into a negotiated agreement with the property owners.	Noise and Vibration Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
			4 If the safe working distances outlined in the NVA are encroached, vibration monitoring will be carried out at selected nearby heritage or infrastructure structures.	Noise and Vibration Management Plan, Blast Management Plan
			5 If required, the monitoring system will be fitted with an auditory and visual alarm that triggers when vibration levels reach the nominated criteria. This would indicate if and when alternate work practices should be adopted (such as decrease vibratory intensity, alternate equipment selection, etc).	Noise and Vibration Management Plan, Blast Management Plan
	Geophysics survey (blasting)	NOI03	1 A Blasting Procedure or Blast Management Plan is to be developed and implemented prior to blasting. Blast practices should be reviewed when blasting occurs in the vicinity of significant heritage items. This may include limiting the maximum instantaneous charge (MIC) or re-assessing the significance and/or the sensitivity of these items to vibration prior to blasting commencing in the area.	Blast Management Plan
			2 Practices will be constantly reviewed and adapted where practicable if complaints are received from residents due to night blasting.	Blast Management Plan
			3 A survey of heritage items and other potential vibration sensitive receivers will be undertaken in the blast offset zone identified around the tunnel excavation portal.	Blast Management Plan
Social and Economic	Impacts to long term housing demand	SEC01	1 Develop and implement a program to track and monitor the demand for long-term housing in the local region by regularly consulting with workers, local real estate agents and the Snowy Monaro Regional and Snowy Valleys councils.	Other (Non-FGJV)
		SEC01	2 The monitoring program will be prepared before construction starts and will be reviewed periodically to capture any relevant changes in the project and in the community. Monitoring would be undertaken every three months starting from the commencement of construction.	Other (Non-FGJV)
		SEC01	3 The results of the consultation would be reported back to DPIE and the councils.	Other (Non-FGJV)
	Costs incurred to NPWS to implement recreational user impact mitigation measures	SEC02	1 Snowy Hydro propose to enter into a heads of agreement with NPWS which will form the basis of a voluntary planning agreement (VPA) or similar between the two parties which will broadly set out the measures proposed to mitigate impacts to recreational users of KNP, and nominate the monetary contributions required to fund the mitigation and management measures.	Other (Non-FGJV)
	Higher levels of visitation to Lobs Hole post Exploratory Works	SEC03	1 Master plan to be developed before the completion of works at Lobs Hole. Master plan to consider issues such as vehicle access and potential vehicle conflict, changing user dynamics and use of the area, planning for future camping groups and types, provision of amenities, interpretive material outlining Aboriginal and European history, weed and feral animal control.	Other (Non-FGJV)

Aspect	Impact	Reference	Requirement		Plan Allocation
	due to improved access		2	Work on the rehabilitation of the site and the installation of visitor infrastructure would commence before the conclusion of the Exploratory Works (or Snowy 2.0) to enable visitor use of the area to recommence as soon as practicable.	Rehabilitation Management Plan
	Loss of remote camping experience accessed by 4WD	SEC04	1	KNP PoM to be amended to consider potential sites that could offer a comparable experience to Lob's Hole Ravine such as those located on management trails that do not currently allow public access.	Other (Non-FGJV)
	Increased visitation to other camping areas during Exploratory Works	SEC05	1	Site master planning be undertaken for busier areas, potentially affected by displacement of Lob's Hole Ravine users (Three Mile Dam, Yarrangobilly Village, Eucumbene River, Blowering campgrounds) and increased demand from Exploratory Works workers, to determine whether they will need any expansion, and how the current visitor experiences in those places will be maintained.	Other (Non-FGJV)
	Restricted access to Talbingo Reservoir for recreational users	SEC06	1	Access to Talbingo spillway and boat ramp will be closed to the public for the period of the Exploratory Works.	Traffic Management Plan, Maritime Traffic Management Plan, Talbingo Recreational Management Plan
	Impact of increased traffic in KNP on recreational users	SEC07	1	Traffic management arrangements will be put in place to minimise the amenity and safety risks for recreational users during periods of high traffic flow.	Traffic Management Plan
	Maximising economic benefits	SEC08	1a	Snowy Hydro would engage with the contractor(s) for Exploratory Works to ensure that its approach to employment embodies the following principles where possible: • a preference for local employment;	Other (Non-FGJV)
1b			Snowy Hydro would engage with the contractor(s) for Exploratory Works to ensure that its approach to employment embodies the following principles where possible: • encouraging local contractors to tender for work; and	Other (Non-FGJV)	
1c			Snowy Hydro would engage with the contractor(s) for Exploratory Works to ensure that its approach to employment embodies the following principles where possible: • use of local businesses.	Other (Non-FGJV)	
2			In order to achieve this outcome, Snowy Hydro in consultation with the contractor(s) for Exploratory Works, proposes to: • provide advance information about the approach to workforce sourcing, recruitment policies of local people and work arrangements;	Other (Non-FGJV)	

Aspect	Impact	Reference	Requirement	Plan Allocation
Transport			3 In order to achieve this outcome, Snowy Hydro in consultation with the contractor(s) for Exploratory Works, proposes to: <ul style="list-style-type: none"> <li>• work with recruitment, education and training providers in the local area to encourage the provision (in advance of project commencement) of future employment and training opportunities for skills that would be directly and indirectly generated by Snowy 2.0, including Exploratory Works; and</li> </ul>	Other (Non-FGJV)
			4 In order to achieve this outcome, Snowy Hydro in consultation with the contractor(s) for Exploratory Works, proposes to: <ul style="list-style-type: none"> <li>• participate, as appropriate, in business groups, events or programs, and/or provide training programs directly relevant to project needs or broader industry skills (including programs specifically designed to assist local companies to comply with likely pre-qualification and contractual requirements).</li> </ul>	Other (Non-FGJV)
			5 The provision of these activities would be supported by the development of a local employment and business policy.	Other (Non-FGJV)
	Construction traffic management plan	TRA01	1 A Construction Traffic Management Plan (CTMP) will be prepared and implemented during construction. The CTMP will set out the strategy and procedures to manage the impacts of the Exploratory Works construction on the local road network and traffic systems, including:	Traffic Management Plan
			2 <ul style="list-style-type: none"> <li>• community and stakeholder notification processes for oversized vehicle movements and any planned disruptions to traffic and restriction of access to areas of KNP and Talbingo Reservoir</li> </ul>	Traffic Management Plan
			3 <ul style="list-style-type: none"> <li>• traffic safety requirements, including appropriate signage, driver conduct and safety protocols.</li> </ul>	Traffic Management Plan
	Road maintenance	TRA02	1a Road maintenance will be managed through the following measures: <ul style="list-style-type: none"> <li>• a Road Dilapidation Report will be prepared and submitted to the relevant road authority prior to and following Exploratory Works for:               <ul style="list-style-type: none"> <li>· Link Road;</li> </ul> </li> </ul>	Traffic Management Plan
			1b Road maintenance will be managed through the following measures: <ul style="list-style-type: none"> <li>• a Road Dilapidation Report will be prepared and submitted to the relevant road authority prior to and following Exploratory Works for:               <ul style="list-style-type: none"> <li>· all roads within KNP not upgraded as part of the exploratory works and which will potentially be used by Heavy Vehicles during construction;</li> </ul> </li> </ul>	Traffic Management Plan
			1c Road maintenance will be managed through the following measures: <ul style="list-style-type: none"> <li>• a Road Dilapidation Report will be prepared and submitted to the relevant road authority prior to and following Exploratory Works for:               <ul style="list-style-type: none"> <li>· local roads within Talbingo which will potentially be used by Heavy Vehicles during exploratory works;</li> </ul> </li> </ul>	Traffic Management Plan



Aspect	Impact	Reference	Requirement	Plan Allocation
			1d Road maintenance will be managed through the following measures: • a Road Dilapidation Report will be prepared and submitted to the relevant road authority prior to and following Exploratory Works for: · Spillway Road; and	Traffic Management Plan
			1e Road maintenance will be managed through the following measures: • a Road Dilapidation Report will be prepared and submitted to the relevant road authority prior to and following Exploratory Works for: · Miles Franklin Drive;	Traffic Management Plan
			2 Road maintenance will be managed through the following measures: • routine defect identification and rectification of the roads used by heavy vehicles within KNP and Spillway Road will be managed as part of the project maintenance procedure; and	Traffic Management Plan
			3 Road maintenance will be managed through the following measures: • internal access roads upgraded or constructed as part of the Exploratory Works will be designed in accordance with the relevant vehicle loading requirements.	Traffic Management Plan
	Signage	TRA03	1 Where changes to the traffic conditions are required, appropriate signage will be installed in accordance with the following:	Traffic Management Plan
			1a • Traffic Control Device for Works on Roads (AS1742.3; 2009); and	Traffic Management Plan
			1b • Traffic Control at Work Sites (Roads and Maritime Services; 2010).	Traffic Management Plan
	Time of travel	TRA04	1 Standard hours of operation of heavy vehicles on local roads will be 7 am to 6 pm during weekdays and 8am to 1pm on Saturday, excluding upper Lobs Hole Ravine Road where no heavy vehicle movements will occur outside of day time hours (except in emergencies) being First Light to Last Light.	Traffic Management Plan
			2 Access to the Barge Access Facility via Miles Franklin Drive, and Spillway Road will be permitted 24 hours a day and 7 days a week to all vehicles.	Traffic Management Plan
	Traffic control	TRA05	1 Where temporary occupation of lanes is required traffic control measures specified in AS1742-2002 will be implemented. Where works require lane occupancy on RMS or council classified roads, a Road Occupancy Licence will be obtained.	Traffic Management Plan
MOD 1 - Traffic	Coppermine Trail intersection	M1.21	The construction traffic management plan and traffic control plan, including the road occupancy license, for the Coppermine Trail/Snowy Mountains Highway intersection will be revised and updated to accommodate the latest proposed Modification 1 temporary construction access requirements.	Traffic Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
MOD 2 – Traffic	OSOM vehicle movements	MOD2 - 003	For scheduled OSOM movements and associated road closures, a Transport Management Plans (TMP) will be prepared. The TMP will detail the date, duration, load details, driver detail, proposed route, emergency contact details, communication protocols, route surveys that include road width dimensions (pinch points) and procedures to mitigate the pinch point locations. The TMPs will be prepared, submitted and approved by the RMS, prior to the commencement of any deliveries in accordance with RMS 'high risk' OSOM movements. In addition, the TMPs will be prepared in consultation with relevant councils and emergency providers and include emergency contingency plans. Where required a Traffic Control Plans (TCP) for OSOM movements will also be obtained.	Traffic Management Plan
Water	Flood risks	FM1.1	1 Camp and Wallaces bridges will be designed in accordance with AustRoads bridge design standards which require the: - bridge deck soffit to be located above the 1% AEP flood level;	Surface Water Management Plan
	Leaching/running into groundwater/creeks	WAT01	1 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including • minimizing direct access to the river by construction vehicles and mechanical plant;	Surface Water Management Plan
			2 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including • regular inspection of construction vehicles and mechanical plant for leakage of fuel and /or oils;	Surface Water Management Plan
			3 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including • establishing a bunded area for storage of fuel and oils;	Surface Water Management Plan
			4 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including • refuelling and maintenance of vehicles and mechanical plant at least 50 m from watercourses;	Surface Water Management Plan
			5 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including • avoiding as far as possible re-fuelling, washing and maintenance of land-based vehicles and plant within 50 m of watercourses;	Surface Water Management Plan
			6 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including • reporting spillages to the appropriate officer and immediately deploying spill containment and / or absorption kits as required to restrict its spread;	Surface Water Management Plan
			7 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including • vehicles, vessels and plant would be properly maintained and regularly inspected for fluid leaks;	Surface Water Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
			8 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including <ul style="list-style-type: none"> <li>• emergency spill kits will be kept onsite, at refuelling areas and on all vessels at all times during the Exploratory Works. The spill kit will be appropriately sized for the volume of substances on the vessel. All staff would be made aware of the location of the spill kit and trained in its use;</li> </ul>	Surface Water Management Plan
			9 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including <ul style="list-style-type: none"> <li>• if any hydrocarbon spills were to occur during soil stripping, the impact will be isolated and clean-up procedures implemented;</li> </ul>	Surface Water Management Plan
			10 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including <ul style="list-style-type: none"> <li>• areas to be used for long-term storage and handling of hydrocarbons and chemicals will be enclosed with concrete bunds;</li> </ul>	Surface Water Management Plan
			11 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including <ul style="list-style-type: none"> <li>• chemicals will be handled and stored as per manufacturer's instructions; and</li> </ul>	Surface Water Management Plan
			12 Management measures will be implemented to minimise potential environmental impacts to water and soil from hydrocarbon and chemical spills and leaks including <ul style="list-style-type: none"> <li>• below ground, refuelling will be undertaken in dry, enclosed, bunded areas;</li> </ul>	Surface Water Management Plan
	Surface and groundwater	WAT0 2	1 A Surface and Groundwater Monitoring Program will be developed and implemented to monitor the effectiveness of water quality controls.	Surface Water Management Plan, Groundwater Management Plan
			2 The program will include: <ul style="list-style-type: none"> <li>• establish monitoring locations to provide suitable baseline and detection monitoring of surface and groundwater parameters;</li> </ul>	Surface Water Management Plan, Groundwater Management Plan
			3 The program will include: <ul style="list-style-type: none"> <li>• monitor groundwater inflows indirectly through the process water system and groundwater levels as well as groundwater quality during construction; and</li> </ul>	Groundwater Management Plan
			4 The program will include: <ul style="list-style-type: none"> <li>• set out annual monitoring requirements for Yarrangobilly Caves and plant community types potentially reliant on groundwater.</li> </ul>	Groundwater Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
		WAT03	1 Areas of groundwater inflow will be shotcreted or sealed by other methods to minimise further ingress.	Groundwater Management Plan
		WAT03	2 If groundwater is intercepted and reductions to groundwater inflows to watercourses predicted, then groundwater should be discharged to waterways. This would occur following appropriate treatment of discharge water.	Groundwater Management Plan
	Impacts from barge access construction	WAT04	1 A dredge environmental management plan (DEMP) and associated mitigation measures will be implemented for dredging and construction of barge access infrastructure including:	Dredge Management Plan
			2 including: • a water quality monitoring program at the dredge area prior to, during and following completion of dredging and barge access infrastructure construction works;	Dredge Management Plan
			3 including: • installation of silt curtains around dredging and active construction work areas within waterways;	Dredge Management Plan
			4 including: • selecting uncontaminated granular fill with less than 2% fines and selecting granular bedding material;	Dredge Management Plan
			5 including: • ensuring skip bins for land disposal of excavated material are watertight;	Dredge Management Plan
			6 including: • all activities would be carried out in a manner that minimises the potential for leaks and spills and in compliance with waste handling and disposal procedures outlined in the DEMP;	Dredge Management Plan
			7 including: • establishing a bunded area and sediment and erosion control measures around the land disposal area;	Dredge Management Plan
			8 including: • subaqueous placement of dredge spoil will include the mitigation measures described in WAT17;	Subaqueous Emplacement Management Plan, Dredge Management Plan
			9 including: • subaqueous placement of any dredged material would be in a confined placement location rather than spreading the material across a wider section of the reservoir bed;	Subaqueous Emplacement Management Plan, Dredge Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
			10 including: • a silt curtain would be placed around the backhoe dredger or other suitable equipment at the dredge area; and	Dredge Management Plan
			11 including: • the dredged material once placed on barges would not be drained at the dredging site. Barges for subaqueous placement and skip bins for land placement would be watertight.	Dredge Management Plan
	Barge ramp establishment	MOD2 - 001	The following measures will be implemented for barge ramp establishment works at Middle Bay: • all barge ramp construction and dredging works would be closely monitored and carried out according to the Dredge Management Plan, Surface Water Management Plan and Aquatic Habitat Management Plan; • appropriate methods and pre-dredge testing would be implemented to that material is appropriately handled to minimise impacts to aquatic species and habitat; and removal and subsequent disposal of aquatic macrophytes would be undertaken according to the Dredge Management Plan and / or Waste Management Plan.	Dredge Management Plan, Surface Water Management Plan, Aquatic Habitat Management Plan
	Water quality impacts from subaqueous placement in Talbingo Reservoir from dredging spoil and excavated rock placement	WAT0 5	1 The subaqueous placement monitoring program for Talbingo Reservoir will be developed and implemented including: • survey monitoring of pre-placement and post-placement bathymetry at the placement location to assess the accuracy of subaqueous placement, batter slopes of placed material and any underwater spreading of the placed material;	Subaqueous Emplacement Management Plan
			2 The subaqueous placement monitoring program for Talbingo Reservoir will be developed and implemented including: • a water quality monitoring program at the subaqueous placement area prior to, during and following completion of subaqueous placement works, including development of a total suspended solid (TSS) and turbidity (NTU) relationship and a structured management response to alerts and any exceedances of established triggers;	Subaqueous Emplacement Management Plan
			3 The subaqueous placement monitoring program for Talbingo Reservoir will be developed and implemented including: • confirmation of physical and chemical characteristics of the sediment at the subaqueous placement area prior to the placement of dredged material and excavated rock material;	Subaqueous Emplacement Management Plan
			4 Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • installation of silt curtains around the discharge barge at the subaqueous placement area; and	Subaqueous Emplacement Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
		5	Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • design of the discharge arrangement at the subaqueous placement area to minimise surface turbidity;	Subaqueous Emplacement Management Plan
		6	Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • silt curtains should be inspected for integrity at least daily during placement of excavated material. Particular attention should be given to inspection and maintenance following heavy rainfall and high winds;	Subaqueous Emplacement Management Plan
		7	Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • characterisation of the potential contaminant content and acid forming content of the placement material.	Subaqueous Emplacement Management Plan
		8	Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • Only suitable material would be selected for placement within the reservoir;	Subaqueous Emplacement Management Plan
		9	Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • well maintained disposal equipment and barges will be used to minimise sediment loss/turbidity generation;	Subaqueous Emplacement Management Plan
		10	Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • care should be taken when loading barges to reduce the potential for sediment spills and uncontrolled discharges. Overflowing/overloading of barges should be avoided;	Subaqueous Emplacement Management Plan
		11	Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • subaqueous placement of excavated rock and dredge spoil would be localised in a side bay;	Subaqueous Emplacement Management Plan
		12	Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • placement of material at least 3m below Minimum Operating Level to reduce the potential for resuspension by waves, currents or river flows;	Subaqueous Emplacement Management Plan



