APPENDIX C

REGULATORY FRAMEWORK


Regulatory framework report

Exploratory Works for Snowy 2.0

Prepared for Snowy Hydro Limited
July 2017




snowy 2.0

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Regulatory framework report

Exploratory Works for Snowy 2.0

Prepared for Snowy Hydro Limited | 13 July 2018

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Regulatory framework report

Final

Report Regulatory Framework Report | Prepared for Snowy Hydro Limited | 13 July 2018

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Date	13 July 2018	Date	13 July 2018

Document Control

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1 Introduction

1.1 The project

Snowy Hydro Limited (Snowy Hydro) proposes to develop Snowy 2.0, a large scale pumped hydro-electric storage and generation project which would increase hydro-electric capacity within the existing Snowy Mountains Hydro-electric Scheme (Snowy Scheme). This would be achieved by establishing a new underground hydro-electric power station that would increase the generation capacity of the Snowy Scheme by almost 50%, providing an additional 2,000 megawatts (MW) generating capacity, and providing approximately 350,000 megawatt hours (MWh) of storage available to the National Electricity Market (NEM) at any one time, which is critical to ensuring system security as Australia transitions to a decarbonised NEM. Snowy 2.0 will link the existing Tantangara and Talbingo reservoirs within the Snowy Scheme through a series of underground tunnels and hydro-electric power station.

Snowy 2.0 has been declared to be State significant infrastructure and critical State significant infrastructure (CSSI) by the NSW Minister for Planning under the provisions of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and is defined in Clause 9 of Schedule 5 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). Separate applications and environmental impact statements (EIS) for different phases of Snowy 2.0 are being submitted under Part 5, Division 5.2 of the EP&A Act. This technical assessment has been prepared to support an EIS for Exploratory Works to undertake investigative works to gather important technical and environmental information for the main Snowy 2.0 project. The main project will be subject of a separate application and EIS next year.

The purpose of Exploratory Works for Snowy 2.0 is primarily to gain a greater understanding of the conditions at the proposed location of the power station, approximately 850 metres (m) below ground level. Understanding factors such as rock conditions (such as stress conditions) and ground temperature is essential to inform decisions about the precise location of the power station cavern and confirm the cavern construction methods.

Exploratory Works comprises:

- an exploratory tunnel to the site of the underground power station for Snowy 2.0;
- 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;
- a portal construction pad for the exploratory tunnel;
- an accommodation camp for the Exploratory Works construction workforce;
- road works and upgrades providing access and haulage routes during Exploratory Works;
- barge access infrastructure, to enable access and transport by barge on Talbingo reservoir;
- excavated rock management, including subaqueous placement within Talbingo Reservoir;
- services infrastructure such as diesel-generated power, water and communications; and

- post-construction revegetation and rehabilitation, management and monitoring.

1.2 Purpose of this report

This Regulatory Framework Report supports the EIS for the Exploratory Works. It documents the State planning approval framework for the project, applicable NSW legislation and guidelines and applicable Commonwealth legislation. It summarises the environmental and planning approval requirements for the project.