Aspect	Impact	Reference	Requirement	Plan Allocation
			13 Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • barges would be fitted with bulwarks (hungry boards) made watertight to contain excavated rock and dredge spoil while in transit;	Subaqueous Emplacement Management Plan
			14 Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • the placement location in a side bay would improve ability to incorporate environmental controls including silt curtains. An exterior silt curtain would be placed between the discharge barge and the main reservoir;	Subaqueous Emplacement Management Plan
			15 Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • undertaking a tunnel excavated rock testing regime and screening of tunnel excavated rock material in stockpiles to demonstrate suitability for placement based on established criteria (possibly on a geological unit basis),	Subaqueous Emplacement Management Plan
			16 Methods to minimise turbidity and sediment movement will be implemented during subaqueous placement of dredge spoil and excavated rock in Talbingo Reservoir including: • exterior silt curtain will not be removed until satisfactory water quality criteria are met within placement area.	Subaqueous Emplacement Management Plan
	Spills of hydrocarbons	WAT1 1	1 Procedures to address spills and leaks will be developed and implemented as part of the CEMP.	Water Management Plan
	Controls for construction disturbance areas Controls for all construction areas	WM1.1	1 The following controls will be applied to the design of the clean water management system: • where practical, all clean water will be diverted around or through water management areas. Runoff from clean water areas that cannot be diverted must be accounted for in the design of water management systems;	Surface Water Management Plan
		WM1.2	1 The following controls will be applied to the design of the clean water management system: • All permanent clean water drainage will be designed and constructed to convey the 1% AEP peak flow and will have adequate scour protection. Temporary clean water drainage will be designed to convey the 50% AEP peak flow.;	Surface Water Management Plan
		WM1.3	1 The following controls will be applied to the design of the clean water management system: • where practical, diversions will seek to avoid materially increasing flow rates in adjoining watercourses; and.	Surface Water Management Plan
		WM1.4	1 The following controls will be applied to the design of the clean water management system: • Where practical, the permanent diversion of drainage lines or watercourses using contour drains will be avoided.	Surface Water Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
		WM2.1	1 An Erosion and Sediment Control Plan (ESCP) will be prepared for each construction area.	Surface Water Management Plan
			2 Each ESCP will: • consider local soil characteristics, clean water management and the proposed construction methods;	Surface Water Management Plan
			3 Each ESCP will: • apply all practical source control and rehabilitation methods; and	Surface Water Management Plan
			4 Each ESCP will: • be progressively amended as required during construction.	Surface Water Management Plan
			5 Each ESCP will: • A suitably qualified erosion and sediment control expert will be commissioned to develop and execute each ESCP. The expert will be responsible for overseeing the development of the ESCP and inspecting and auditing controls during implementation. Regular expert input will ensure that erosion and sediment control practices will be established and operated to a high standard and progressively improved.	Surface Water Management Plan
		WM2.7	1 Where appropriate, sedimentation basins will be constructed in accordance with the methods recommended in Managing Urban Stormwater: Soils and Construction: Volume 1 (Landcom 2004) and Volume 2D (DECC 2008). Water treatment chemicals will be applied to sedimentation basins with catchment areas greater than 2,500 m <sup>2</sup> to enhance sedimentation and phosphorus and dissolved metal removal rates. Only water treatment chemicals that have a low risk of increasing the toxicity of treated stormwater will be used. Water treatment chemicals will be applied using an automated chemical dosing and mixing system. The design treatment rate will be the 1 year ARI peak flow.	Surface Water Management Plan
		WM2.2	1 The clean water management controls WM_1.1 to 1.4 apply to all ESCPs.	Surface Water Management Plan
		WM2.3	1 Stockpiles will be located where they are not exposed to concentrated or flood flow. Flood flow is defined as the 20% AEP flood extent. Monitoring for dispersion and erosion of soil stockpiles will be undertaken, particularly on moderately dispersive soils. Addition of ameliorants, such as gypsum and organic matter for dispersive soils will be undertaken as needed.	Surface Water Management Plan
		WM2.4	1 Soils will be lightly scarified on the contour to encourage rainfall infiltration and minimise run-off. As soon as practicable after respreading, a cover crop will be established to limit erosion and soil loss. This will also provide good mulch for native plant establishment.	Surface Water Management Plan, Rehabilitation Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation	
		WM2.5	1	Sediment traps or filters will be maintained at all discharge locations. The filters will only use non-toxic or materials which will not cause material harm to the environment, including biodegradable or natural materials where practicable. Sediment traps, filters and other appropriate sediment control devices will be installed to target the removal of coarse sediments.	Surface Water Management Plan
	Additional controls for construction areas that are constrained by terrain or the proposed disturbance boundary	WM2.6	1	Runoff from construction areas that are constrained by terrain or the proposed disturbance boundary and are larger than 2,500 m m2 will be captured in a sump and pumped to a water treatment plant. The water treatment plant will use water treatment chemicals to enhance sedimentation and phosphorus and dissolved metal removal rates using an automated chemical dosing system. Only water treatment chemicals that have a low risk of increasing the toxicity of treated stormwater will be used. The design dewatering and treatment rate will be the 1 in 3 month average return interval (ARI) peak flow	Surface Water Management Plan
	Additional controls for construction areas that are not constrained by terrain	WM2.8	1	When practical, water captured in sedimentation basins will be used for dust suppression.	Surface Water Management Plan
	Water management controls for access roads Controls for all access roads	WM3.1	1	sections of Lobs Hole Road that will no longer be required following the construction of the new access roads will be removed and rehabilitated. This will reduce associated sediment loads;	Surface Water Management Plan, Rehabilitation Management Plan
		WM3.2	1	all cut and fill batters will be stabilised as soon as practicable;	Surface Water Management Plan, Rehabilitation Management Plan
		WM3.3	1	The clean water management controls WM_1.1 to 1.4 will apply to the design of all access roads.	Surface Water Management Plan
		WM3.4	1	• access road surfaces will be maintained with appropriate aggregate material to reduce the risk of erosion;	Surface Water Management Plan
		WM3.5	1	• where practicable and safe to do so access roads will be single cross fall and will grade to a table drain located against the toe of the cut batters. The drains will be stabilised by rock armouring as required;	Surface Water Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation	
		WM3.6	1	<ul style="list-style-type: none"><li>• where appropriate, the sedimentation basins established to manage runoff during construction of the access roads will be maintained during the Exploratory Works to provide ongoing treatment of runoff from access roads;</li></ul>	Surface Water Management Plan
	Additional controls for access roads that are not constrained by terrain or the proposed disturbance footprint.	WM3.7	1	The sedimentation basins established to manage runoff during construction of the access roads will be modified to be constructed wetland style basins. Constructed wetland style basins will maintain permanent water. An extended detention zone will be established above the permanent water. The extended detention zone will drain slowly through a low flow outlet control. Where practical, runoff from road embankments that have been stabilised by vegetation will be diverted into the clean water drainage system to minimise the contributing catchment area to the constructed wetlands. This will increase the effective size of the basin (in terms of depth of rainfall captured) and will result in a treatment volume that is greater than the 5 day 85th percentile volume that is proposed for sedimentation basins for construction areas.	Surface Water Management Plan
	Water management controls for the accommodation camp	WM4.1	1	A stormwater management plan will be prepared as part of the detailed design of the project. The plan will consider geotechnical constraints including shallow soils.	Surface Water Management Plan
		WM4.2	1	Clean water from upslope areas will be diverted around the accommodation camp.	Surface Water Management Plan
		WM4.3	1	A piped drainage system will be established to capture stormwater and convey it to the proposed water quality improvement ponds. The drainage system will have a 20% AEP capacity. Overland flow paths will be provided as required.	Surface Water Management Plan
		WM4.4	1	All pervious areas including batters will be vegetated with endemic native vegetation where practicable.	Surface Water Management Plan
		WM4.5	1	Runoff from roof areas will be collected in rainwater tanks where practicable. Captured water will be used for non-potable uses, reducing runoff volumes.	Surface Water Management Plan
		WM4.6	1	Source controls including permeable pavers and rain gardens will be used where practicable.	Surface Water Management Plan
		WM4.7	1	All runoff from the accommodation camp will be treated in water quality improvement basin(s). The basin(s) will be designed as constructed wetlands where practicable and will provide a water quality improvement function and attenuate peak runoff rates from the accommodation camp.	Surface Water Management Plan
		WM4.8	1	Collectively, the stormwater controls will be sized and configured to achieve the water quality specifications provided in SWA Table 6.12.	Surface Water Management Plan
		WM4.9	1	The water quality improvement pond batters will be established using retaining structures or other suitable measures to avoid disturbance of the Watercourse 3 channel.	Surface Water Management Plan

Aspect	Impact	Reference		Requirement	Plan Allocation
	Water management controls for the portal construction pad	WM5.1	1	A stormwater management plan will be prepared as part of the detailed design of the project. The plan will be integrated with the process water system.	Surface Water Management Plan
		WM5.2	1	Where practical, all activities that will occur on the portal construction pad with potential to contaminate stormwater runoff will be isolated from the stormwater system through the use of covering (i.e. by a building or roof) and bunding. Water produced within the covered and bunded areas will be either: <ul style="list-style-type: none"><li>• managed by the process water system; or</li><li>• disposed as liquid waste to an appropriate facility.</li></ul>	Surface Water Management Plan
		WM5.3	1	Clean water from upslope areas will be diverted through or around the portal construction pad in a designated clean water drainage system.	Surface Water Management Plan
		WM5.4	1	A piped drainage system will be established to capture stormwater and convey it to the water management basin. The drainage system will have a 1% AEP capacity. Overland flow paths will be provided as required.	Surface Water Management Plan
		WM5.5	1	All aggregate storage and stockpile areas will be bunded to prevent stormwater ingress. Runoff from these areas will be treated in sediment wedge pits or other sediment controls to remove all coarse material. Sediment wedge pits will overflow into the piped drainage system.	Surface Water Management Plan
		WM5.6	1	All runoff from the portal construction pad and adjoining access road will be conveyed to a water management basin with adequate capacity for at least a 5 day 95th percentile rainfall event and include additional volume to accommodate required water quality treatments (i.e. a total volume of at least 3,750 m3). The basin will provide a water quality improvement function. Water captured in the basin will be extracted to supply the process water system.  Water treatment chemicals will be applied to the water management basin to enhance sedimentation and phosphorous and dissolved metal removal rates. Only water treatment chemicals that have a low risk of increasing the toxicity of treated stormwater will be used. Water treatment chemicals will be applied using an automated chemical dosing and mixing system. The system will be designed to meet the water quality specifications provided in SWA Table 6.16. The design treatment rate will be the 1 year ARI peak flow.	Surface Water Management Plan
		WM5.7	1	The water management basin will be designed to provide a freeboard between its overflow pipe and spillway. The freeboard volume will be calculated to contain probable leaks, spills and firewater runoff volumes. The overflow pipe will have a manual shutoff valve that will enable site management to shut off the overflow pipe to enable the basin to contain any leak, spill or fire water runoff.	Surface Water Management Plan
	Water management	WM6.1	1	A process water management system will be established to manage any potentially contaminated water that may be produced by the construction activities.	Surface Water Management Plan

Aspect	Impact	Reference		Requirement	Plan Allocation
	controls for the process water system	WM6.2	1	The process water management system will be separated from the stormwater system to avoid uncontrolled overflows associated with stormwater ingress.	Surface Water Management Plan
		WM6.3	1	The process water system will incorporate a water treatment plant that will treat water to a suitable quality for its proposed use in construction activities. If required to meet water quality criteria, additional treatment will be provided for any water that is discharged to Talbingo Reservoir via the controlled discharge pipeline. This treatment system will meet the water quality specifications provided in Table 4.5 of this RTS.	Surface Water Management Plan
		WM6.4	1	The process water management system will have the ability to extract water from the portal construction pad's water management basin. This will be done to top-up supply.	Surface Water Management Plan
		WM6.5	1	A reticulation system will be established to enable the process water system to: - extract water from Talbingo Reservoir (as required); and - discharge treated process water into Talbingo Reservoir (as required).	Surface Water Management Plan
	Water management controls for the waste water management system	WM7.1	1	Waste water from the accommodation camp will be reticulated to a waste water treatment plant via a sewer system. The sewer system will be designed to restrict stormwater ingress into the waste water system.	Surface Water Management Plan
		WM7.2	1	Water efficient fittings will be used to minimise waste water loads.	Surface Water Management Plan
		WM7.3	1	Low phosphorus products are to be used for washing activities controlled by site management (i.e. laundry services and mess hall) and encouraged (via education) for general use.	Surface Water Management Plan
		WM7.4	1	The waste water storage system will include emergency storage of untreated waste water. The storage volume will be calculated at detailed design based on analysis of response times from regional waste management contractors to provide emergency trucking and offsite disposal options.	Surface Water Management Plan
		WM7.5	1	A waste water treatment plant will meet the water quality specifications provided in Table 4.4 of this RTS.	Surface Water Management Plan
		WM7.6	1	Treated waste water will be disposed to Talbingo Reservoir via the controlled discharge pipeline.	Surface Water Management Plan
	Water quality impacts from rock emplacement areas	WM8.1	1	The eastern and western rock and soil emplacement areas will be constructed as temporary landforms. The rock will be subject to the subaqueous emplacement program associated with Exploratory Works. Soil will be used for rehabilitation. Should any rock remain at these locations following the conclusion of Exploratory Works, it will be transported to a nominated location outside of Kosciuszko National Park within a timeframe agreed with NPWS.	Excavated Materials Management Plan



Aspect	Impact	Reference	Requirement	Plan Allocation	
		WM8.2	1	During establishment, the water management controls for construction areas (WM_2.1 to 2.8) will be applied.	Excavated Materials Management Plan
		WM8.3	1	The western emplacement area will be used to store cuttings and other material that has a low geochemical risk. This landform will be built in a manner that limits compaction and will be top-soiled and vegetated to stabilise the landform.	Excavated Materials Management Plan
		WM8.4	1	Any remnant mine workings located within the eastern and western rock and soil emplacement areas will be rehabilitated (if necessary).	Excavated Materials Management Plan
		WM8.5	1	The eastern emplacement area will be used to store any material that that has higher geochemical risk. Excavated material will be geochemically characterised prior to placement. The potential for acid rock drainage will be treated by placing and compacting layers of limestone (or other suitable AC material) between each rock and sediment layer as required. The volume of limestone (or other suitable AC material) in each layer will be determined stoichiometrically so that the maximum potential acidity from the overlying layer of rock and sediment is treated. This approach will neutralise AMD within the stockpile. Once design levels are reached, the landform will be topsoiled and vegetated.	Excavated Materials Management Plan
		WM8.6	1	Runoff from Lick Hole Gully will be diverted around or through the eastern emplacement area. The diversion works will comprise a dam upstream of the diversion inlet and either a gravity or pump assisted diversion system. The diversion works will have a 1% AEP capacity. The dam upstream of the diversion inlet will be designed as a detention basin and will not permanently hold water.  A high-flow diversion drain will be established to convey runoff from Lick Hole Gully around the emplacement area in a controlled manner, avoiding uncontrolled overflows through the emplacement area. This diversion drain will only be engaged if a flood greater than a 1%AEP event occurs.	Excavated Materials Management Plan
		WM8.7	1	Seepage from the eastern emplacement area will be collected in a water management dam. Collected water will either be irrigated to the emplacement (to promote evaporation) or treated in the process water treatment plant. Discharge of seepage water to the Yarrangobilly River will be avoided.	Excavated Materials Management Plan
		WM8.8	1	The eastern and western emplacement areas will be rehabilitated following removal of all material. Lick Hole Gully will be resinated as part of the rehabilitation works. Geomorphic and ecological characterisation of Lick Hole Gully will be undertaken prior to disturbance to record the existing conditions and values of Lick Hole Gully. The rehabilitation approach will seek to create a physically stable landform that reinstates or improves the existing values	Excavated Materials Management Plan
		Flood risks	FM1.1	2	Camp and Wallaces bridges will be designed in accordance with AustRoads bridge design standards which require the: - bridge structure to be designed to withstand a 0.05% AEP event; and

Aspect	Impact	Reference		Requirement	Plan Allocation
		FM1.1	3	Camp and Wallaces bridges will be designed in accordance with AustRoads bridge design standards which require the: - abutments to be protected by appropriately designed scour protection.	Surface Water Management Plan
		FM1.2	1	The western emplacement will be designed to prevent the risk of emplacement material being entrained in flood waters during a 0.2% AEP event. This may require a flood protection berm or rock armouring along the northern toe of the emplacement.	Excavated Materials Management Plan
		FM1.3	1	A flood emergency response plan will be prepared as part of the project's emergency response plans	Emergency Response Management Plan
MOD 1 - Groundwater r	Borehole drilling	M1.6		During borehole drilling slurries used will be of appropriate grade and composition such that it poses no threat to groundwater quality should it infiltrate intersected aquifers.	Groundwater Management Plan
	Lobs Hole substation	M1.7		During construction of the Lobs Hole substation contractors should assess groundwater conditions as a precaution during excavation. If water is encountered, excavation should cease pending further advice and site-based assessment of conditions.	Groundwater Management Plan
MOD 1 - Surface water	Clean water	M1.8		Where practicable, all clean water will be diverted around or through sites using cross-path drains or other similar measures to limit impact to existing flow regimes.	Surface Water Management Plan
	Regrading	M1.9		Drill sites that have been modified to allow for vehicle access will be regraded to natural lay of the land as part of the site rehabilitation.	Surface 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).	Surface Water Management Plan
MOD 1 - Erosion and sediment control	Erosion and sedimentation	M1.11		Erosion and Sediment Control Plans will be prepared for all proposed construction sites and drilling pads. These plans will consider local soil characteristics, clean water management and site-specific measures to suit the proposed construction methods.	Surface Water Management Plan

Aspect	Impact	Reference	Requirement	Plan Allocation
MOD 1 - Hazardous materials	Spills	M1.12	<p>Geotechnical investigation drilling will be undertaken in accordance with the surface water management plan. The following mitigation measures are included in the existing surface water management plan:</p> <ul style="list-style-type: none"> <li>• All fuel and hazardous substances used in drilling will be stored in designated areas of the drill pad. Hazardous chemicals will be stored in accordance with relevant standards, including AS 1940:2004.</li> <li>• Designated fuel storage areas will be bunded to mitigate risk of contamination to surface water and soils should spills occur. Refuelling will also be carried out in the designated, bunded area.</li> <li>• Equipment should be appropriately maintained to ensure there are no leaks.</li> <li>• Spill kits will be available on site to contain contamination should any spills outside these bunded areas occur. If used, waste from the spill kits will be disposed of appropriately.</li> <li>• The safety data sheets of all hazardous chemicals required for drilling activities will be made available on site. All waste produced during drilling will be stored on site in above ground containers, and when required will be taken off-site by vehicles. All waste will be disposed of off-site to an EPA licensed facility.</li> </ul>	Surface Water Management Plan
MOD 1 - Flooding	Flooding	M1.13	Protocols will be developed for the proposed modification elements for use and storage of plant, equipment and materials in flood prone areas commensurate with the frequency of inundation.	Emergency Response Management Plan
Worker and Public safety / Bushfire	Worker safety	PUS01	1 An Emergency Response Management Plan (ERMP) will be prepared and implemented during construction. The ERMP will contain all procedures relating to flood and other emergencies.	Emergency Response Management Plan
		PUS02	1 A Bushfire Management Plan (BMP) including the bushfire emergency response and evacuation plan will be prepared and implemented during construction.	Emergency Plan (Bushfire)
			1a The BMP will contain all procedures relating to bushfire. Including: <ul style="list-style-type: none"> <li>• management actions proposed to ensure suitable bushfire preparedness is undertaken as part of the Exploratory Works and ahead of the bush fire season, as well as specific procedures to limit the risk of ignition of surrounding bush land resulting from the Exploratory Works;</li> </ul>	Emergency Plan (Bushfire)
			1b The BMP will contain all procedures relating to bushfire. Including: <ul style="list-style-type: none"> <li>• the minimum requirements for a Village Protection Plan (as applicable to the Exploratory Works) as outlined within Section 3.4.9 of Kosciuszko National Park Fire Management Strategy 2008-2013 (NPWS, 2008). The plan will be provided to NPWS for comment;</li> </ul>	Emergency Plan (Bushfire)
			1c The BMP will contain all procedures relating to bushfire. Including: <ul style="list-style-type: none"> <li>• bush fire awareness training;</li> </ul>	Emergency Plan (Bushfire)
			1d The BMP will contain all procedures relating to bushfire. Including: <ul style="list-style-type: none"> <li>• a community bush fire refuge place in the case that offsite evacuation cannot occur;</li> </ul>	Emergency Plan (Bushfire)

Aspect	Impact	Reference	Requirement	Plan Allocation
		1e	The BMP will contain all procedures relating to bushfire. Including: • bushfire maintenance measures and procedures;	Emergency Plan (Bushfire)
		1f	The BMP will contain all procedures relating to bushfire. Including: • work procedures, so as to limit the potential of ignition of surrounding bushland;	Emergency Plan (Bushfire)
		1g	The BMP will contain all procedures relating to bushfire. Including: • monitoring and review procedures	Emergency Plan (Bushfire)
		1h -1	• Bushfire Emergency Response and Evacuation Plan which will include: – developed to be consistent with, A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan (NSW RFS 2014), Australian Standard 3745-2010 Planning for emergencies in facilities and the relevant provisions of the KNP Fire Management Strategy (NPWS 2008);	Emergency Plan (Bushfire)
		1h -2	Bushfire Emergency Response and Evacuation Plan which will include: – the requirements for pre-bush fire season and continual bush fire awareness;	Emergency Plan (Bushfire)
		1h -3	Bushfire Emergency Response and Evacuation Plan which will include: – the requirements for immediate notification to the local NPWS of accidental ignition of surrounding vegetation;	Emergency Plan (Bushfire)
		1h -4	Bushfire Emergency Response and Evacuation Plan which will include: – mechanisms for notification of neighbouring communities (Yarrangobilly Caves village and the village of Talbingo) of accidental ignition of surrounding vegetation leading to bush fire that may impact upon them	Emergency Plan (Bushfire)
		1h -5	Bushfire Emergency Response and Evacuation Plan which will include: – the circumstances under which different evacuation types are to be implemented, in response to a bush fire emergency;	Emergency Plan (Bushfire)
		1h -6	Bushfire Emergency Response and Evacuation Plan which will include: – mechanism for the early relocation of staff, noting that on days of catastrophic fire weather, the NSW RFS recommends leaving early as the only safe option;	Emergency Plan (Bushfire)
		1h -7	Bushfire Emergency Response and Evacuation Plan which will include: – detailed plans of all Emergency Assembly Areas including “onsite” and “offsite” arrangements;	Emergency Plan (Bushfire)
		1h -8	Bushfire Emergency Response and Evacuation Plan which will include: – the specific structure and role of emergency control for the site (e.g. fire wardens);	Emergency Plan (Bushfire)
		1h -9	Bushfire Emergency Response and Evacuation Plan which will include: – details of staff training consistent with their responsibilities within the emergency control organisational structure with the equipment provided;	Emergency Plan (Bushfire)

Aspect	Impact	Reference	Requirement	Plan Allocation
		1h - 10	Bushfire Emergency Response and Evacuation Plan which will include: – the requirements for training in preparation for response to an emergency, including trial emergency evacuations via Lobs Hole Ravine Road and via the barge access route;	Emergency Plan (Bushfire)
		1h - 11	Bushfire Emergency Response and Evacuation Plan which will include: –the requirements for training in preparation for response to an emergency, including trial emergency evacuations via Lobs Hole Ravine Road and via the barge access route;	Emergency Plan (Bushfire)
		1h - 12	Bushfire Emergency Response and Evacuation Plan which will include: – the requirements for clarifying a safe egress route (via Lobs Hole Ravine Road or the barge access route) and an understanding of the extent/spread of local fires before allowing the evacuating persons to leave the site;	Emergency Plan (Bushfire)/
		1h - 13	Bushfire Emergency Response and Evacuation Plan which will include: – the requirements for egress and communication in the scenario that persons are leaving the Exploratory Works as emergency services are attending the Exploratory Works (noting that sections of Upper and Lower Lobs Hole Ravine Road are single lane only); and	Emergency Plan (Bushfire)
		1h - 14	Bushfire Emergency Response and Evacuation Plan which will include: – mechanisms for communication with NPWS and neighbouring communities (Yarrangobilly Caves village and the village of Talbingo) on suitable egress routes and an understanding of the impacts that the egress of high numbers of project staff may have on the neighbouring communities ability to safely egress along the Snowy Mountains Highway.	Emergency Plan (Bushfire)
		2	The Bush Fire Management Plan shall include the provision of a suitable communication network. Snowy Hydro should liaise with the NSW RFS District offices of Riverina Highlands and Monaro to determine the appropriate network requirements for connecting to both internal and external response agencies.	Emergency Plan (Bushfire)
		3	To maximise the safety of the camp's occupants, the facility's occupants and employees are to be comprehensively and regularly trained to undertake safe first attack firefighting operations. Training is recommended to specifically include the extent of first attack fire operations that can be undertaken without endangering the safety of persons engaged in firefighting activities. The maintenance of equipment related to this will be specifically addressed in the Exploratory Works Bush Fire Management Plan.	Emergency Plan (Bushfire)

Aspect	Impact	Reference	Requirement	Plan Allocation
			4 The Bush Fire Management Plan shall incorporate the provision of a full time, onsite emergency response team (ERT). The ERT should be fully trained and equipped to deal with all potential bush fire events. Snowy Hydro should liaise with the RFS District offices of Riverina Highlands and Monaro to determine the appropriate level of training and equipment required to fulfil this task.	Emergency Plan (Bushfire)
			5 A copy of the Bush Fire Management Plan and Bushfire Evacuation and Response Procedures will be submitted to the NSW RFS District offices of Riverina Highlands and Monaro for comment. Any comments provided by the District offices shall be incorporated into any amended plans.	Emergency Plan (Bushfire)
			6 Snowy Hydro shall liaise with the relevant Bush Fire Management Committees (BFMC) and Local Emergency Management Committees to ensure the committees are aware of the proposal and all assets associated with the proposal are incorporated into future risk management plans.	Emergency Plan (Bushfire)
		PUS03	1 To minimise the consequences of fire incidents involving vehicles engaged in tunnel construction and excavation, all vehicles that are required to enter the tunnel will be fitted with onboard automatic engine fire suppression systems that comply with AS 5062 - 2016. In addition, all vehicles will be provided with portable fire extinguishers that comply with AS 2444 – 2001.	Emergency Response Management Plan
	APZs	PUS04	1 • APZs will be designed implemented and maintained as prescribed in the Bushfire hazard risk assessment (BFHRA).	Emergency Plan (Bushfire)
			2 • At the detailed design stage, consideration will be given to the administration building, for the allowance of an APZ.	Other - Construction &/or Design Requirement
			3 • At the detailed design stage, consideration will be given to the accessibility of fire trucks within the defensible space of the portal construction pad structures, as well as the accessibility to the fire water tanks at this location.	Other - Construction &/or Design Requirement
	Access	PUS05	1 • Consideration should be given to the implementation of passing bays or reversing bays at regular intervals in the upgrade of Upper and Lower Lobs Hole Ravine Road.	Other - Construction &/or Design Requirement
			2 Consideration of marine traffic management to minimise conflict between reservoir users and barge activities during Exploratory Works through the development and implementation of a marine traffic management plan.	Maritime Traffic Management Plan
			2a Mitigation measures to be implemented include: • establishing exclusion zones around barge access infrastructure and at other locations where navigation channel widths are constrained;	Maritime Traffic Management Plan



Aspect	Impact	Reference	Requirement	Plan Allocation
			2b Mitigation measures to be implemented include: • undertaking community notification prior to maritime operations and barging. Posting information material at the boat ramps including the location of exclusion zones and informing on legally enforceable speed restrictions around construction plant and equipment in accordance with the Marine Safety Act 2013; and	Maritime Traffic Management Plan, Community and Stakeholder Engagement Plan
			2c Mitigation measures to be implemented include: • ensuring construction plant and equipment are fitted with Automatic Identification Systems.	Maritime Traffic Management Plan
			3 At the detailed design stage, consideration should be given to a fire trail, around the perimeter of the accommodation camp and within the APZ of the camp.	Other - Construction &/or Design Requirement
			4 A community bush fire refuge will be provided at Lobs Hole providing a refuge for anyone caught out by fire preventing an evacuation. This will include those staying at the accommodation camp.	Emergency Plan (Bushfire)
			5 Appropriate access standards for staff, fire fighters, emergency service workers and those involved in evacuation will be provided.	Emergency Plan (Bushfire)
	Water supply	PUS06	1 Adequate water supply and pressure is to be designed, implemented and maintained during construction for firefighting purposes. If spray systems are to be incorporated into the design of the buildings, dedicated fire water supplies will be increased to accommodate the systems. To facilitate safe first attack fire-fighting operations by staff, all buildings of the accommodation camp will be served by a fire hose reel system. Regardless of any floor area thresholds or other exclusions permitted in Clause E1.4 of the National Construction Code, the fire hose reel system will serve all buildings (irrespective of occupancy classification) and comply with all other requirements of Clause E 1.4 of the National Construction Code and AS 2441.	Other - Construction &/or Design Requirement
	Services (gas and electricity)	PUS07	1 Location and maintenance of services will be carried out so as not to contribute to the risk of bush fire or impede the firefighting effort.	Other - Construction &/or Design Requirement
	Buildings, facilities and storage areas	PUS08	1 Buildings are to be constructed in accordance with relevant National Construction Code, Building Code of Australia and Australian Standards. To maximise the safety of the camp's occupants, the accommodation camp's buildings or parts of buildings that are classified as Class 1 a, 1 b, 2, 3, 4 or 9b under the provisions of Volume One of the National Construction Code will be provided with a smoke alarm system or detection system (as applicable). All buildings are to be provided with portable fire extinguishers that are suitable for the fire hazard protected and in accordance with the requirements of AS 2444 - 2001.	Emergency Plan (Bushfire)

Aspect	Impact	Reference	Requirement	Plan Allocation
			2 Diesel generators and associated fuel storage at the portal construction pad, construction compound at Lobs Hole and the barge access (north and south) infrastructure will need to be designed, housed and maintained so that they will not serve as a risk to surrounding bushland and will be located away from the hazard, wherever possible.	Emergency Plan (Bushfire)
			3 A suitable storage facility will be designed for storage of the ammunition for blasting activities and fuel storage, to prevent ignition of surrounding vegetation and to reduce the storage area susceptibility to bush fire impacts.	Emergency Plan (Bushfire)
MOD 2 – Bushfire	Emergency Access	MOD2 - 004	The Exploratory Works Bushfire Management Plan will be reviewed and, if required, updated to include the revised secondary access arrangements for Lobs Hole via Lobs Hole Ravine Road (North).	Emergency Plan (Bushfire)

## AS/NZS ISO 14001:2016 ENVIRONMENTAL MANAGEMENT SYSTEMS

ISO14001:2016 Elements		Where addressed
Context of the organisation	Understanding the organisation and its context	Sections 1.1, 1.3, 1.4, 3, 4.2, 4.3.
	Understanding the needs and expectations of interested parties	Sections 1.1, 1.3, 1.4, 5, 6, 7
	Determining the scope of the Environmental Management System	Sections 1, 2, 4
	Environmental Management System	Section 4
Leadership	Leadership and commitment	Sections 4, 5, 8
	Environmental Policy	Section 4.1.1
	Organisational roles and responsibilities	Section 4.2
Planning	Actions to address risks and opportunities	Sections 4.3, 5, 7, 8
	Environmental objectives and planning to achieve them	Section 4, 5
Support	Resources	Sections 4.2, 5
	Communication	Section 6
	Documented information	Sections 1.6, 8.4, 9
Operation	Operational planning and control	Sections 4.1, 7, 8,
	Emergency preparedness and response	Section 7
Performance evaluation	Monitoring, measurement, analysis and evaluation	Section 8
	Internal audit	Section 8.3
	Management review	Section 1.6
Improvement	General	Section 1.6
	Non-conformity and corrective action	Sections 7, 8.5
	Continual improvement	Sections 1.6, 8.3



## APPENDIX A2 – ENVIRONMENTAL POLICY

# 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 A3 – 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 - Fauna handling training by FGJV Environment Team	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 project boundary	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 (SAPs) - ITP for clearing and grubbing	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
3	Earthworks/Roadworks	Biodiversity	Removal of vegetation/habitat not permitted to be impacted by the project approval	Vegetation clearing outside of project boundary	Unauthorised impact to flora / National Park Project delays Financial penalties Reputational impacts	4 - Major	3 - Possible	12 - High	- Biodiversity Management Plan - Excavated Material Management Plan - Exclusion zones and defined clearing limits and no-go zones - Training of contractors on environmental exclusion zones and consequences - Sensitive Area Plans (SAPs) - ITP for clearing and grubbing	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
4	Earthworks/Roadworks	Biodiversity	Impacts on vegetation/habitat beyond the project boundary	Improper stockpiling of excavated material and engineered fill	Unapproved impacts beyond project boundary Potential regulatory action from agencies Project delays Financial penalties Reputational impacts	3 - Moderate	3 - Possible	9 - Medium	- Excavated Material Management Plan - Stockpiling procedure - allocated stockpile areas - Training for all contractors - Biodiversity Management Plan	3 - Moderate	1 - Rare	3 - Low	Future Generation
5	Construction of waterway crossings	Biodiversity	Loss of aquatic habitat not permitted to be impacted by the project approval	Clearing outside the project footprint, plant operation and excavation outside project footprint	Unapproved impacts beyond project boundary 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 (SAPs) - ITP for clearing and grubbing	3 - Moderate	1 - Rare	3 - Low	Future Generation
6	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 (SAPs) - ITP for clearing and grubbing	2 - Minor	2 - Unlikely	4 - Low	Future Generation
7	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 - Aquatic Habitat Management Plan - Murray Crayfish Trigger Action and Response Plan (TARP) - Internal Fish Kill Reporting Protocol - Threatened Species and Aquatic Habitat Management Plan - Unexpected Aquatic Species Finds Procedure - ITP for clearing and grubbing	2 - Minor	2 - Unlikely	4 - Low	Future Generation
8	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 project footprint	Unauthorised impact to fauna (and potentially threatened fauna) Unapproved impacts beyond project boundary Potential regulatory action from agencies	3 - Moderate	3 - Possible	9 - Medium	- Biodiversity Management Plan - Aquatic Habitat Management Plan - Threatened Species and Aquatic Habitat Management Plan - Aquatic Habitat Restoration Program - training for contractors - Sensitive Area Plans (SAPs) - ITP for clearing and grubbing	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
9	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 - Aquatic Habitat Management Plan	4 - Major	1 - Rare	4 - Low	Future Generation
10	Subaqueous spoil emplacement	Biodiversity	Loss of aquatic fauna and habitat in exceedance of the approved impacts	Improper locating of spoil emplacement within Talbingo Reservoir	Unauthorised impact to fauna (and potentially threatened fauna) Impacts to aquatic fauna population Loss of threatened species within Talbingo Reservoir	4 - Major	3 - Possible	12 - High	- Dredging Management Plan - Aquatic Habitat Management Plan	4 - Major	2 - Unlikely	8 - Medium	Future Generation
11	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 - Traffic Management Plan - Drivers Code of Conduct - limited access hours within Smoky Mouse habitat (no night-time access)	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
12	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 and Feral Animal Management Plan - Weed and seed washdown inspections and logging - Offsite washdown facility for plant prior to delivery to site. - hygiene inspections of vehicle prior to accessing site	4 - Major	2 - Unlikely	8 - Medium	Future Generation
13	Stockpile/spoil emplacement	Biodiversity	Introduction and spread of weeds, pests and pathogens causing native/threatened species population declines within KNP	Disturbance of natural areas and storage of spoil provides opportunity for weeds to establish and spread beyond the project area	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	3 - Moderate	4 - Likely	12 - High	- Biodiversity Management Plan - Weed and Feral Animal Management Plan	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
14	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 strategy - 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
15	Vegetation Clearing	Surface water	- Erosion and sedimentation - Contamination of surface water and breach of EPL water quality performance standards	Newly exposed sediment and top soil 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 strategy - clean water diversions - Sediment basins and water treatment - Trigger Action Response Plan	4 - Major	2 - Unlikely	8 - Medium	Future Generation
16	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 Plan - Erosion and sediment control strategy - 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