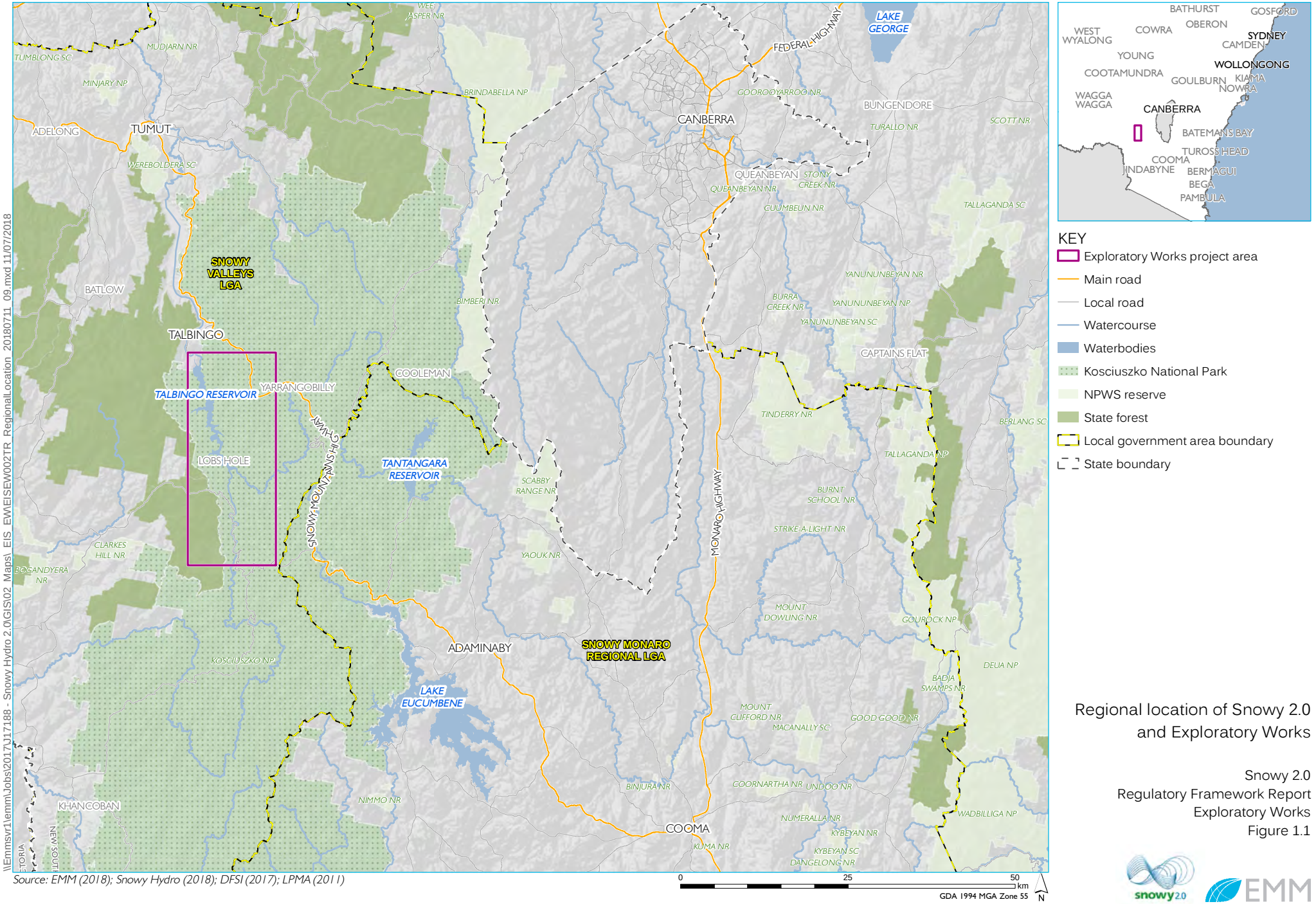
1.3 Location of Exploratory Works

Snowy 2.0 and Exploratory Works are within the Australian Alps, in southern NSW. The regional location of Exploratory Works is shown on Figure 1.1. Snowy 2.0 is within both the Snowy Valleys and Snowy Monaro Regional local government areas (LGAs), however Exploratory Works is entirely within the Snowy Valleys LGA. The majority of Snowy 2.0 and Exploratory Works are within Kosciuszko National Park (KNP). The area in which Exploratory Works will be undertaken is referred to herein as the project area, and includes all of the surface and subsurface elements further discussed in Section 2.1.

Exploratory Works is predominantly in the Ravine region of the KNP. This region is between Talbingo Reservoir to the north-west and the Snowy Mountains Highway to the east, which connects Adaminaby and Cooma in the south-east to Talbingo and Tumut to the north-west of the KNP. Talbingo Reservoir is an existing reservoir that forms part of the Snowy Scheme. The reservoir, approximately 50 kilometres (km) north-west of Adaminaby and approximately 30 km east-north-east of Tumbarumba, is popular for recreational activities such as boating, fishing, water skiing and canoeing.

The nearest large towns to Exploratory Works are Cooma and Tumut. Cooma is approximately one hour and forty five minutes drive (95 km) south-east of Lobs Hole. Tumut is approximately half an hour (45 km) north of Talbingo. There are several communities and townships near the project area including Talbingo, Tumbarumba, Batlow, Cabramurra and Adaminaby. Talbingo and Cabramurra were built for the original Snowy Scheme workers and their families. Adaminaby was relocated to alongside the Snowy Mountains Highway from its original location (now known as Old Adaminaby) in 1957 due to the construction of Lake Eucumbene. Talbingo and Adaminaby provide a base for users of the Selwyn Snow Resort in winter. Cabramurra was modernised and rebuilt in the early 1970s and is owned and operated by Snowy Hydro. It is still used to accommodate Snowy Scheme employees and contractors. Properties within Talbingo are now predominantly privately owned. Snowy Hydro now only owns 21 properties within the town.

Other attractions and places of interest in the vicinity of the project area include Selwyn Snow Resort, the Yarrangobilly Caves complex and Kiandra. Kiandra has special significance as the first place in Australia where recreational skiing was undertaken and is also an old gold rush town.



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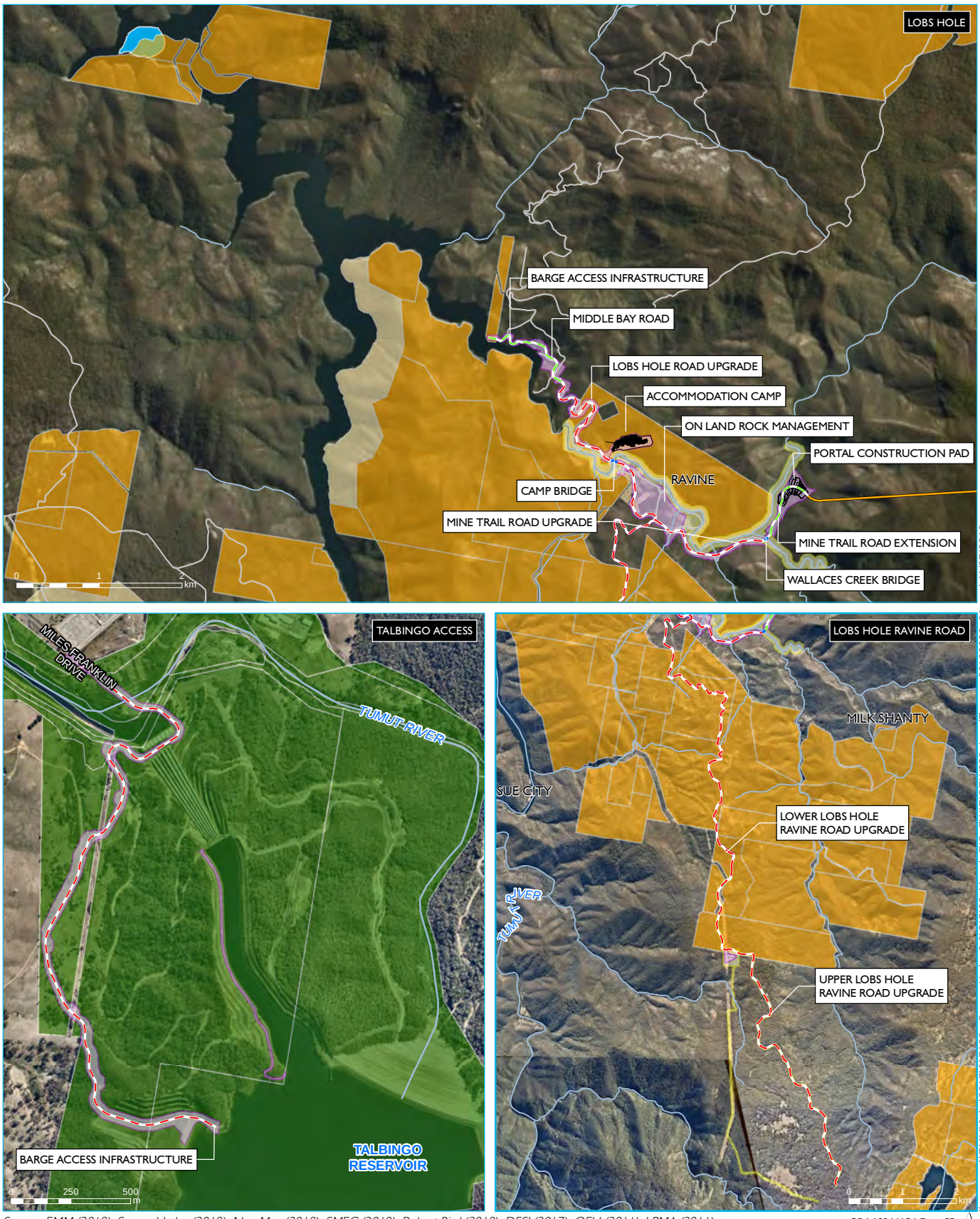
Source: EMM (2018); Snowy Hydro (2018); DFSI (2017); LPMA (2011)