No	Activity	Environmental Aspect	Risk	Cause	Possible Outcome	Consequence	Likelihood	Initial Risk Rating	Risk Treatment(s)	Consequence	Likelihood	Residual Risk Rating	Risk Owner
17	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	<ul style="list-style-type: none"> <li>- Water Management Plan</li> <li>- Dredging Management Plan</li> <li>- Subaqueous Emplacement Management Plan</li> <li>- Surface Water Management Plan</li> <li>- Trigger Action Response Plan</li> </ul>	4 - Major	2 - Unlikely	8 - Medium	Future Generation
18	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	<ul style="list-style-type: none"> <li>- Water Management Plan</li> <li>- Surface Water Management Plan</li> <li>- Spill Response Procedure</li> <li>- Training of drivers and relevant personnel</li> <li>- Trigger Action Response Plan</li> <li>- Refuelling and washdown in designated areas</li> </ul>	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
19	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	Hydrocarbon pollution Potential regulatory action from agencies Financial penalties Reputational impacts	4 - Major	3 - Possible	12 - High	<ul style="list-style-type: none"> <li>- Water Management Plan</li> <li>- Surface Water Management Plan</li> <li>- Bunded areas for storage of fuels and oils</li> <li>- Spill Response Procedure</li> <li>- provision of spill response kits</li> <li>- Trigger Action Response Plan</li> </ul>	4 - Major	2 - Unlikely	8 - Medium	Future Generation
20	Storage of hazardous materials	Groundwater	Contamination of groundwater	Spill or leaks of stored hazardous material dispersing into ground water	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"> <li>- Water Management Plan</li> <li>- Groundwater Management Plan</li> <li>- Groundwater monitoring</li> <li>- Bunded areas for storage of fuels and oils</li> <li>- Spill Response Procedure</li> <li>- Provision of spill response kits</li> <li>- Trigger Action Response Plan</li> </ul>	4 - Major	2 - Unlikely	8 - Medium	Future Generation
21	Exploratory 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	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"> <li>- Water Management plan</li> <li>- Groundwater Management Plan</li> <li>- Groundwater level and quality monitoring</li> </ul>	3 - Moderate	1 - Rare	3 - Low	Future Generation
22	Subaqueous spoil emplacement	Surface water	Contamination of surface water, breach of EPL water quality performance standards	Inadequate management of sub-aqueous spoil emplacement procedures	Adverse water quality impacts Loss of amenity Potential regulatory action from agencies	4 - Major	3 - Possible	12 - High	<ul style="list-style-type: none"> <li>- Excavated Material Management Plan</li> <li>- Water Management Plan</li> <li>- Surface Water Management Plan</li> </ul>	4 - Major	2 - Unlikely	8 - Medium	Future Generation
23	Stockpile/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	<ul style="list-style-type: none"> <li>- Excavated Material Management Plan</li> <li>- Covering or vegetation of stockpiles to prevent erosion</li> <li>- Water Management Plan</li> <li>- Surface Water Management Plan</li> <li>- Erosion and sediment control strategy</li> <li>- clean water diversions</li> <li>- Sediment basins and water treatment</li> <li>- Trigger Action Response Plan</li> </ul>	4 - Major	2 - Unlikely	8 - Medium	Future Generation
24	Tunnelling and blasting, stockpile 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	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"> <li>- Excavated Material Management Plan</li> <li>- Stockpiling procedure</li> <li>- allocated stockpile areas</li> <li>- Training for all contractors</li> <li>- Naturally occurring Asbestos risk map</li> <li>- Acid metalliferous drainage risk map</li> <li>- Geotechnical investigations to aid in predicting NOA presence</li> <li>- NOA Management Plan</li> <li>- Waste Management Plan</li> </ul>	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
25	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	Adverse water quality impacts Loss of amenity Potential regulatory action from agencies	4 - Major	3 - Possible	12 - High	<ul style="list-style-type: none"> <li>- Water Management Plan</li> <li>- Surface Water Management Plan</li> <li>- Baseline water quality data</li> <li>- Surface Water monitoring Plan</li> <li>- Erosion and sediment control strategy</li> <li>- clean water diversions</li> <li>- process and intercepted water management</li> <li>- Sediment basins and water treatment</li> <li>- Trigger Action Response Plan</li> </ul>	4 - Major	2 - Unlikely	8 - Medium	Future Generation
26	Clearing, Earthworks, stockpiling, tunnelling and remediation	Landform	Loss of visual amenity	Earthworks, spoil emplacement and vegetation clearing not adequately remediated following completion of the project.	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"> <li>- Minimise soil and vegetation clearance</li> <li>- sensitive area plans</li> <li>- ITP for clearing and grubbing</li> <li>- Rehabilitation Management Plan</li> </ul>	3 - Moderate	2 - Unlikely	3 - Low	Future Generation
27	Clearing, 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	Unapproved impacts beyond project boundary Loss of geodiversity values Potential regulatory action from agencies Reputational impacts	3 - Moderate	3 - Possible	9 - Medium	<ul style="list-style-type: none"> <li>- ITP for clearing and grubbing</li> <li>- Sensitive Area plans</li> <li>- Historic and Natural Heritage Management Plan identifies areas of conservation significance</li> <li>- Unexpected finds protocol</li> </ul>	3 - Moderate	2 - Unlikely	3 - Low	Future Generation
28	Clearing, stockpiling, contamination management / capping, tunnelling	Landform	Changes to landform and natural water flows	Earthworks, stockpiles, spoil emplacement and structures disrupting existing surface and groundwater regimes	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"> <li>- Water Management plan and surface and groundwater sub-plans</li> <li>- Management procedures for tunnel interaction with groundwater</li> <li>- Excavated Material Management Plans</li> <li>- pre-determined stockpile areas have been assessed for hydrological impacts in the EIS</li> </ul>	3 - Moderate	1 - Rare	3 - Low	Future Generation
29	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 assessed for sensitive area/item impacts	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"> <li>- ITP for clearing and grubbing</li> <li>- Sensitive Area plans</li> <li>- Historic and Natural Heritage Management Plan identifies areas of conservation significance</li> <li>- Blast Management Plan</li> <li>- Noise and Vibration Management Plan</li> </ul>	3 - Moderate	2 - Unlikely	3 - Low	Future Generation
30	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	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"> <li>- Historic and Natural Heritage Management Plan</li> <li>- Aboriginal Heritage Management Plan</li> <li>- Archival recording and salvage</li> <li>- Permit-to-enter no-go zones</li> <li>- Exclusion zones and defined clearing limits</li> <li>- Induction to include heritage content and unexpected finds protocol</li> </ul>	2 - Minor	1 - Rare	2 - Low	Future Generation
31	Earthworks, vegetation clearing, blasting, transport of plant	Noise and vibration	Increased noise and vibration levels at sensitive receivers	Noise levels from construction activities and transport of materials, equipment and personnel exceeds the levels assessed in the Project approval. Works change from those assessed. The project site is remote from sensitive receivers, noise impacts are more likely an issue along the access route through local towns including Cooma, Adaminaby, Talbingo.	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"> <li>- Noise and Vibration Management Plan</li> <li>- Traffic Management Plan</li> <li>- Defined out of hours work protocol</li> </ul>	3 - Moderate	1 - Rare	3 - Low	Future Generation
32	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	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"> <li>- Blast Management plan</li> <li>- Noise and Vibration Management Plan</li> <li>- exclusion areas and Sensitive Area Plans</li> </ul>	2 - Minor	1 - Rare	2 - Low	Future Generation



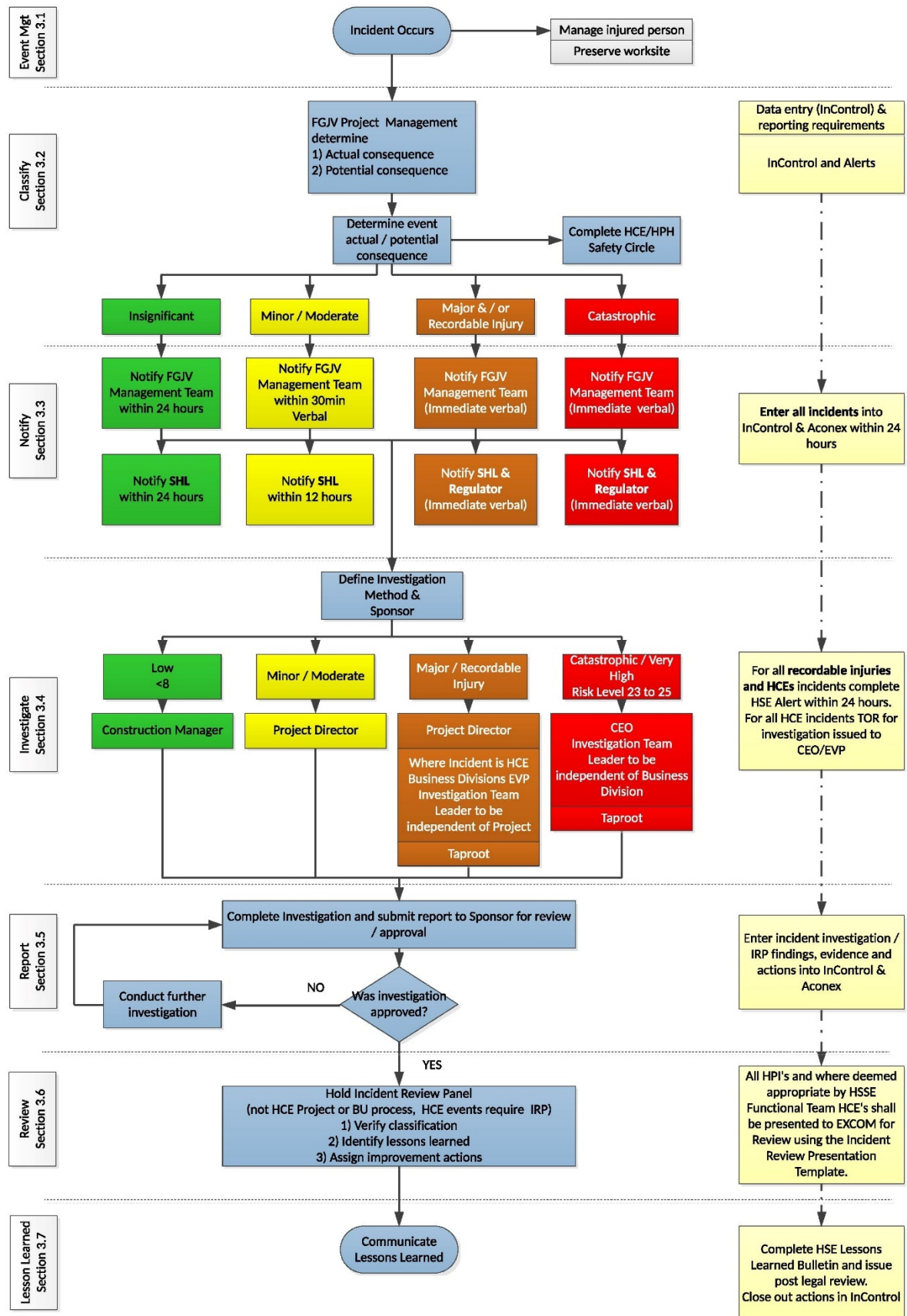
No	Activity	Environmental Aspect	Risk	Cause	Possible Outcome	Consequence	Likelihood	Initial Risk Rating	Risk Treatment(s)	Consequence	Likelihood	Residual Risk Rating	Risk Owner
33	Earthworks, blasting, transport of plant	Noise and vibration	Fauna disturbance/relocation	Construction activities in fauna habitats causes fauna to relocate away from area.	Reduction in localised population of fauna including threatened species Adverse fauna monitoring impacts	2 - Minor	4 - Likely	8 - Medium	- defined hours of construction activities - Sensitive area mapping identifies fauna habitats of significance - Biodiversity Management Plan	2 - Minor	3 - Possible	6 - Medium	Future Generation
34	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	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	- Noise and Vibration Management Plan implemented - Defined out of hours work protocol - Noise monitoring at the commencement of works to evaluate impacts and establish additional mitigation where required	3 - Moderate	1 - Rare	3 - Low	Future Generation
35	Rock crushing/screening	Air Quality	Increased dust emissions	Rock crushing and screening activities not implementing adequate dust suppression mitigation	Excessive dust emission/deposition in surrounding environment Air quality impacts exceed the approved project levels Adverse biodiversity impacts	3 - Moderate	4 - Likely	12 - High	- Air Quality Management Plan	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
36	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	Excessive dust emission/deposition in surrounding environment Air quality impacts exceed the approved project levels Adverse biodiversity impacts	3 - Moderate	4 - Likely	12 - High	- Air Quality Management Plan implemented - dust-suppression through use of water cart	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
37	Vegetation clearing, spoil emplacement	Air Quality	Visible dust plumes and deposition of dust on surfaces, impacts to amenity, Dust generation from exposing of top soil and sub soil through vegetation removal,	Exposed sediment and stockpiled fines become airborne in strong winds and carried to other areas	Excessive dust emission/deposition in surrounding environment Air quality impacts exceed the approved project levels Adverse biodiversity impacts	3 - Moderate	4 - Likely	12 - High	- Air Quality Management Plan implemented - Excavated Materials Management Plan implemented - dust-suppression through use of water cart - rehabilitation/stabilisation of cleared areas where possible	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation
38	Spoil management, exploratory 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	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	- Excavated Material Management Plan - Stockpiling procedure - allocated stockpile areas - Training for all contractors - Naturally occurring Asbestos risk map - Acid metalliferous drainage risk map - Geotechnical investigations to aid in predicting NOA presence - NOA Management Plan - Waste Management Plan	5 - Severe	2 - Unlikely	10 - Medium	Future Generation
39	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
40	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	- Waste Management Plan - Emergency Response Plan to address spills - Spill Management Protocol - use of licensed disposal contractors - Appropriate bunded storage of hazardous materials	4 - Major	2 - Unlikely	8 - Medium	Future Generation
41	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
42	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 Management Plan - Employee training on waste management and separation of waste streams - use of licensed waste disposal contractors - Waste tracking and register of waste disposal - regular inspection of controls	4 - Major	2 - Unlikely	8 - Medium	Future Generation
43	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	- Traffic 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	2 - Minor	2 - Unlikely	4 - 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
									- Personnel to remain on site to reduce commute time and transport requirements				
44	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 - ITP for clearing and grubbing	2 - Minor	1 - Rare	2 - Low	Future Generation
45	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	- Bushfire Management Plan - permit process for fire risk works in hazardous areas - continuous monitoring of fire hazard throughout bushfire season - suspension of fire risk work on days of elevated fire danger in accordance with the BMP - 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
46	Earthworks	Emergency	Localised flooding within project boundary	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
47	Earthworks/Roadworks	Traffic	Disturbance / traffic delays to local residents	Roadworks on local roads blocking or excessively delaying traffic movements and thoroughfare.	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	- Traffic Management Plan - Traffic Control Plans - engagement with community to manage expectations - Community and Stakeholder Engagement Plan	3 - Moderate	3 - Possible	9 - Medium	Future Generation
48	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.	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	- Traffic Management Plan - approved vehicle movement plans - manage timing of OSOM movements - Driver code of conduct - engagement with community to manage expectations	3 - Moderate	3 - Possible	9 - Medium	Future Generation
49	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	Loss of community support for the project	3 - Moderate	3 - Possible	9 - Medium	- Community and Stakeholder Engagement Plan - 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
50	Inflow of workforce to local area	Socio economic and KNP	Business impacts, increased housing demand	Workforce size relocating to local area	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	- 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
55	Tunnelling and blasting	Hazardous materials	Spoil contains significant amount of natural asbestos	A band of rock with a significant concentration of natural asbestos is breached by site excavations or tunnelling	Additional costs for treatment of contaminated spoil Impact of additional NOA affected spoil	2 - Minor	3 - Possible	6 - Medium	- Geotechnical investigation to test for presence of asbestos bearing formations - Contingency plan for treatment and removal of contaminated spoil - Design to avoid areas of known asbestos contamination as much as possible (cost/benefit)	2 - Minor	1 - Rare	2 - 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
56	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 fire fighting equipment - Safety and emergency systems and procedures - implement preparatory actions of Bushfire Management Plan	3 - Moderate	2 - Unlikely	6 - Medium	Future Generation

## APPENDIX A4 – ENVIRONMENTAL INCIDENT PROCESS



FGJV	Definition	Description	Notification/Reporting process
<b>Very High/ Catastrophic</b>	<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"> <li>• When there has been actual or potential harm to the health or safety of people or to the environment that is not trivial</li> <li>• Actions required to prevent, mitigate or make good the actual or potential environmental harm are likely to exceed \$10,000</li> </ul>	<p>Actual High category incidents will be escalated to the Executive when they have the potential for:</p> <ul style="list-style-type: none"> <li>• Regulatory action (e.g. EPA/DPIE Penalty Infringement Notice) and/or</li> <li>• Reputational damage (e.g. media coverage) and/or</li> <li>• Significant environmental harm.</li> </ul>	<ul style="list-style-type: none"> <li>• Incident occurs -construction team make safe and immediately notify supervisor and HSSE Team.</li> <li>• FGJV HSSE Manager/Environment Manager notify FGJV Project team, SHL immediately</li> <li>• SHL to notify DPIE/EPA immediately (DPIE on compliance email and EPA on pollution line 131 555)</li> <li>• FGJV Project Director/HSSE Manager Notify Clough Business Division Team within 2 hours</li> <li>• FGJV HSSE project team enters incident report into InControl within 24 hours</li> <li>• FGJV HSSE team notifies the SHL via aconex with incident report within 24 hours.</li> <li>• SHL to provide EPA/DPIE report written report within 7 days of non-compliance within 7 days</li> </ul>
<b>Major</b>	<p>Potential breaches of legislation or failures of process that result in actual off-site environmental harm, or residual on-site environmental harm</p> <p>or</p> <p>Works undertaken outside approved areas, without required approval or without environmental assessment</p> <p>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><b>Pollution Incidents</b></u></p> <ul style="list-style-type: none"> <li>• Discharge of waters from site not in accordance with any approval requirements safeguard or Environment Protection Licence (EPL) condition)</li> <li>• Pollution, or potential pollution, of waters</li> <li>• 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 and/or might impact on nearby land users</li> <li>• Pollution incidents that threaten harm to the health or safety of people (e.g. uncontrolled releases of hazardous substances)</li> <li>• Unauthorised or illegal disposal or transport of waste</li> <li>• A spill or other incident that causes pollution to land</li> </ul> <p><u><b>Conservation Breaches</b></u></p>	<ul style="list-style-type: none"> <li>• Incident occurs -construction team make safe and immediately notify supervisor and HSSE Team.</li> <li>• FGJV HSSE Manager/Environment Manager notify FGJV Project team, SHL immediately</li> <li>• SHL to notify DPIE/EPA immediately (DPIE on compliance email and EPA on pollution line 131 555)</li> <li>• FGJV Project Director/HSSE Manager Notify Clough Business Division Team within 4 hours</li> <li>• FGJV HSSE project team enters incident report into InControl within 24 hours</li> <li>• FGJV HSES team notifies the SHL via aconex with incident report within 24 hours.</li> <li>• SHL to provide EPA/DPIE report written report within 7 days of non-compliance within 7 days</li> </ul>

		<ul style="list-style-type: none"> <li>Unauthorised harm or damage to native flora and fauna (terrestrial or aquatic/marine)</li> <li>Unauthorised dredging or reclamation works within a watercourse</li> </ul> <p><b><u>Heritage Breaches</u></b></p> <ul style="list-style-type: none"> <li>Unauthorised harm to Aboriginal objects, Aboriginal places</li> <li>Unauthorised damage to any State or locally significant relic or Heritage item,</li> </ul> <p><b><u>Planning and Compliance Breaches</u></b></p> <p>Failure to comply with the requirements of:</p> <ul style="list-style-type: none"> <li>The <i>Environmental Planning and Assessment Act 1997</i> (EP&amp;A Act), including Conditions of Approval</li> <li>An <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) approval</li> <li>An EPL</li> <li>A CEMP or environmental work method statement</li> <li>A permit from a regulator</li> <li>NPWS Lease</li> </ul>	
<b>Minor/ Moderate</b>	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"> <li>Failure to prepare or submit required documents, reports or other correspondence</li> <li>Failure to comply with the requirements of:</li> <li>The <i>Environmental Planning and Assessment Act 1997</i> (EP&amp;A Act), conditions of approvals</li> <li>An <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) approval</li> <li>An EPL</li> <li>A CEMP or environmental work method statement</li> <li>A permit from a regulator</li> </ul>	<ul style="list-style-type: none"> <li>Incident occurs -construction team make safe and immediately notify supervisor and HSSE Team.</li> <li>FGJV HSSE Manager/Environment Manager notify FGJV Project team, and SHL</li> <li>SHL to notify DPIE/EPA (if required)</li> <li>FGJV Project Director/HSSE Manager Notify Clough Business Division Team within 12 hours</li> <li>FGJV HSSE project team enters incident report into InControl within 24 hours</li> <li>FGJV HSSE team notifies the SHL via aconex with incident report within 24 hours.</li> </ul>