Regional location of Snowy 2.0 and Exploratory Works

Snowy 2.0
Regulatory Framework Report
Exploratory Works
Figure 1.1



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Source: EMM (2018); Snowy Hydro (2018); NearMap (2018); SMEC (2018); Robert Bird (2018); DFSI (2017); OEH (2011); LPMA (2011)

GDA 1994 MGA Zone 55

N

KEY

- Permanent bridge design
- Access road upgrade
- Access road extension
- Portal construction pad and accommodation camp conceptual layout
- Exploratory tunnel and portal
- Main road
- Local road or track
- Watercourse
- Subaqueous excavated rock placement
- Disturbance footprint
- Avoidance footprint

Land ownership

- Snowy Hydro owned land
- Crown land
- Freehold
- NSW Government

Land tenure

Snowy 2.0
Regulatory Framework Report
Exploratory Works
Figure 1.2

snowy 2.0 EMM

The project area is shown on Figure 1.2 and comprises:

- **Lobs Hole:** Lobs Hole will accommodate the excavated rock emplacement areas, an accommodation camp as well as associated infrastructure, roads and laydown areas close to the portal of the exploratory tunnel and portal construction pad at a site east of the Yarrangobilly River;

- **Talbingo Reservoir:** installation of barge access infrastructure near the existing Talbingo Spillway, at the northern end of the Talbingo Reservoir, and also at Middle Bay, at the southern end of the reservoir, near the Lobs Hole facilities, and installation of a submarine cable from the Tumut 3 power station to Middle Bay, providing communications to the portal construction pad and accommodation camp. A program of subaqueous rock placement is also proposed;

- **Mine Trail Road** will be upgraded and extended to allow the transport of excavated rock from the exploratory tunnel to sites at Lobs Hole that will be used to manage excavated material, as well as for the transport of machinery and construction equipment and for the use of general construction traffic; and

- several sections of **Lobs Hole Ravine Road** will be upgraded in a manner that protects the identified environmental constraints present near the current alignment.

The project is described in more detail in Chapter 2.

1.4 Proponent

Snowy Hydro is the proponent for the Exploratory Works. Snowy Hydro is an integrated energy business – generating energy, providing price risk management products for wholesale customers and delivering energy to homes and businesses. Snowy Hydro is the fourth largest energy retailer in the NEM and is Australia's leading provider of peak, renewable energy.

1.5 Assessment guidelines and requirements

This Regulatory Framework report has been prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARs) for Exploratory Works, issued first on 17 May 2018 and revised on 20 June 2018, as well as relevant governmental assessment requirements, guidelines and policies, and in consultation with the relevant government agencies.

The SEARs must be addressed in the EIS. Table 1.1 lists the matters relevant to this assessment and where they are addressed in this report.

Source: EMM (2018); Snowy Hydro (2018); SMEC (2018); Robert Bird (2018); DFSI (2017); LPMA (2011)

0 2.5 5 km

N

GDA 1994 MGA Zone 55

KEY

- Exploratory tunnel
- Access road upgrade
- Access road extension
- Communications cable
- Main road
- Local road
- Major watercourse
- On land rock management
- Subaqueous excavated rock placement
- Disturbance footprint
- Avoidance footprint

Exploratory Works project area

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Snowy 2.0
Regulatory Framework Report
Exploratory Works
Figure 1.3

snowy 2.0 EMM

Table 1.1 Relevant matters raised in SEARs

Requirement	Section addressed
General Requirements	
The Environmental Impact Statement (EIS) for the project must comply with the requirements in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation).	Section 3.6, Table 3.1
In particular, the EIS must include, but not necessarily be limited to, the following:	
...	
• statutory context for the project, including:	
- how the project meets the provisions and objectives of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and EP&A Regulation;	Sections 3.2 – 3.7
- consideration of the project against all relevant environmental planning instruments;	Section 3.8
- any approvals that must be obtained before the project can commence; and	Chapter 6, Table 6.1
- the likely interactions between the *Snowy Hydro Corporatisation Act 1997*, the *National Parks and Wildlife Act 1974*, the *Kosciuszko National Park Plan of Management 2006* and the Snowy Park Lease.	Sections 4.1 and 4.2
Environmental Planning Instruments, Policies, Guidelines & Plans	
Environmental Planning Instruments - General	
• State Environmental Planning Policy (State and Regional Development) 2011	Section 3.8.1
• State Environmental Planning Policy (Infrastructure) 2007	Section 3.8.2
• State Environmental Planning Policy No. 44 – Koala Habitat Protection	Section 3.8.4
• State Environmental Planning Policy No. 55 – Remediation of Land	Section 3.8.5
Other	
• Kosciuszko National Park Plan of Management 2006	Section 4.2

To inform preparation of the SEARs, the Department of Planning and Environment (DPE) invited relevant government agencies to advise on matters to be addressed in the EIS. These matters were taken into account by the Secretary for DPE when preparing the SEARs.