		<ul style="list-style-type: none"> <li>NPWS Lease</li> </ul>	<ul style="list-style-type: none"> <li>SHL to provide EPA/DPIE report written report within 7 days of non-compliance within 7 days (if required)</li> </ul>
<b>Low/ Insignificant</b>	<p>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>	<ul style="list-style-type: none"> <li>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</li> <li>Procedural, administrative or technical breach of environmental requirements, including: <ul style="list-style-type: none"> <li>Failure to prepare or submit required documents, reports or other correspondence</li> <li>Failure to comply with the requirements of: <ul style="list-style-type: none"> <li>Environmental work method statement</li> <li>An internal permit</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Incident occurs -construction team make safe and immediately notify supervisor and HSSE Team.</li> <li>FGJV HSSE Manager/Environment Manager notify FGJV Project team, and SHL within 24 hours</li> <li>FGJV HSSE project team enters incident report into InControl within 24 hours</li> <li>FGJV HSSE team notifies SHL via aconex with incident report within 24 hours.</li> </ul>



## APPENDIX A5 – SENSITIVE AREA PLANS – SITE SPECIFIC PLANS PREPARED FOR EACH WORK PACK

## APPENDIX A6 – EXPLORATORY WORKS – PROJECT BOUNDARY FIGURES

APPENDIX 2 – SITE LAYOUT

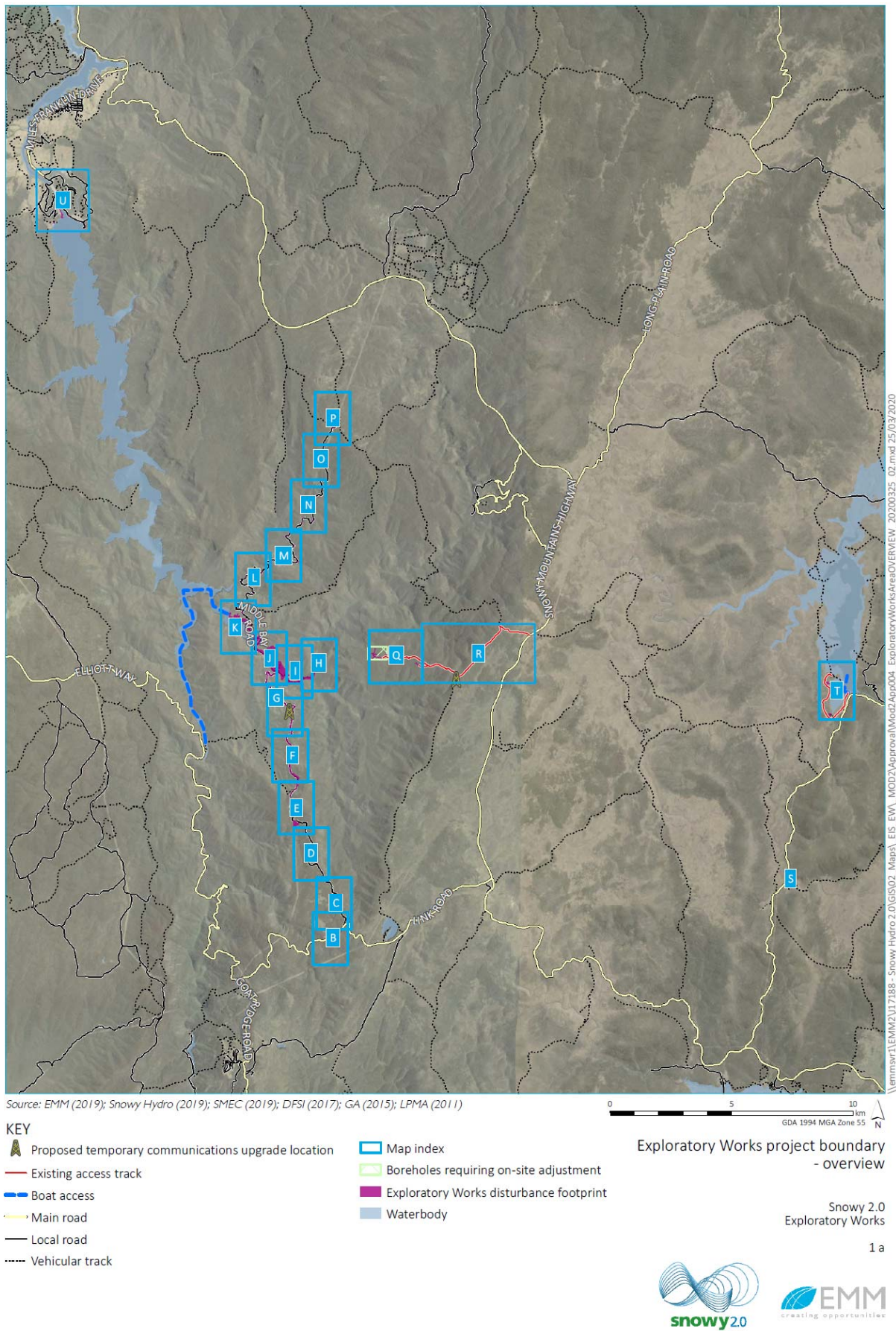
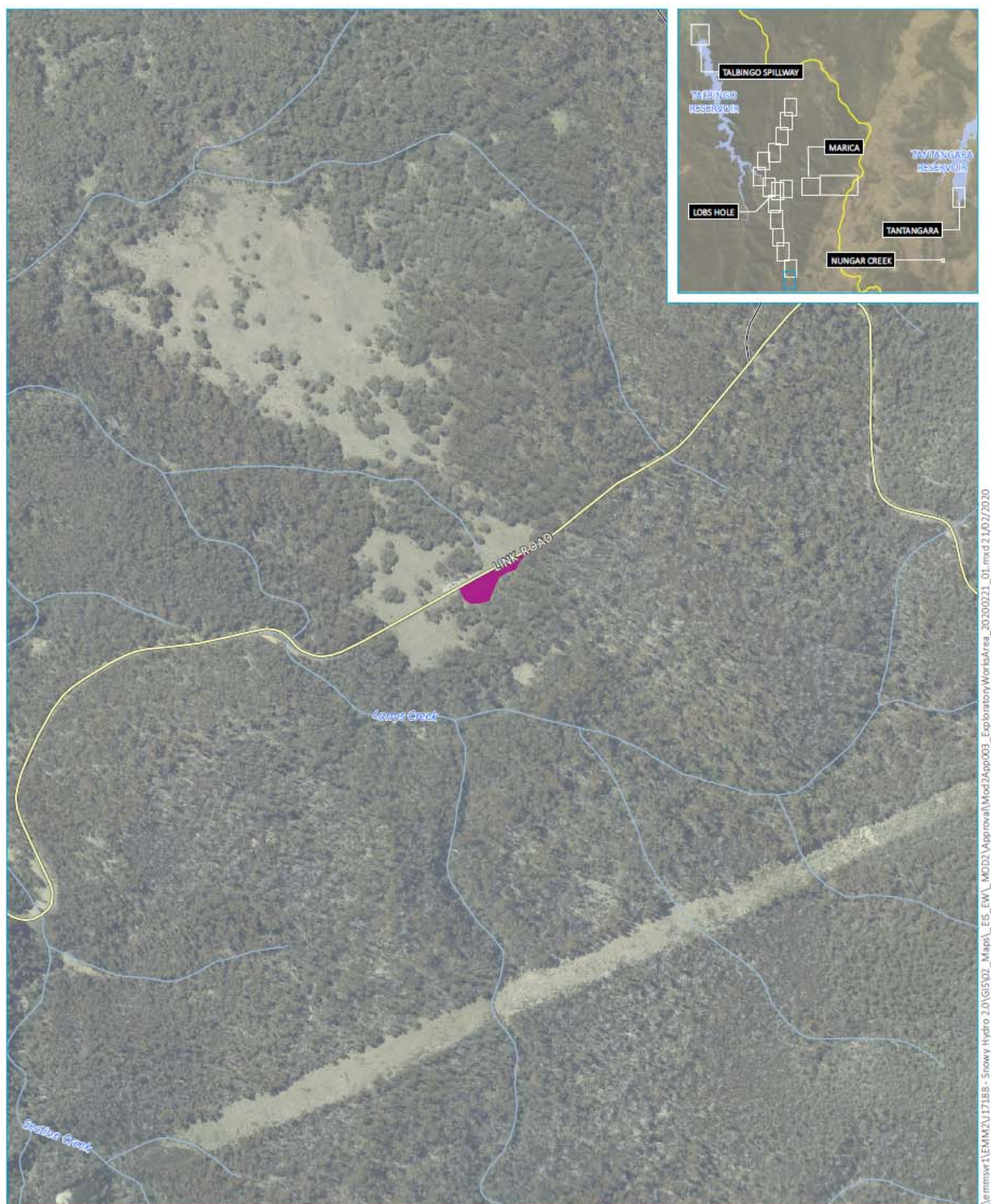


Figure 2-1: Project Boundary – Overview





Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Dangerous tree
- Main road
- Local road
- Watercourse/drainage line
- Exploratory Works disturbance footprint

GDA 1994 MGA Zone 55

Exploratory Works project boundary  
- Link Road turnaround area

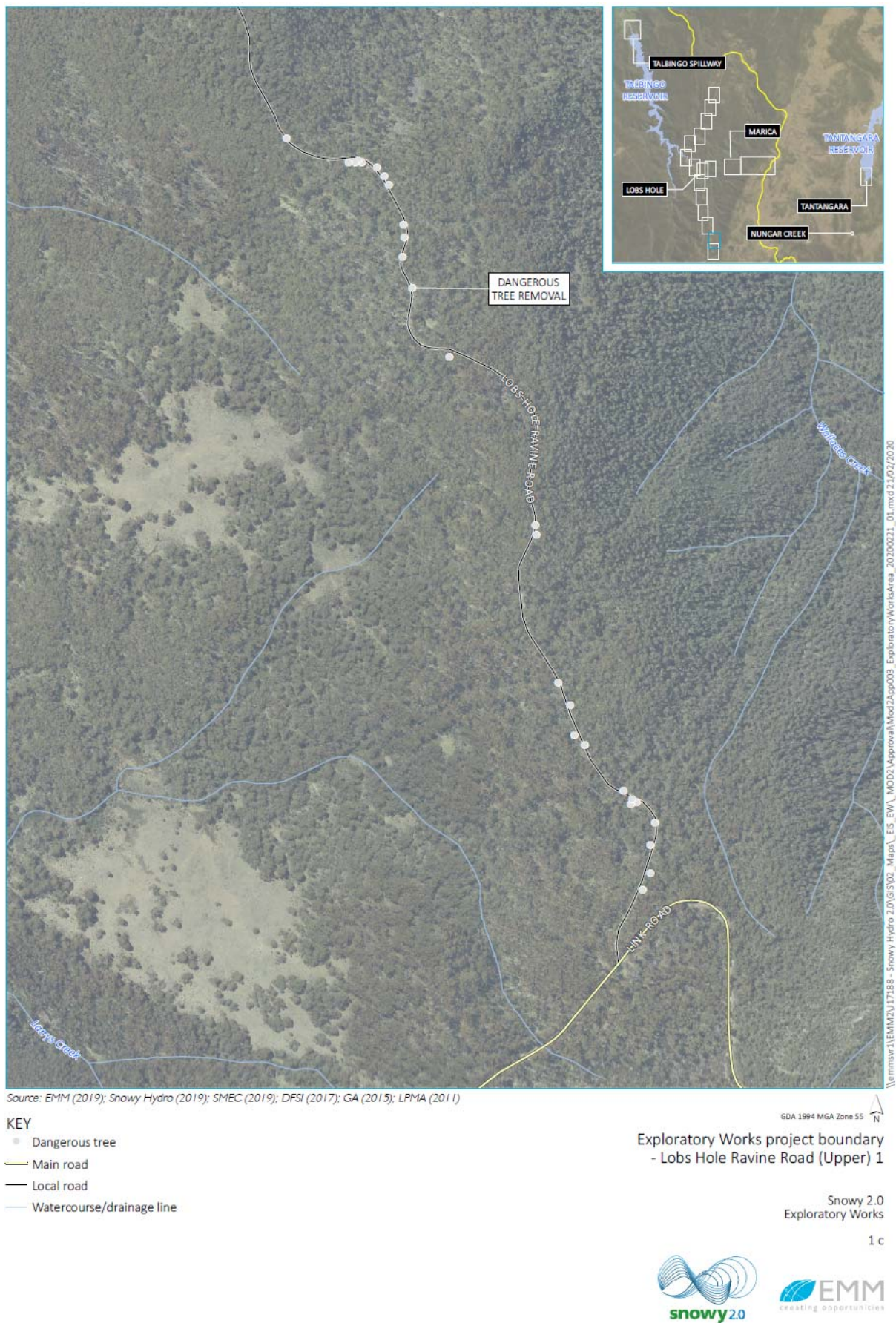
Snowy 2.0  
Exploratory Works

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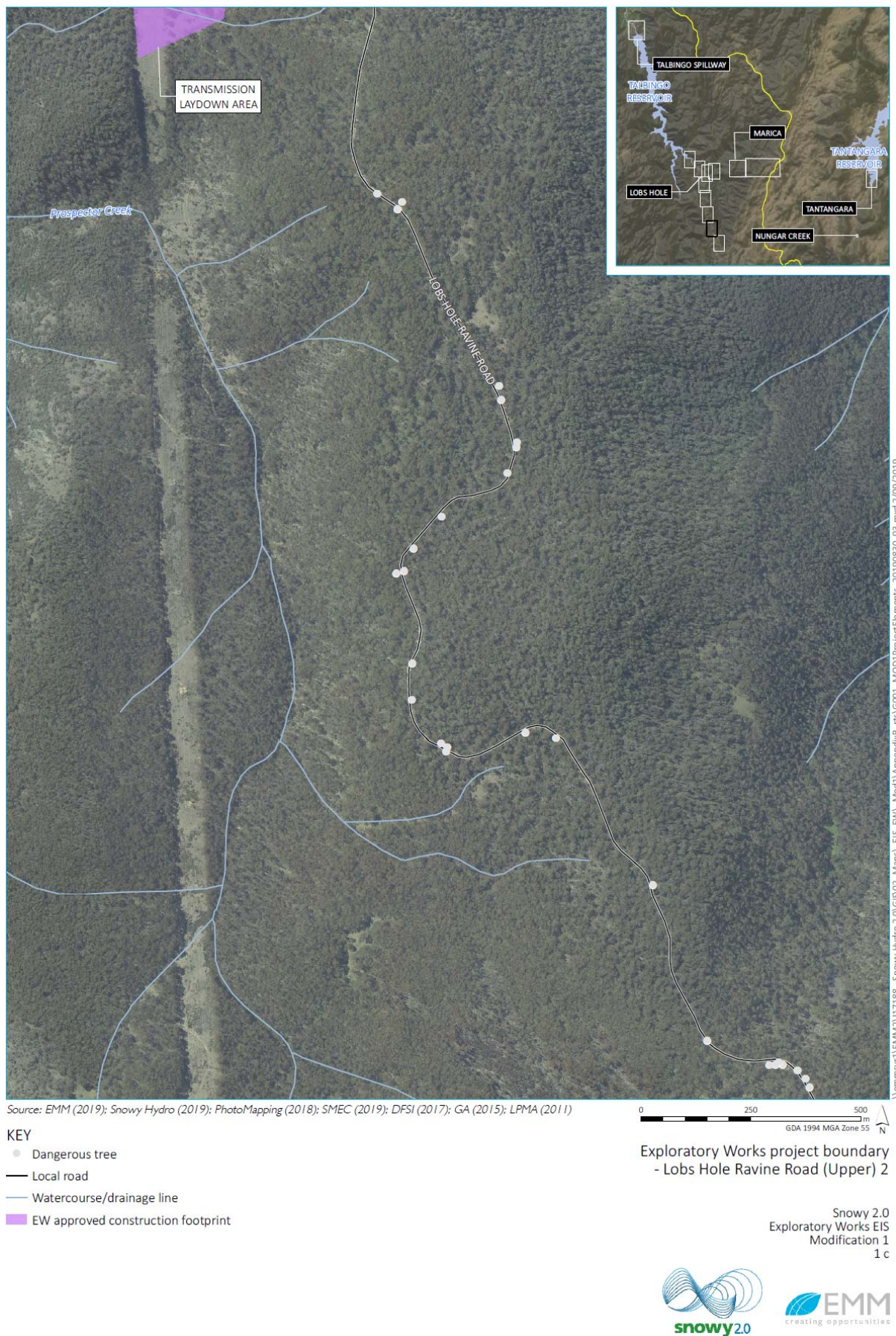
**Figure 2-2: Project Boundary – Link Road turnaround area**