1.6 Other relevant reports

This Regulatory Framework report has been prepared with reference to other technical reports that were prepared as part of the Exploratory Works EIS. The other relevant reports referenced in this Regulatory Framework report are listed below.

- Aboriginal cultural heritage assessment (NSW Archaeology 2018) – Appendix O of the EIS;
- Air quality and greenhouse gas impact assessment (Jacobs 2018) – Appendix U of the EIS;
- Aquatic ecology assessment (Cardno 2018) – Appendix G of the EIS;
- Biodiversity development assessment (EMM 2018) – Appendix F of the EIS;
- Bushfire risk and hazard assessment (EMM 2018) – Appendix V of the EIS;
- Groundwater assessment (EMM 2018) – Appendix N of the EIS;

- Historic cultural heritage assessment (NSW Archaeology 2018) – Appendix P of the EIS;
- Noise and vibration impact assessment (EMM 2018) – Appendix T of the EIS;
- Phase 1 contamination assessment (EMM 2018) – Appendix J of the EIS;
- Soils and land assessment (EMM 2018) – Appendix H of the EIS;
- Surface water assessment (EMM 2018) – Appendix M of the EIS; and
- Traffic and Transport Assetssment Report (SCT 2018) – Appendix Q of the EIS.

2 Project description

2.1 Overview

Exploratory Works comprises construction associated with geotechnical exploration for the underground power station for Snowy 2.0. The Exploratory Works elements are shown on Figure 2.1 and involve:

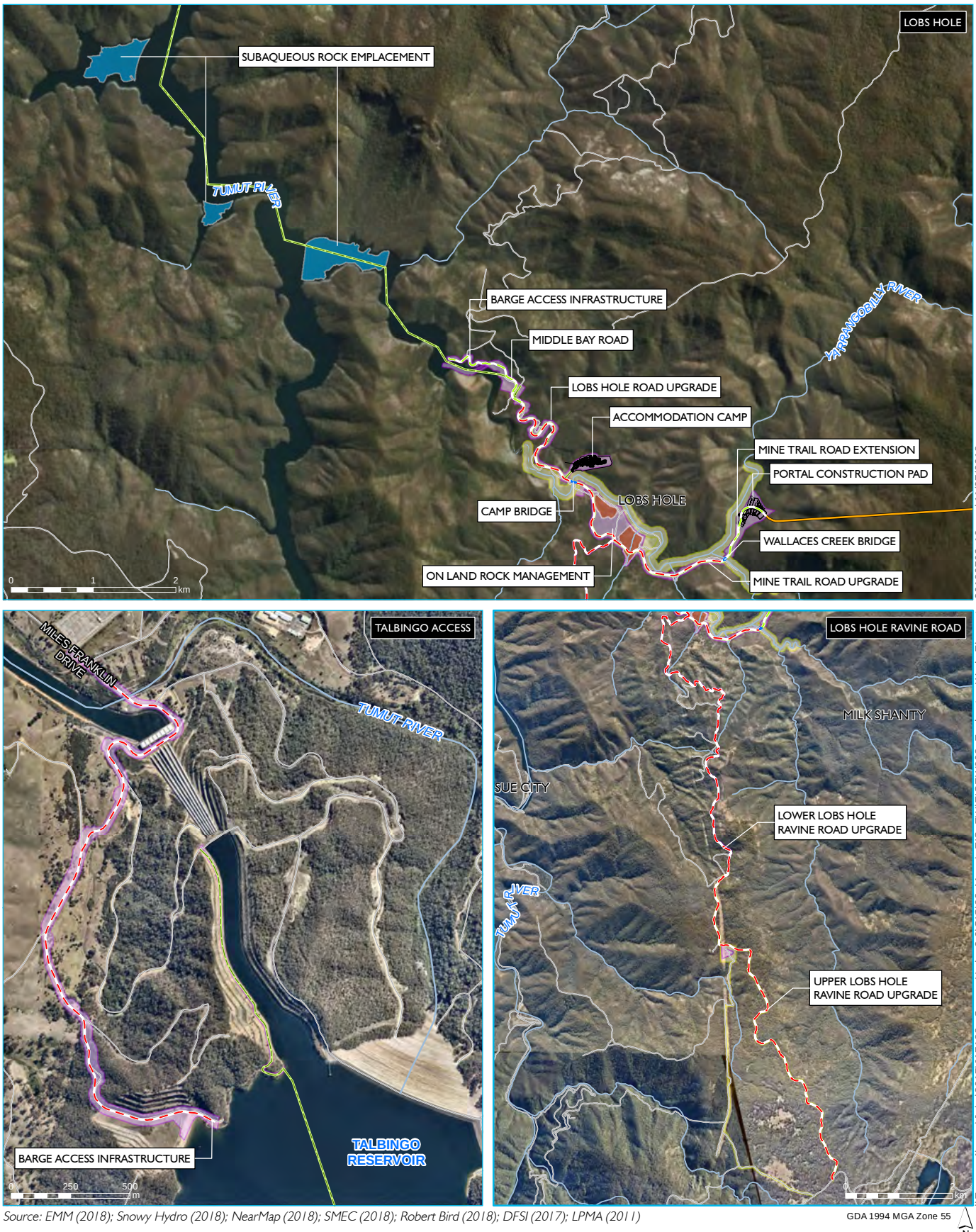
- establishment of an exploratory tunnel to the site of the underground power station for Snowy 2.0;
- horizontal and other test drilling, investigations and analysis in situ at the proposed cavern location and associated areas, and around the portal construction pad, access roads and excavated rock management areas all within the disturbance footprint;
- establishment of a portal construction pad for the exploratory tunnel;
- establishment of an accommodation camp for the Exploratory Works construction workforce;
- road works and upgrades providing access and haulage routes during Exploratory Works;
- establishment of barge access infrastructure, to enable access and transport by barge on Talbingo reservoir;
- excavated rock management, including subaqueous placement within Talbingo Reservoir;
- establishment of services infrastructure such as diesel-generated power, water and communications; and
- post-construction revegetation and rehabilitation, management and monitoring.