**Figure 2-3: Project Boundary – Lobs Hole Ravine Road (Upper) 1**



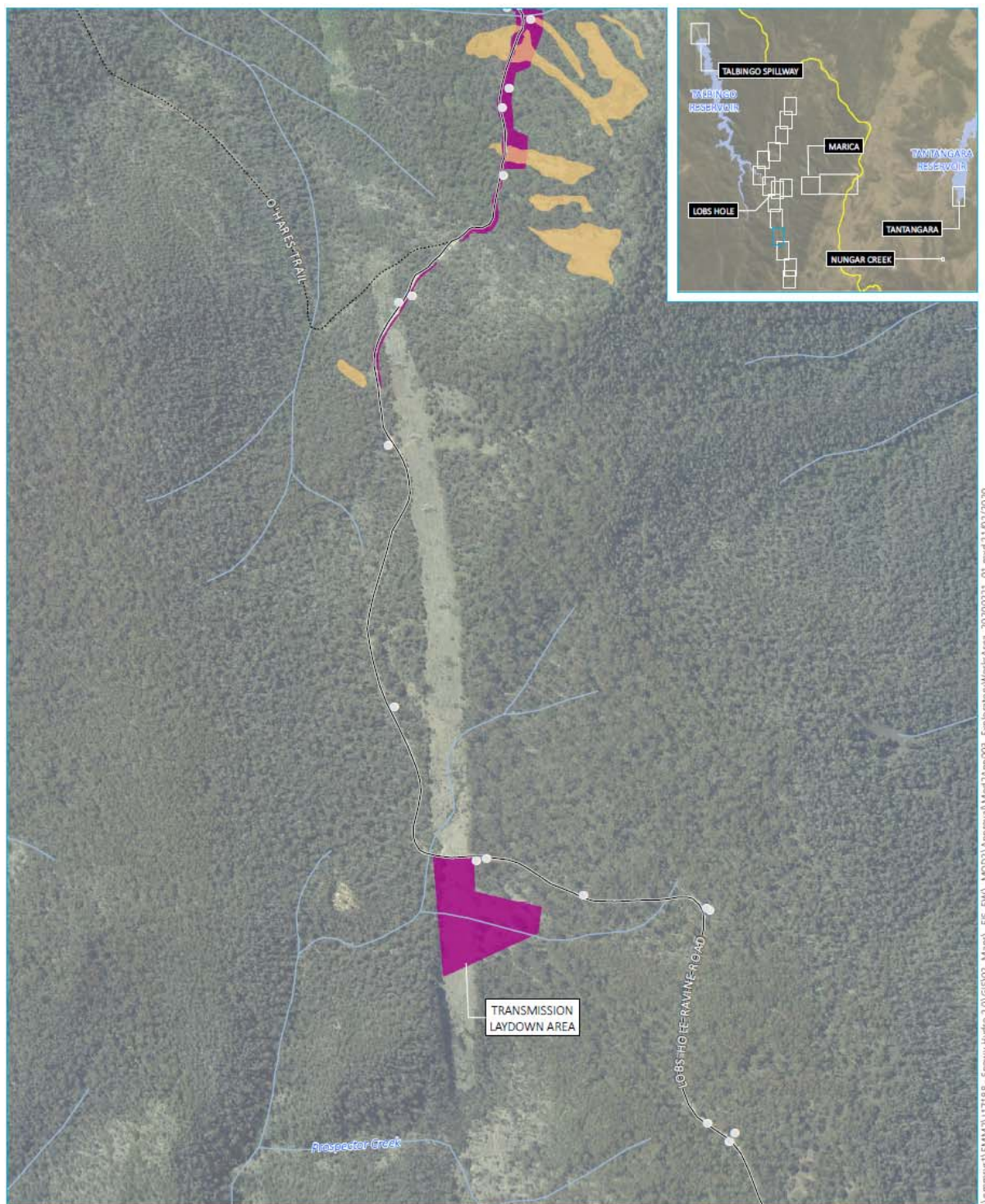


**Figure 2-4: Project Boundary – Lobs Hole Ravine Road (Upper) 2**









Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Dangerous tree
- Local road
- Vehicular track
- Watercourse/drainage line
- Boulder stream
- Exploratory Works disturbance footprint

GDA 1994 MGA Zone 55

Exploratory Works project boundary  
- Lobs Hole Ravine Road (Upper) 3

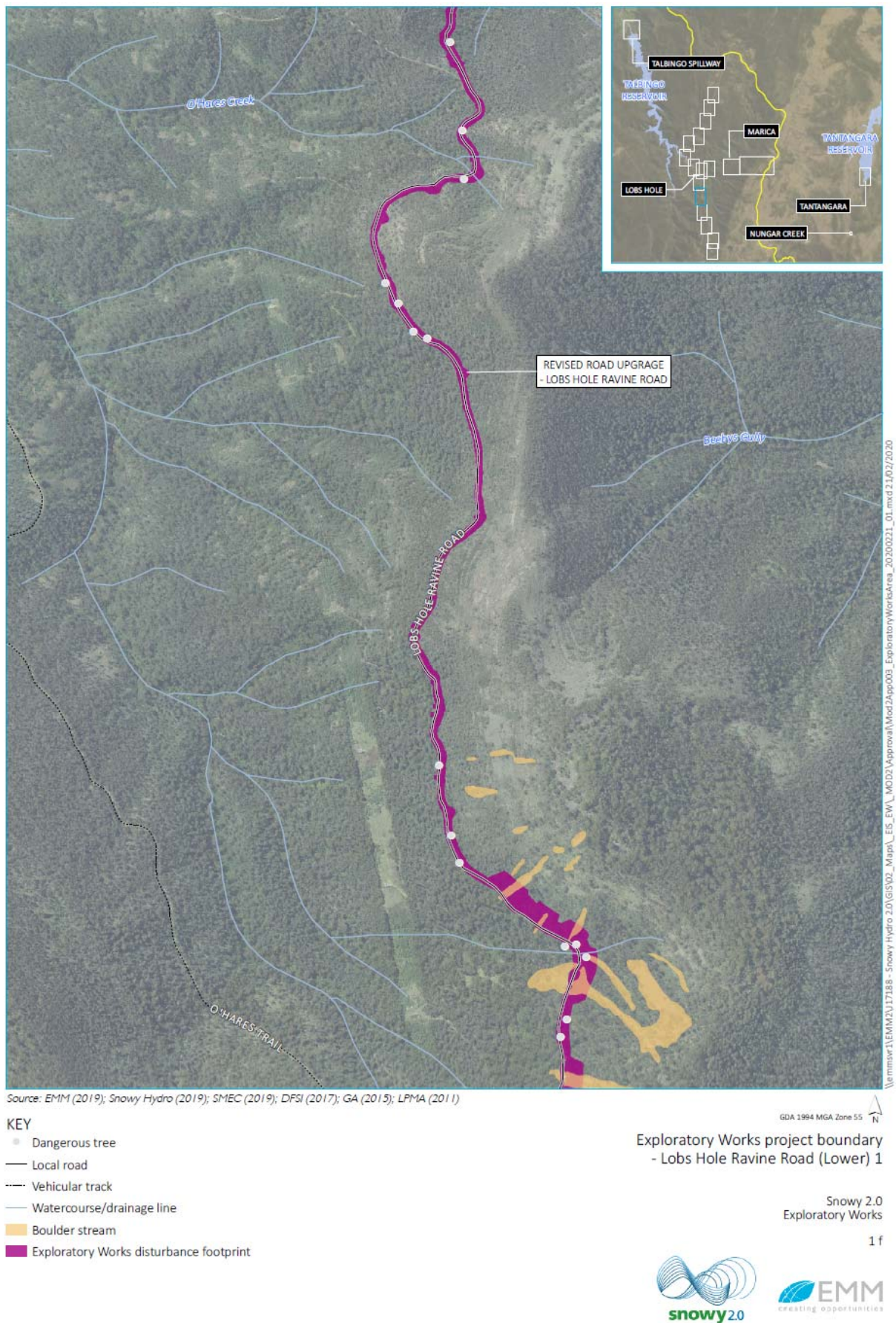
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Exploratory Works

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**Figure 2-6: Project Boundary – Lobs Hole Ravine Road (Upper) 3**



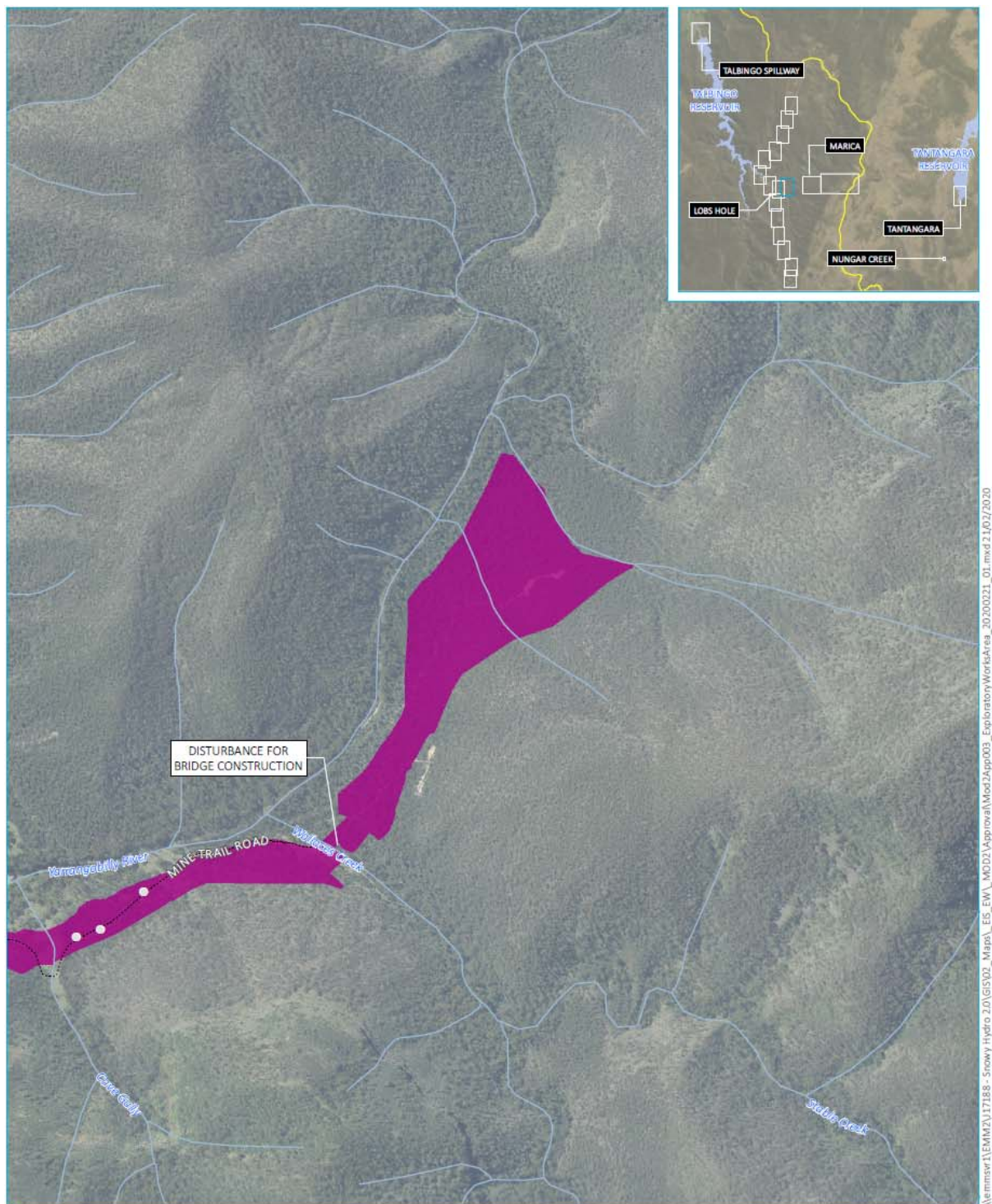


**Figure 2-7: Project Boundary – Lobs Hole Ravine Road (Lower) 1**









Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Dangerous tree
- Vehicular track
- Watercourse/drainage line
- Exploratory Works disturbance footprint

GDA 1994 MGA Zone 55

Exploratory Works project boundary  
- Mine Trail Road 1

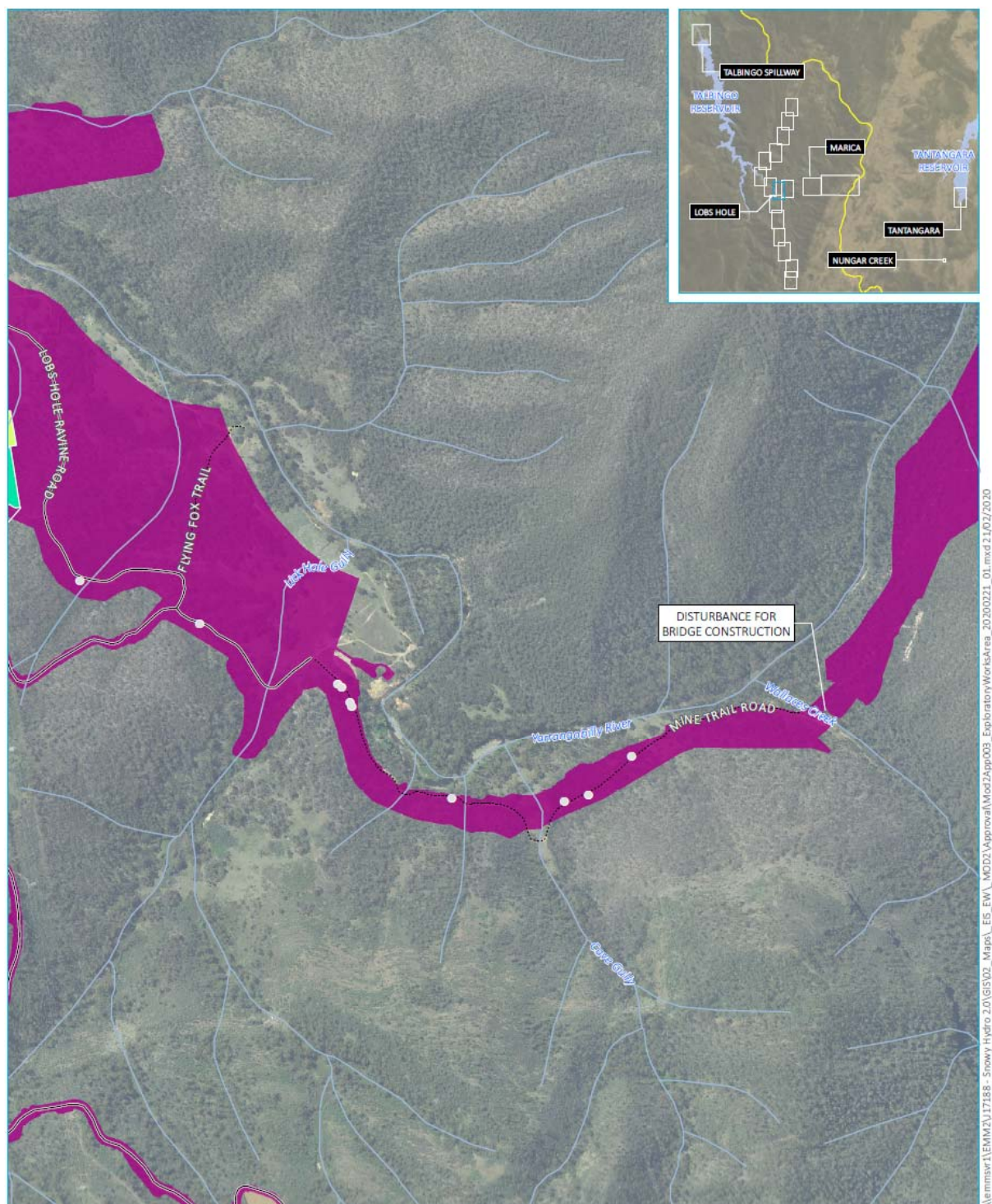
Snowy 2.0  
Exploratory Works

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**Figure 2-9: Project Boundary – Mine Trail Road 1**





Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Dangerous tree
- Local road
- Vehicular track
- Watercourse/drainage line
- Indicative laydown area
- Proposed substation
- Fossil area
- Exploratory Works disturbance footprint

GDA 1994 MGA Zone 55

Exploratory Works project boundary  
- Mine Trail Road 2

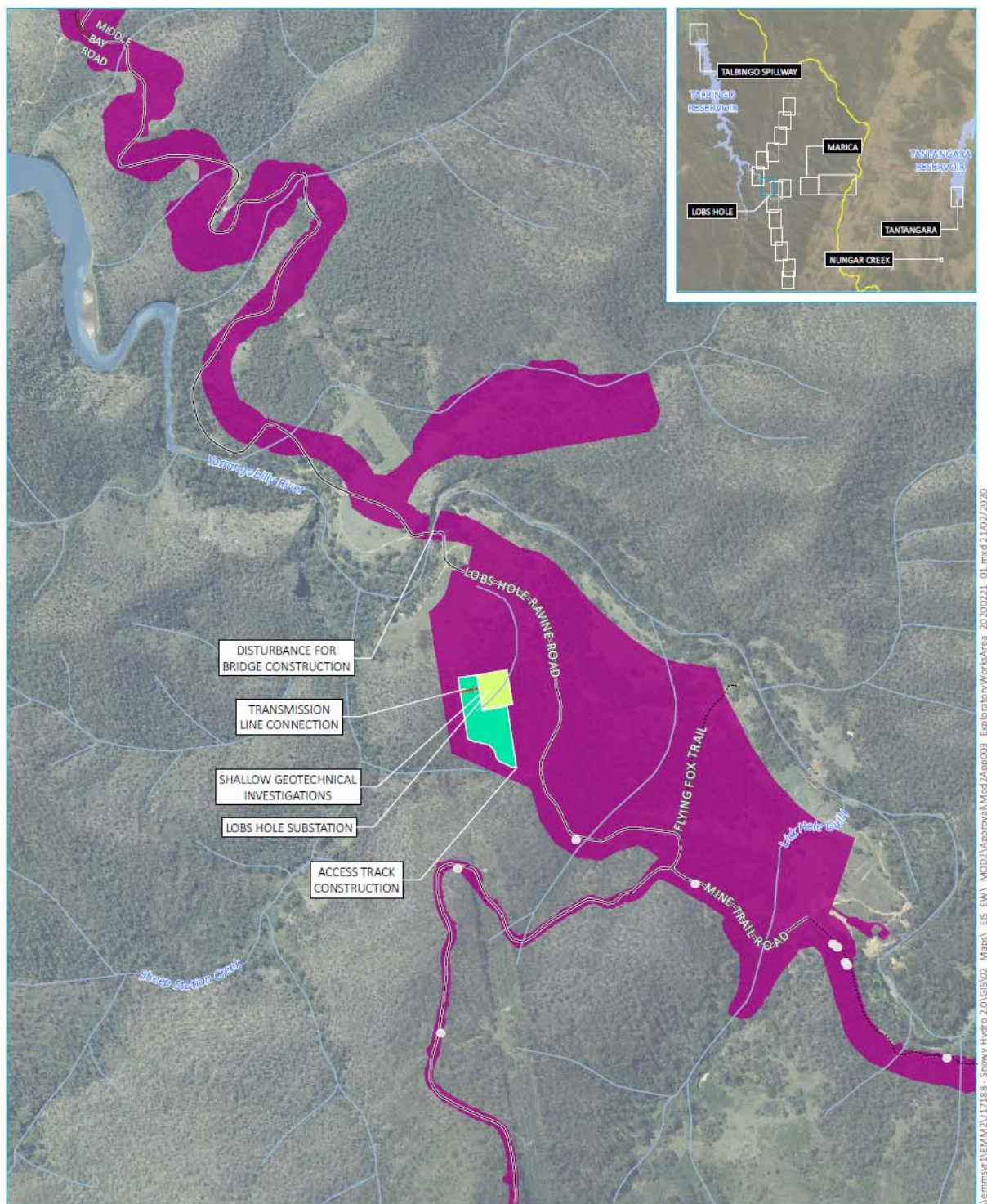
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Figure 2-10: Project Boundary – Mine Trail Road 2





Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Dangerous tree
- Approved EW access
- Transmission line connection
- Local road
- Vehicular track
- Watercourse/drainage line
- Indicative laydown area
- Proposed substation
- Exploratory Works disturbance footprint
- Waterbody