2.2 Exploratory tunnel

An exploratory tunnel of approximately 3.1 km is proposed to provide early access to the location of the largest cavern for the underground power station. This will enable exploratory drilling and help optimise the location of the cavern which, in turn, will optimise the design of Snowy 2.0.

The exploratory tunnel is proposed in the north-east section of Lobs Hole and will extend in an east-west direction with the portal construction pad to be outside the western end of the tunnel at a site east of the Yarrangobilly River, as shown on Figure 2.2.

The location of the proposed exploratory tunnel and portal construction pad is shown in Figure 2.2. The exploratory tunnel will be excavated by drill and blast methods and have an 8 x 8 m D-Shaped cross section, as shown on Figure 2.3.



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Source: EMM (2018); Snowy Hydro (2018); NearMap (2018); SMEC (2018); Robert Bird (2018); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N

KEY

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

Exploratory Works elements

Snowy 2.0
Regulatory Framework Report
Exploratory Works
Figure 2.1

snowy 2.0 EMM

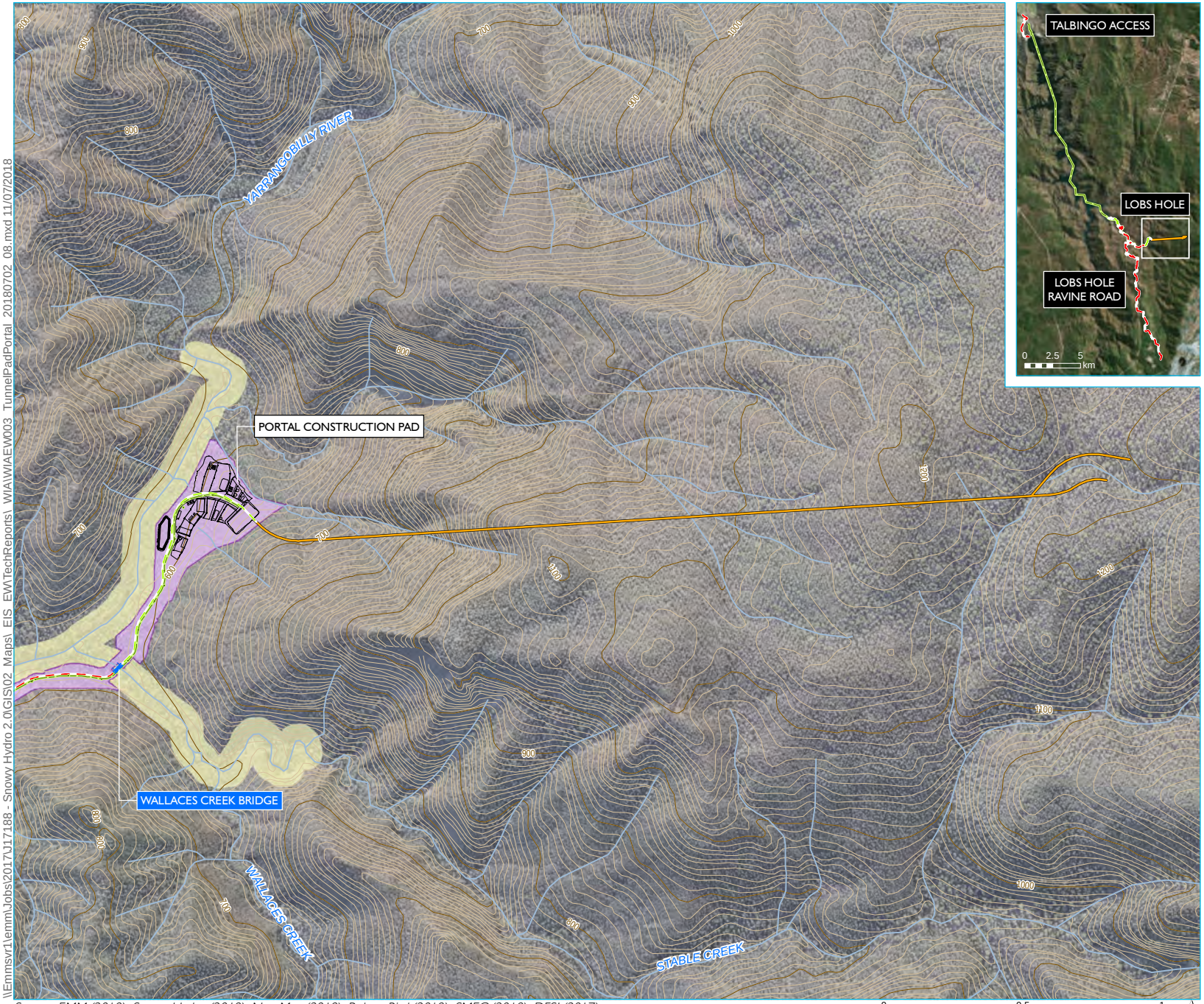
The drill and blast excavation process will be repeated cyclically throughout the tunnelling works, involving:

- marking up and drilling blast holes in a predetermined pattern in the working face of the tunnel;
- loading the blast holes with explosives, attaching detonators and connecting the holes into a blast sequence, and detonating the blast;
- ventilating the tunnel to remove blast fumes and dust;
- removing blasted rock;
- scaling and wash down of the tunnel roof and walls to remove loosened pieces of rock;
- geological mapping of the exposed rock faces and classification of the conditions to determine suitable ground support systems for installation;
- installing ground support; and
- advancing construction ventilation ducting and other utilities including power, water, compressed air and communications.

The exploratory tunnel will be shotcrete-lined with permanent anchor support, and incorporate a groundwater management system. The exploratory tunnel shape and dimensions are designed to allow two-lane traffic for the removal of excavated material, along with additional space for ventilation and drainage of groundwater inflows. Groundwater intersected during tunnelling will be contained and transferred to the portal for treatment and management. Areas identified during forward probing with the potential for high groundwater flows may require management through a detailed grouting program or similar.

The tunnel portal will be established at the western end of the exploratory tunnel and provide access and utilities to the exploratory tunnel during construction. The portal will house power, communications, ventilation and water infrastructure. The portal will also provide a safe and stable entrance to the exploratory tunnel.

It is anticipated that the exploratory tunnel will be adapted for multiple functions during construction of the subsequent stages of the Snowy 2.0 project. The exploratory tunnel will also eventually be utilized to form the main access tunnel (MAT) to the underground power station during the operational phase of Snowy 2.0, should it proceed.



KEY

- Access road upgrade
- Access road extension
- Portal construction pad conceptual layout
- Exploratory tunnel
- Permanent bridge
- Communications cable
- Watercourse
- Contour (10m)
- Contour (100m)
- Disturbance footprint
- Avoidance footprint

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Source: EMM (2018); Snowy Hydro (2018); NearMap (2018); Robert Bird (2018); SMEC (2018); DFSI (2017)

0 0.5 1 km

GDA 1994 MGA Zone 55

N

Exploratory tunnel location

Snowy 2.0
Regulatory Framework Report
Exploratory Works
Figure 2.2

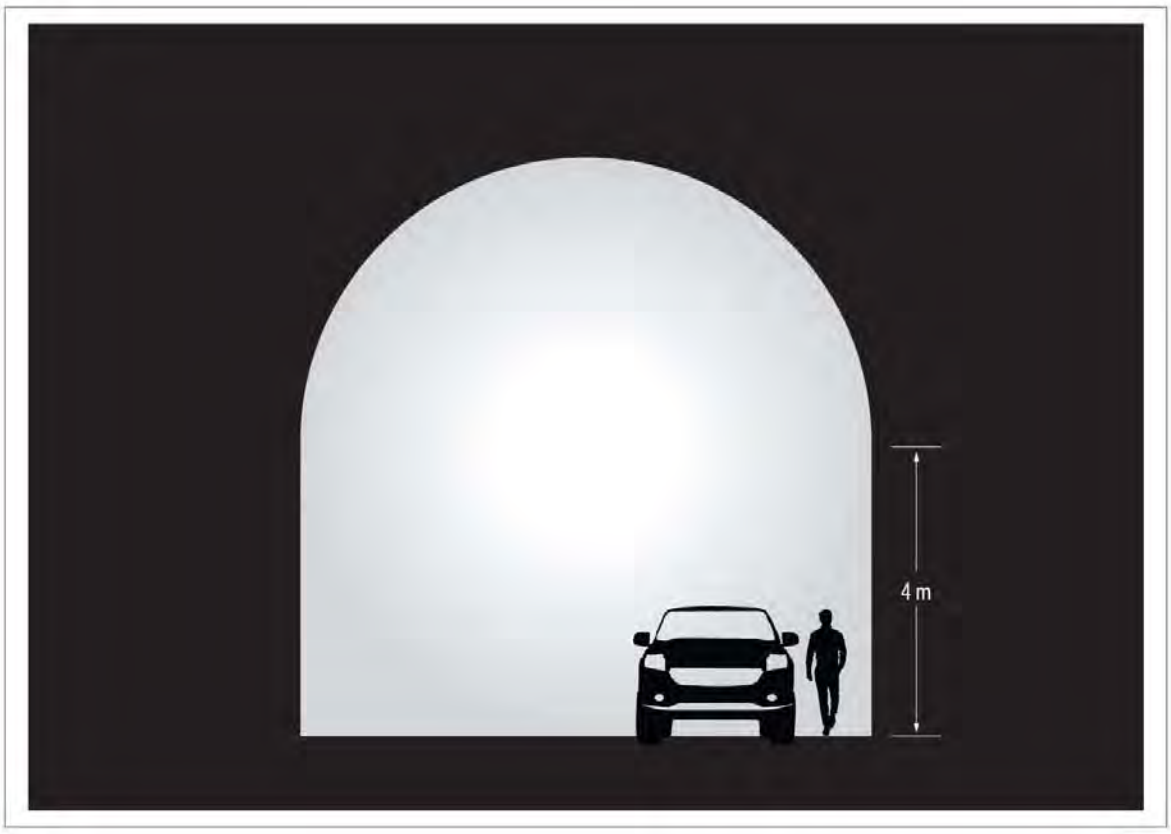
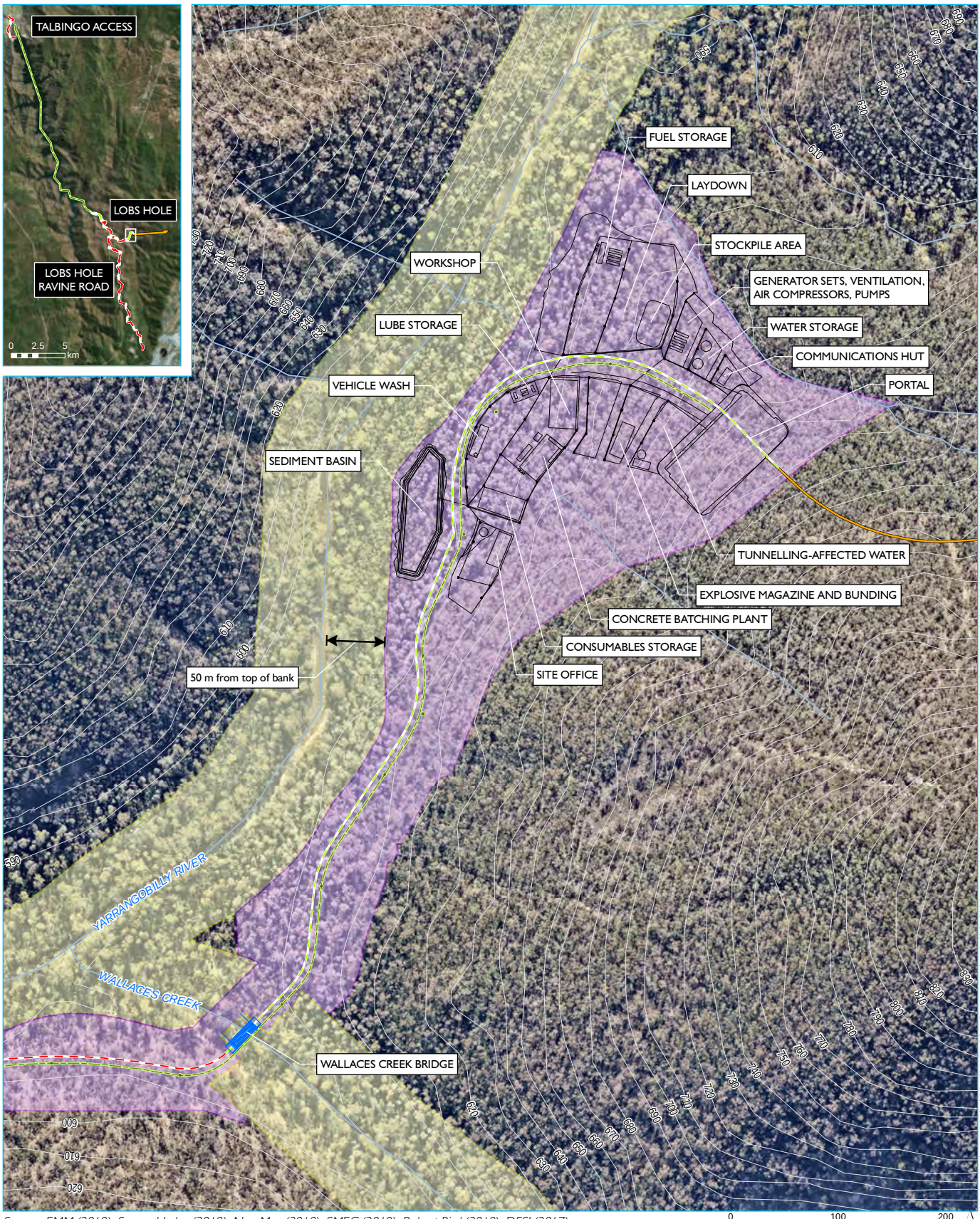