GDA 1994 MGA Zone 55



Exploratory Works project boundary  
- Lobs Hole

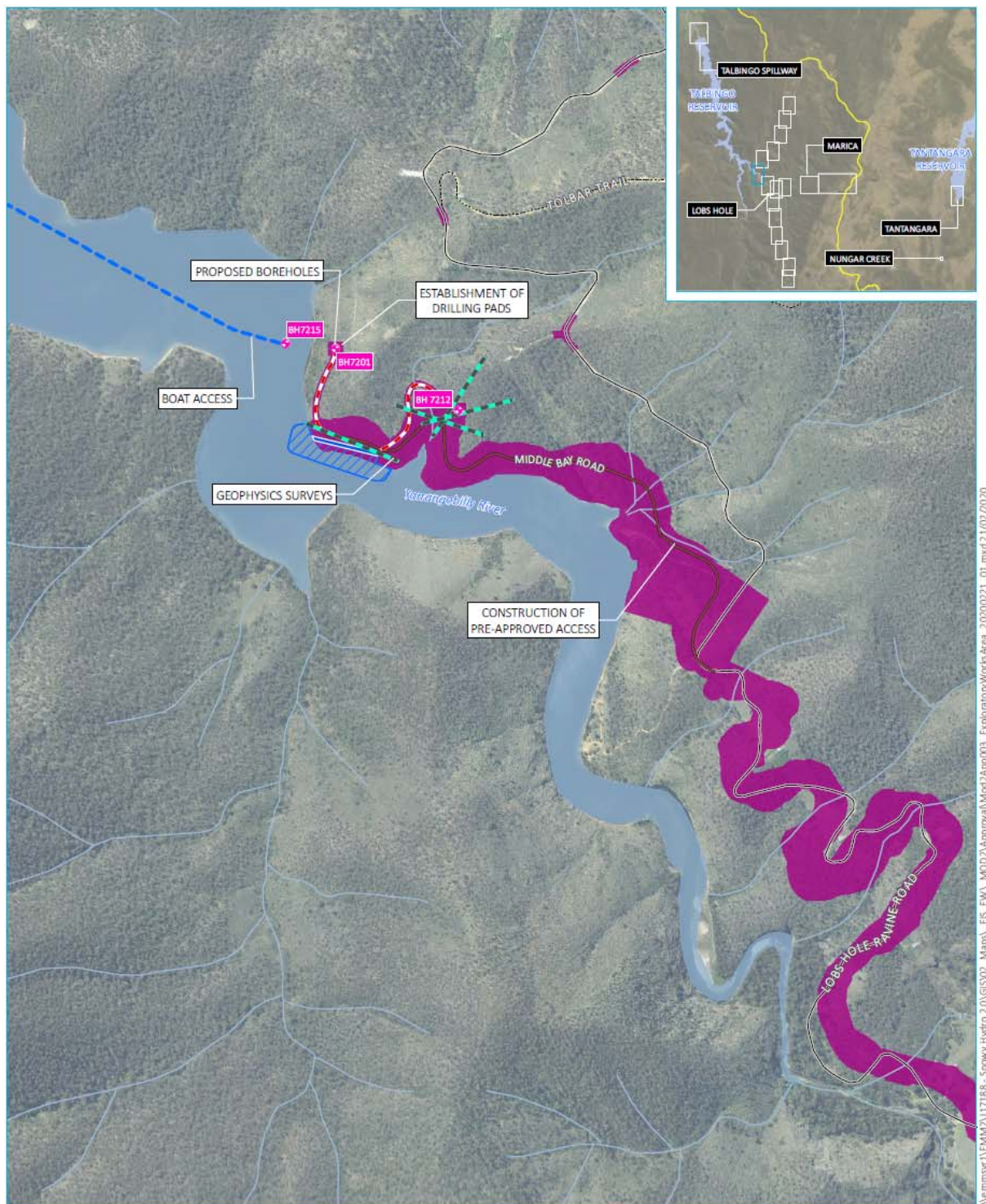
Snowy 2.0  
Exploratory Works

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**Figure 2-11: Project Boundary – Lobs Hole**





Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- ◆ Proposed borehole
- Proposed geophysics
- Proposed access track
- Approved EW access
- Boat access
- Local road
- Vehicular track
- Watercourse/drainage line
- Proposed barge ramp relocation
- ▨ Proposed disturbance area - barge infrastructure
- Exploratory Works disturbance footprint
- Waterbody

GDA 1994 MGA Zone 55

Exploratory Works project boundary  
- Lobs Hole Ravine Road

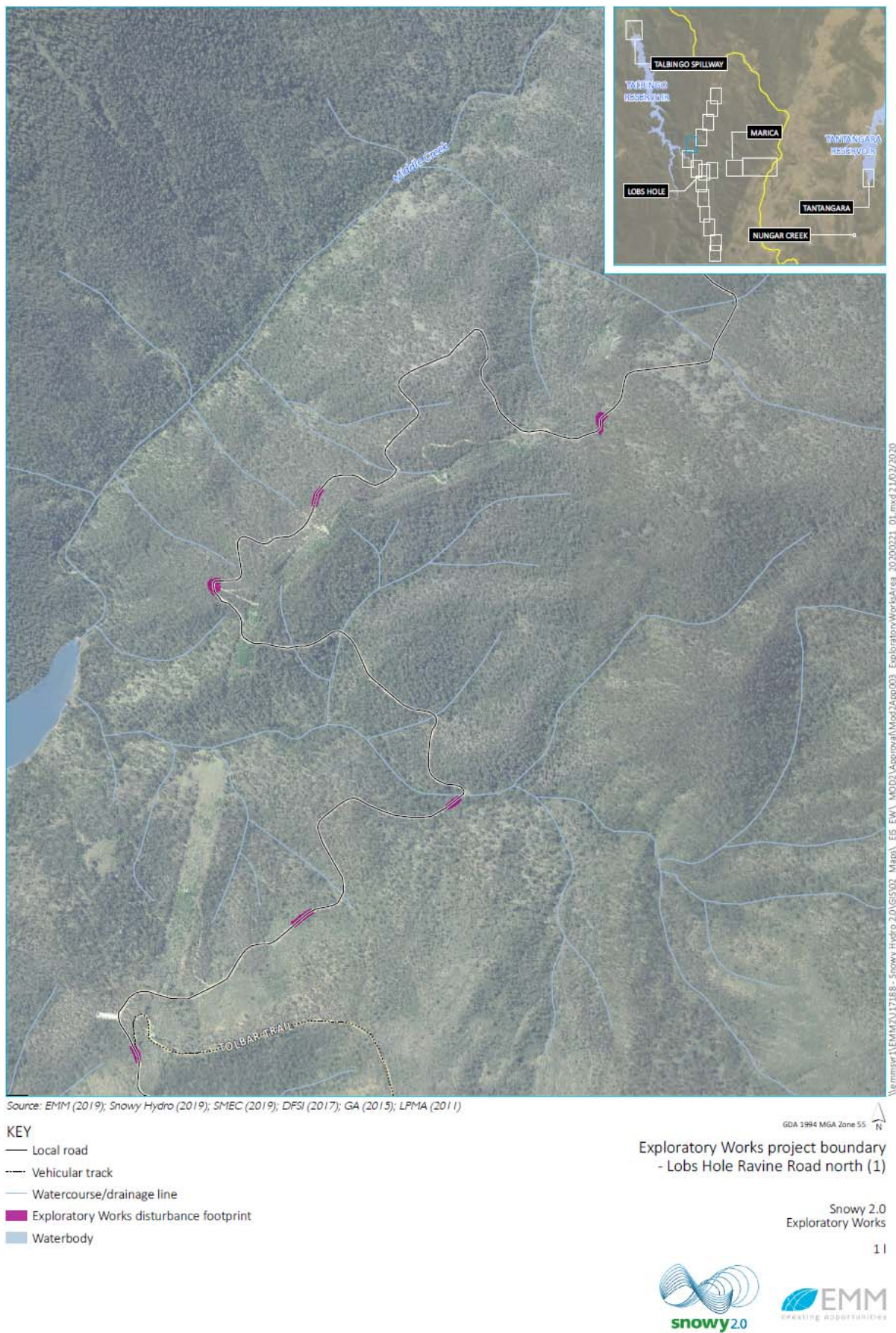
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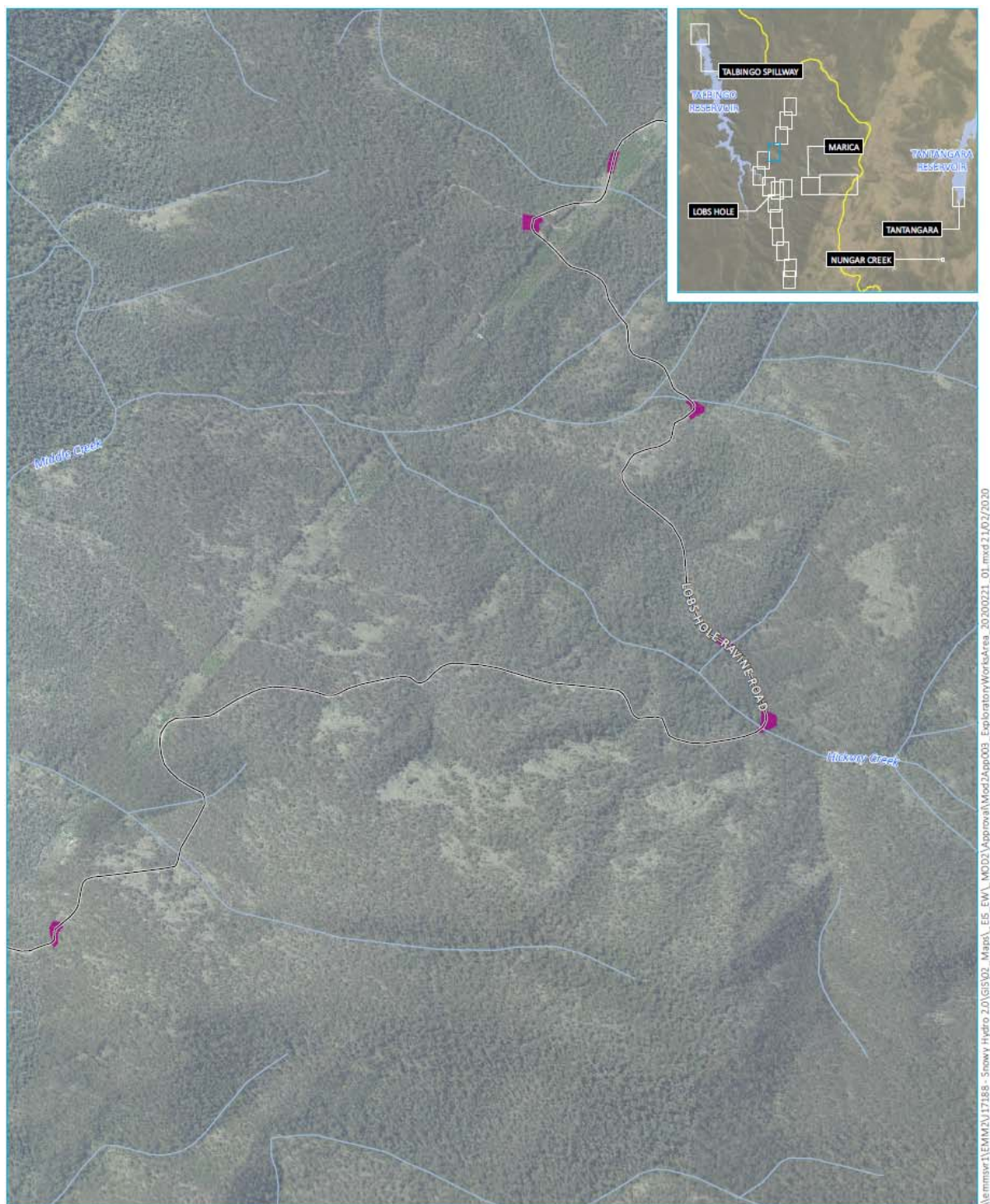
Figure 2-12: Project boundary – Lobs Hole Ravine Road





**Figure 2-13: Project boundary – Lobs Hole Ravine Road north (1)**





Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Local road
- Watercourse/drainage line
- Exploratory Works disturbance footprint

GDA 1994 MGA Zone 55

Exploratory Works project boundary  
- Lobs Hole Ravine Road north (2)

Snowy 2.0  
Exploratory Works

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Figure 2-14: Project boundary – Lobs Hole Ravine Road north (2)



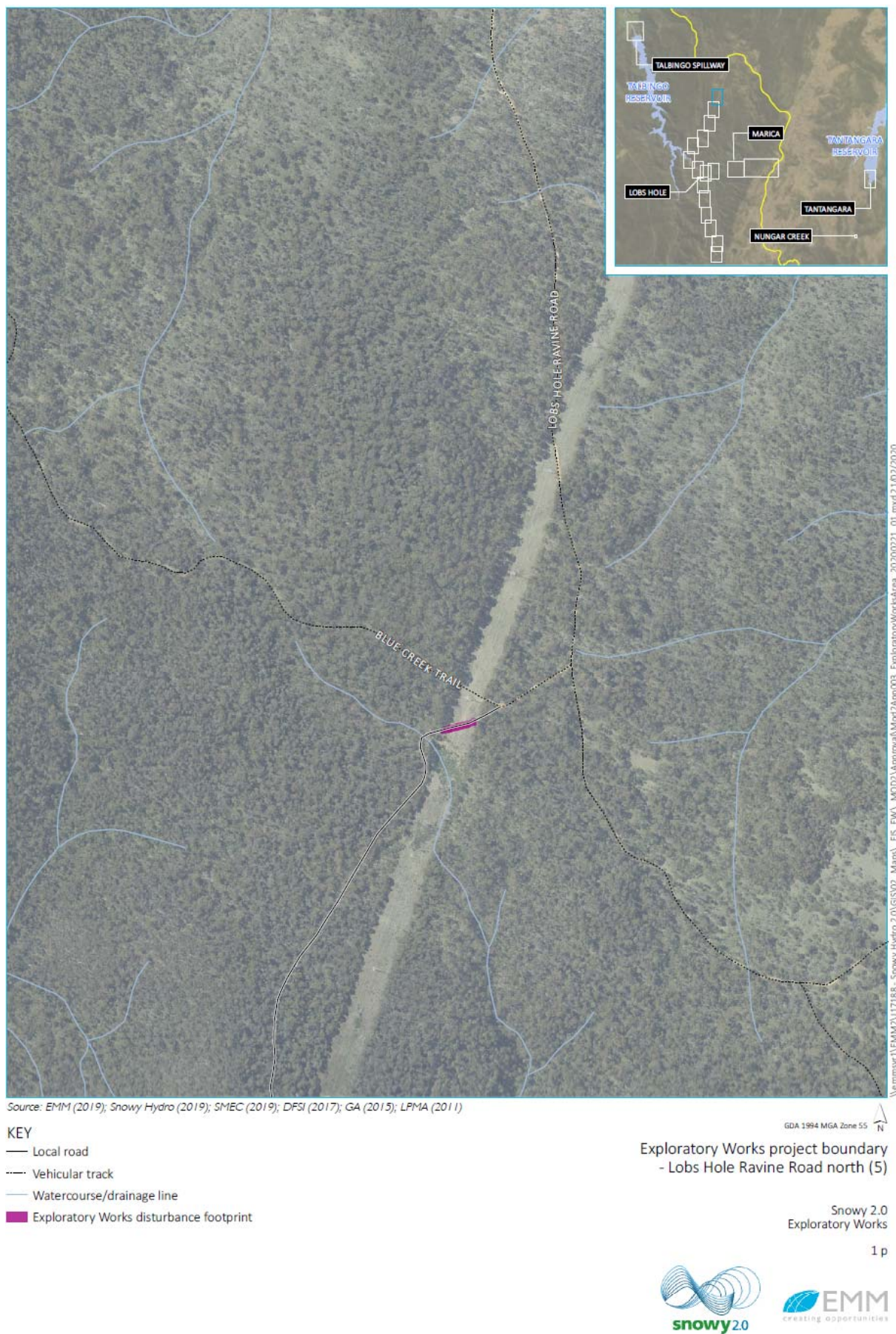


Figure 2-15: Project boundary – Lobs Hole Ravine Road north (3)



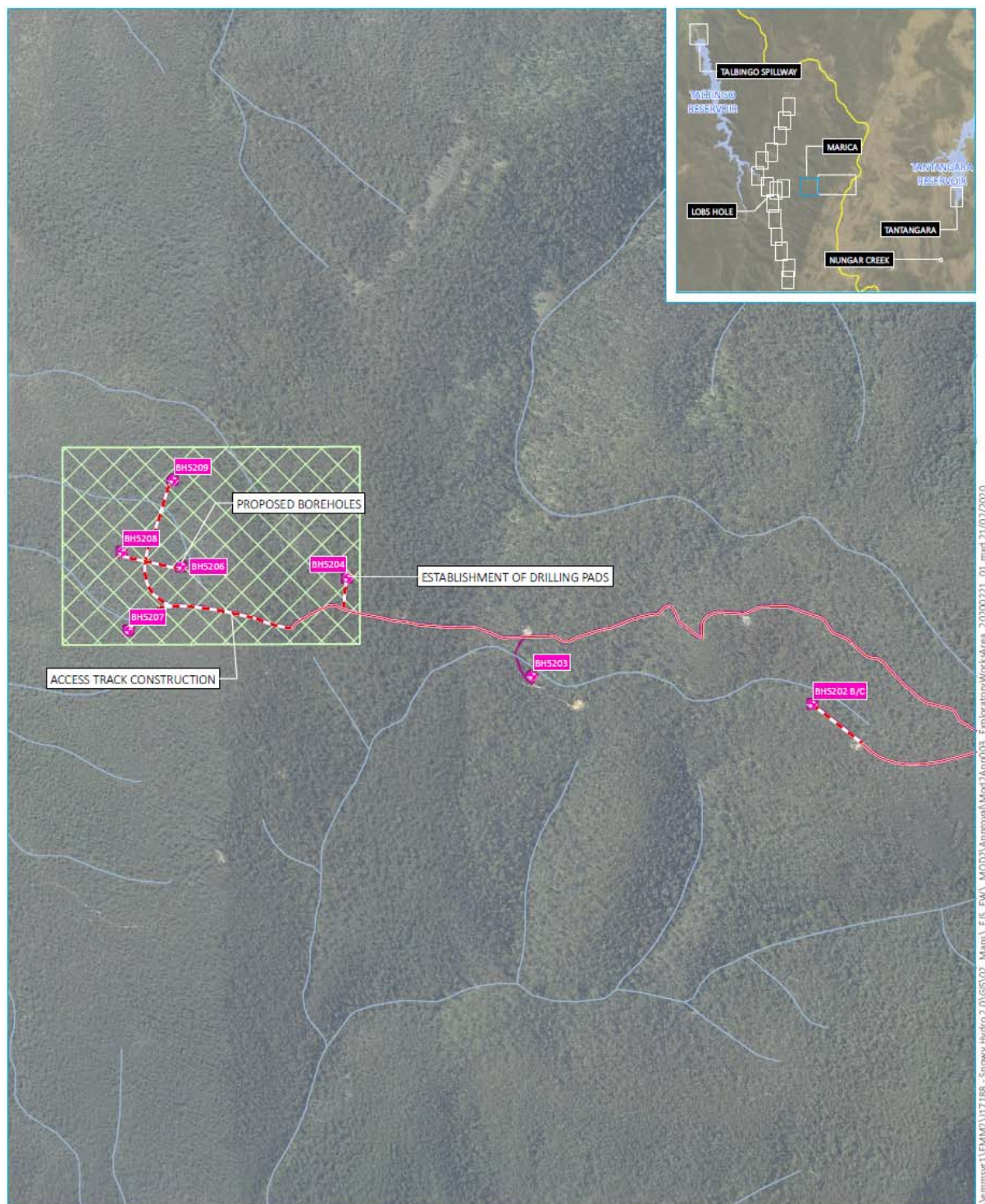






**Figure 2-17: Project boundary – Lobs Hole Ravine Road north (5)**





Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- ✦ Proposed borehole
- Existing access track
- - - Proposed access track
- Watercourse/drainage line
- Boreholes requiring on-site adjustment
- Exploratory Works disturbance footprint