Figure 2.3 Exploratory tunnel indicative cross section

2.3 Portal construction pad

A portal construction pad for the exploratory tunnel will provide a secure area for construction activities. Infrastructure at the portal construction pad, shown in Figure 2.4, will primarily support tunnelling activities and include a concrete batching plant and associated stockpiles, site offices, maintenance workshops, construction support infrastructure, car parking, equipment laydown areas. Stockpile areas will allow for around two to three months supply of concrete aggregate and sand for the concrete batching plant to ensure that the construction schedule for the proposed access road works do not interfere with the exploratory tunnel excavation schedule. A temporary excavated rock stockpile area is also required to stockpile material excavated during tunnel construction prior to its transfer to the larger excavated material emplacement areas.

The portal construction pad will be at the western end of the exploratory tunnel. The portal construction pad will be excavated to provide a level construction area with a near vertical face for the construction of the portal and tunnelling. The area required for the portal construction pad is approximately 100,000 m^2.



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Source: EMM (2018); Snowy Hydro (2018); NearMap (2018); SMEC (2018); Robert Bird (2018); DFSI (2017)

0 100 200 m

GDA 1994 MGA Zone 55

N

KEY

- Access road upgrade
- Access road extension
- Permanent bridge
- Portal construction pad conceptual layout
- Exploratory tunnel
- Communications cable
- Watercourse
- Contour (10m)
- Disturbance footprint
- Avoidance footprint

Conceptual layout – portal construction pad

Snowy 2.0
Regulatory Framework Report
Exploratory Works
Figure 2.4

2.4 Excavated rock management

It is estimated that approximately 750,000 m^3 of bulked materials will be excavated, mostly from the exploratory tunnel and portal construction pad with additional quantities from road upgrade works. Subject to geochemical testing of the rock material, excavated rock will be placed either on land or subaqueously within Talbingo Reservoir.

2.4.1 On land placement

Excavated materials will be placed in one of two rock emplacement areas at Lobs Hole as shown on Figure 2.5.

The strategy for excavated rock management is for excavated material to be emplaced at two areas with the final placement of excavated material to be determined at a later date.

Consultation with NPWS throughout the design process has identified an opportunity for the eastern emplacement area to form a permanent landform that enables greater recreational use of Lobs Hole following the completion of Snowy 2.0's construction. It is envisaged that the excavated rock emplacement area will provide, in the long-term, a relatively flat final landform suitable for camping and basic recreational facilities to be confirmed in consultation with NPWS.