GDA 1994 MGA Zone 55

Exploratory Works project boundary  
- Marica 1

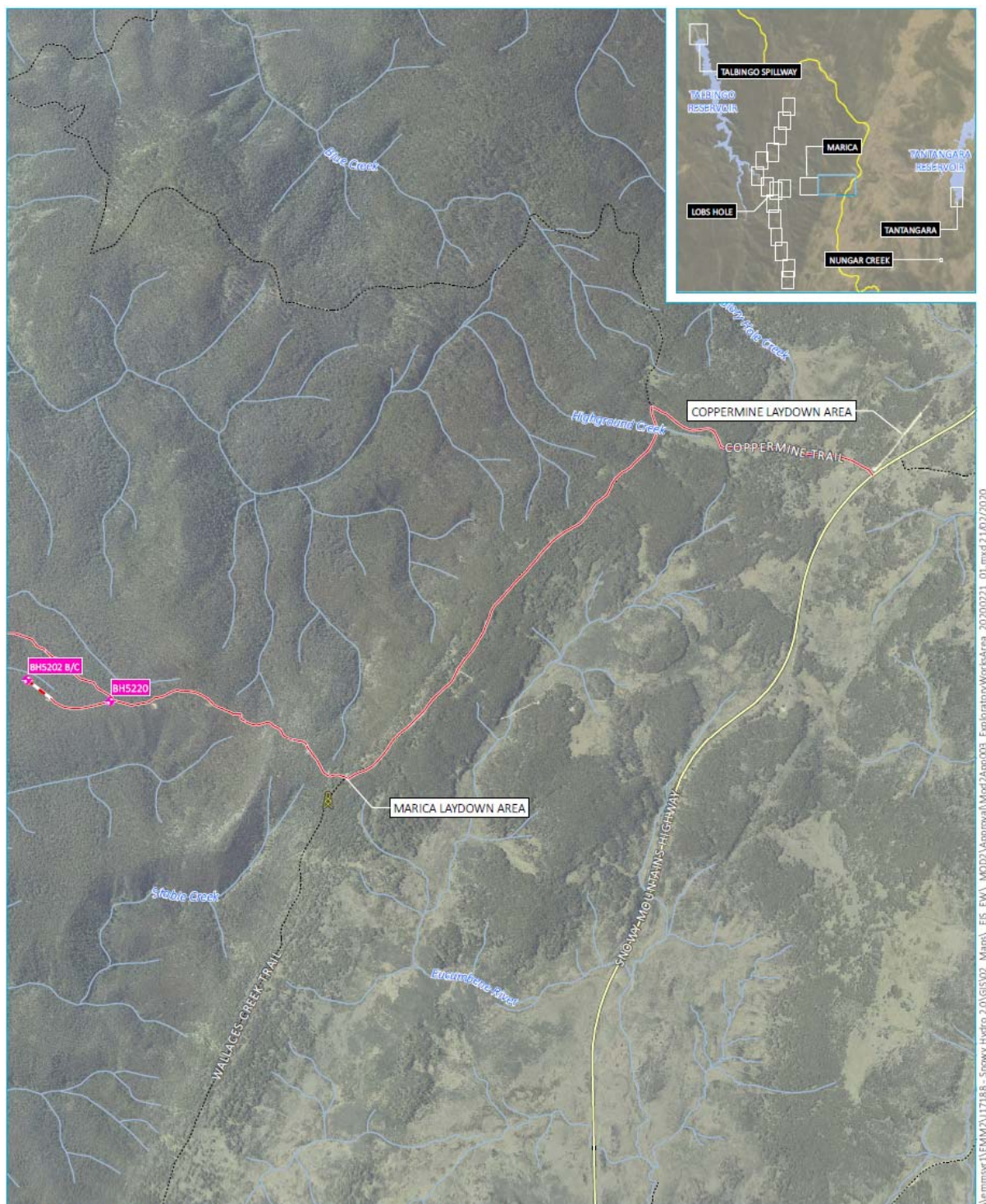
Snowy 2.0  
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Figure 2-18: Project boundary – Marica 1





Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- ◆ Proposed borehole
- ▲ Existing temporary communications
- Existing access track
- - - Proposed access track
- = Main road
- ... Vehicular track
- Watercourse/drainage line
- Exploratory Works disturbance footprint

GDA 1994 MGA Zone 55

Exploratory Works project boundary  
- Marica 2

Snowy 2.0  
Exploratory Works

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Figure 2-19: Project boundary – Marica 2





Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- ◆ Proposed borehole
- Main road
- Watercourse/drainage line
- Exploratory Works disturbance footprint
- Proposed work area

GDA 1994 MGA Zone 55



Exploratory Works project boundary  
- Nungar Creek

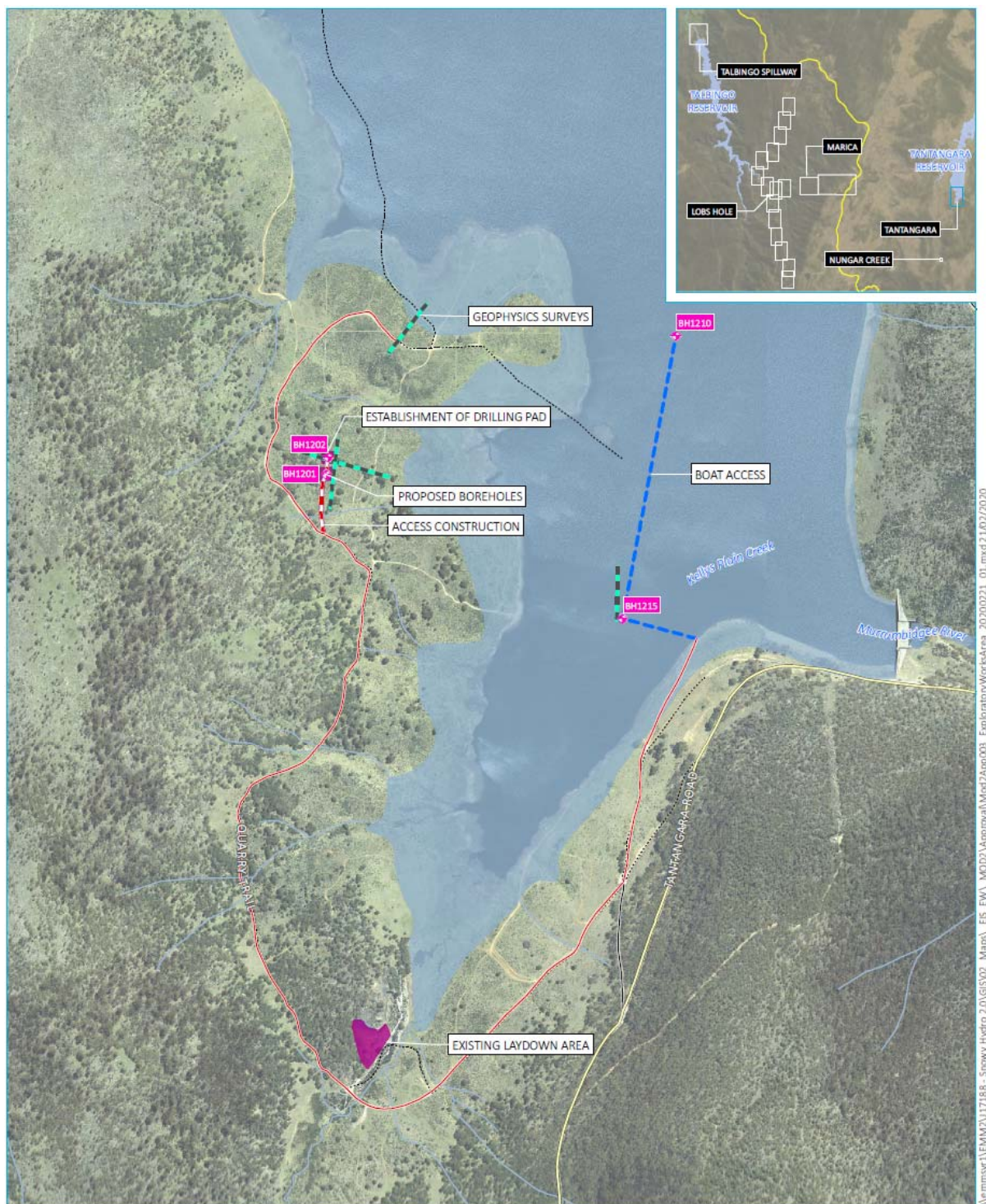
Snowy 2.0  
Exploratory Works

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**Figure 2-20: Project boundary – Nungar Creek**





Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

- KEY**
- Proposed borehole
  - Proposed geophysics
  - Existing access track
  - Proposed access track
  - Boat access
  - Main road
  - Local road
  - Vehicular track
  - Watercourse/drainage line
  - Exploratory Works disturbance footprint
  - Waterbody

Exploratory Works project boundary  
- Tantangara Reservoir

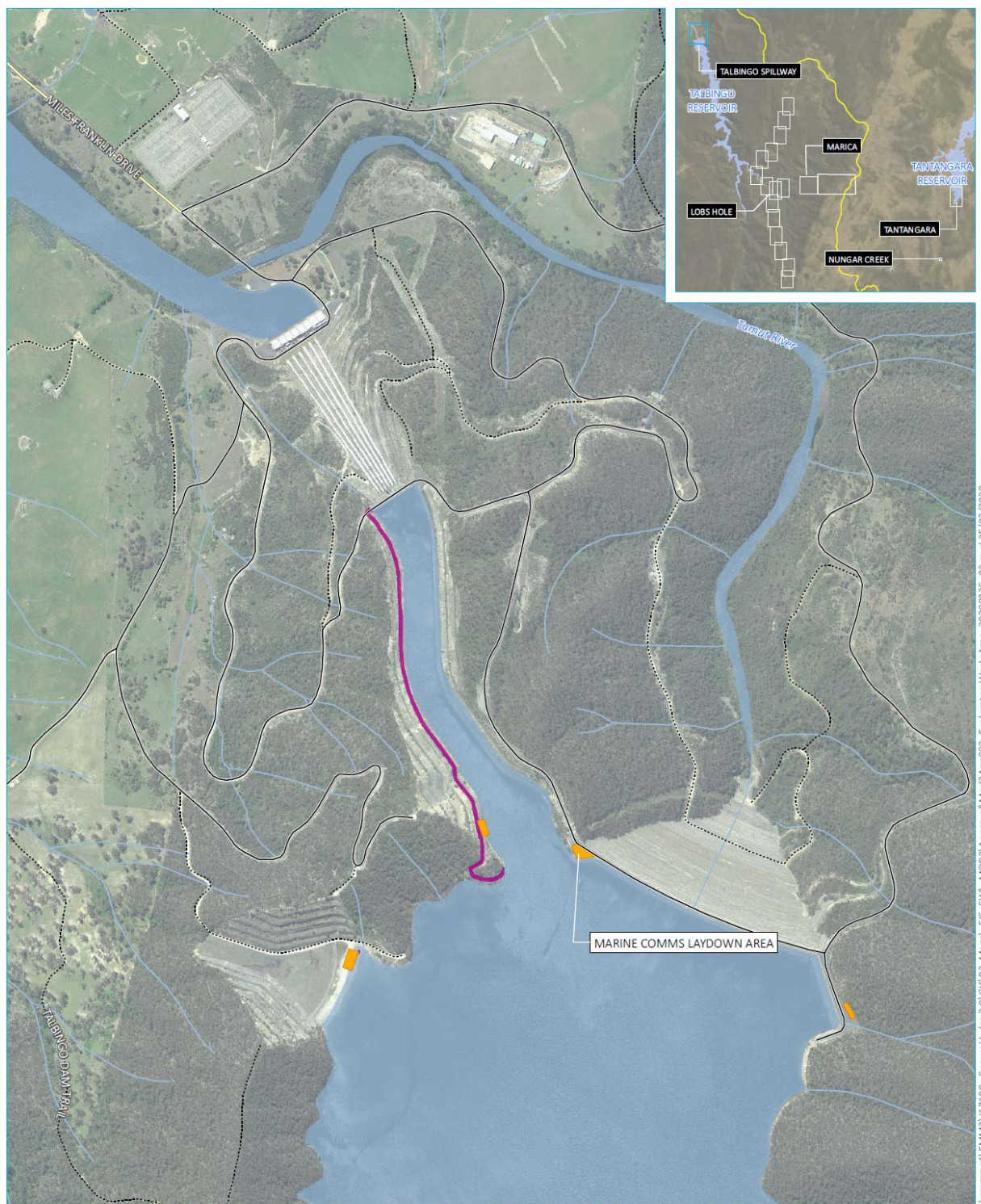
Snowy 2.0  
Exploratory Works

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Figure 2-21: Project boundary – Tantangara Reservoir





Source: EMM (2019); Snowy Hydro (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Main road
- Local road
- ..... Vehicular track
- Watercourse/drainage line
- Marine comms laydown (proposed)
- Exploratory Works disturbance footprint
- Waterbody

GDA 1994 MGA Zone 55

Exploratory Works project boundary  
- Talbingo spillway

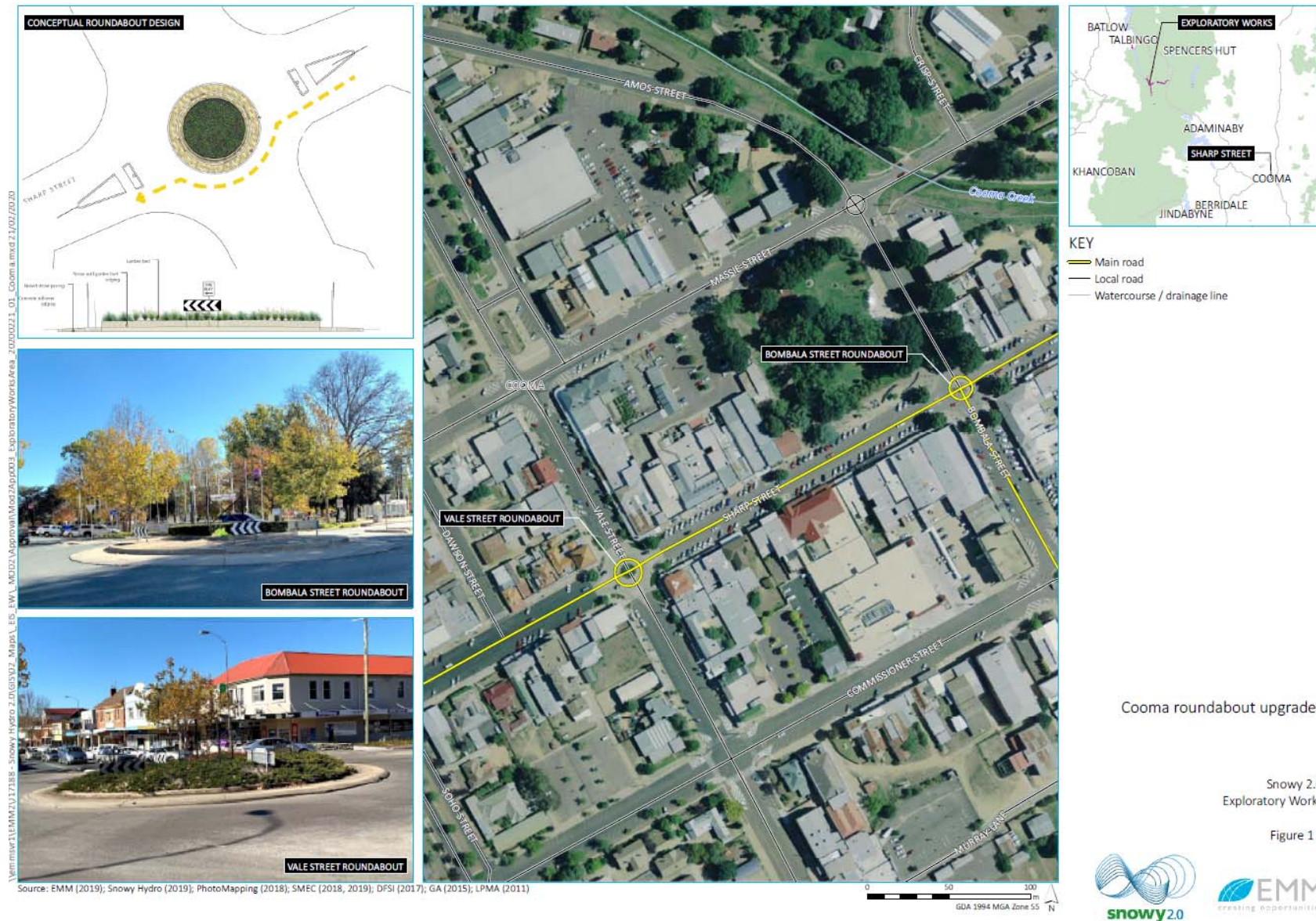
Snowy 2.0  
Exploratory Works

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**Figure 2-22: Project boundary – Talbingo spillway**





2-24: Road Upgrades Sharp Street/Bombala Street and Sharp Street/Vale Street Roundabouts

## APPENDIX B – EXPLORATORY WORKS – MANAGEMENT PLANS

This EMS includes the management plans, strategies and programs required to be approved under the Conditions of Approval for Exploratory Works Stage 2. These include:

- Appendix B1 Biodiversity Management Plan
- Appendix B2 Water Management Plan
- Appendix B3 Aboriginal Heritage Management Plan
- Appendix B4 Historic and Natural Heritage Management Plan
- Appendix B5 Traffic Management Plan
- Appendix B6 Emergency Plan (Bushfire Management Plan)
- Appendix B7 Aquatic Habitat Management Plan
- Appendix B8 Excavated Material Management Plan
- Appendix B9 Subaqueous Placement Management Plan
- Appendix B10 Rehabilitation Management Plan
- Appendix B11 Worker – Recreational Management Plan
- Appendix B12 Noise and Vibration Management Plan including the Blast Management Plan
- Appendix B13 Air Quality Management Plan
- Appendix B14 Waste Management Plan
- Appendix B15 Contaminated Land Management Plan
- Appendix B16 Naturally Occurring Asbestos Management Plan
- Appendix B17 Maritime Traffic Management Plan