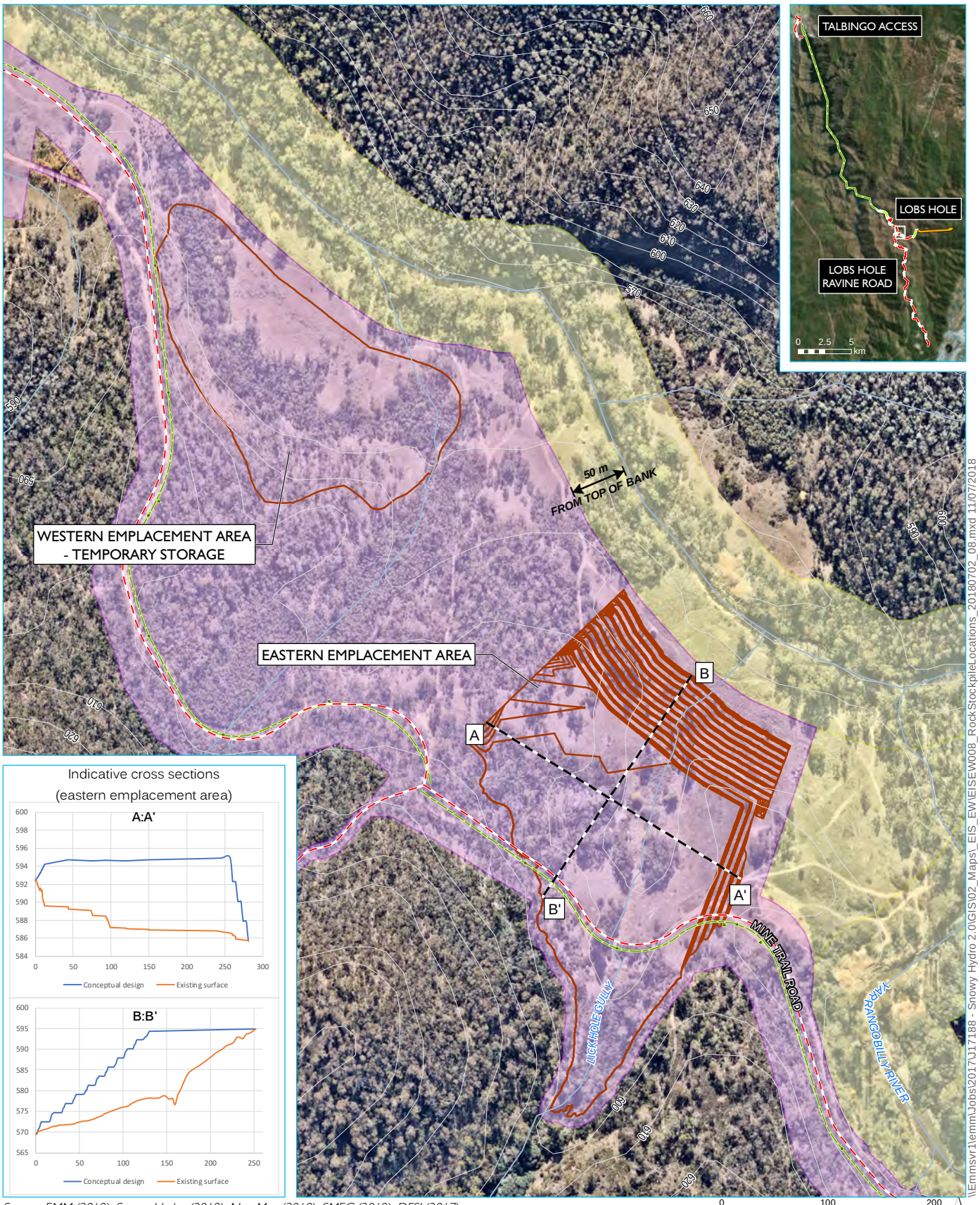
The eastern emplacement area has a capacity of up to 600,000 m^3 of material. It will be approximately 25 m maximum depth and will be benched down to the northern edge of the emplacement which is setback 50 m from the Yarrangobilly River.

The western emplacement area will be used to store excavated material should it not be able to be placed within the eastern emplacement area. It is envisaged this emplacement area will be used to store excavated materials suitable for re-use within the construction of Exploratory Works or for use by NPWS in KNP maintenance activities. All remaining material placed in this emplacement area will be removed following the completion of Exploratory Works.

The guiding principles for the design, construction method and management of emplacement areas undertaken for Exploratory Works have been as follows:

- reducing potential for acid rock drainage from the excavated rock emplacement area entering the Yarrangobilly River or forming groundwater recharge;
- avoid known environmental constraints; and
- manage existing surface water flows from Lick Hole Gully.

The design and management of the emplacement areas have not yet been finalised due to the need for further investigations to determine the likely geochemical characteristics of the excavated material. Following further investigation and prior to construction of Exploratory Works a management plan will be prepared and implemented.



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Source: EMM (2018); Snowy Hydro (2018); NearMap (2018); SMEC (2018); DFSI (2017)

KEY

- Cross-section
- Exploratory tunnel
- Access road upgrade
- Access road extension
- Communications cable
- On land rock management
- Watercourse
- Contour (10m)
- Disturbance footprint
- Avoidance footprint

Conceptual layout – excavated material emplacement areas

Snowy 2.0
Regulatory Framework Report
Exploratory Works
Figure 2.5

2.4.2 Subaqueous placement

An initial program for the placement of excavated rock within Talbingo Reservoir also forms part of Exploratory Works. The program will be implemented in an appropriate section of Talbingo Reservoir in accordance with a detailed management plan based on an engineering method informed through the materials' geochemistry and reservoir's characteristics. The purpose of the program is to confirm the suitability of the emplacement method for future excavated rock material from the construction of Snowy 2.0, should it proceed.

The rock for subaqueous placement will be taken from the excavated rock emplacement areas as described above. Testing of the rock would be conducted during excavation to assess geochemical properties. Any rock assessed as unsuitable for subaqueous placement based on the prior geochemical and leachability testing would be separately stockpiled and not used in the program. Suitable (ie non-reactive material) would be transported and loaded to barge, for placement at the deposition area. Suitable placement locations have been identified for Exploratory Works and are shown indicatively on Figure 2.6.

All placement within the reservoir would occur within silt curtains and would be subject to a detailed monitoring regime including survey monitoring of pre-placement and post-placement bathymetry, local and remote background water quality monitoring during placement with a structured management response to monitoring results in the event of an exceedance of established triggers. The management, mitigation and monitoring measures would be refined following the ongoing investigations.

2.5 Accommodation camp

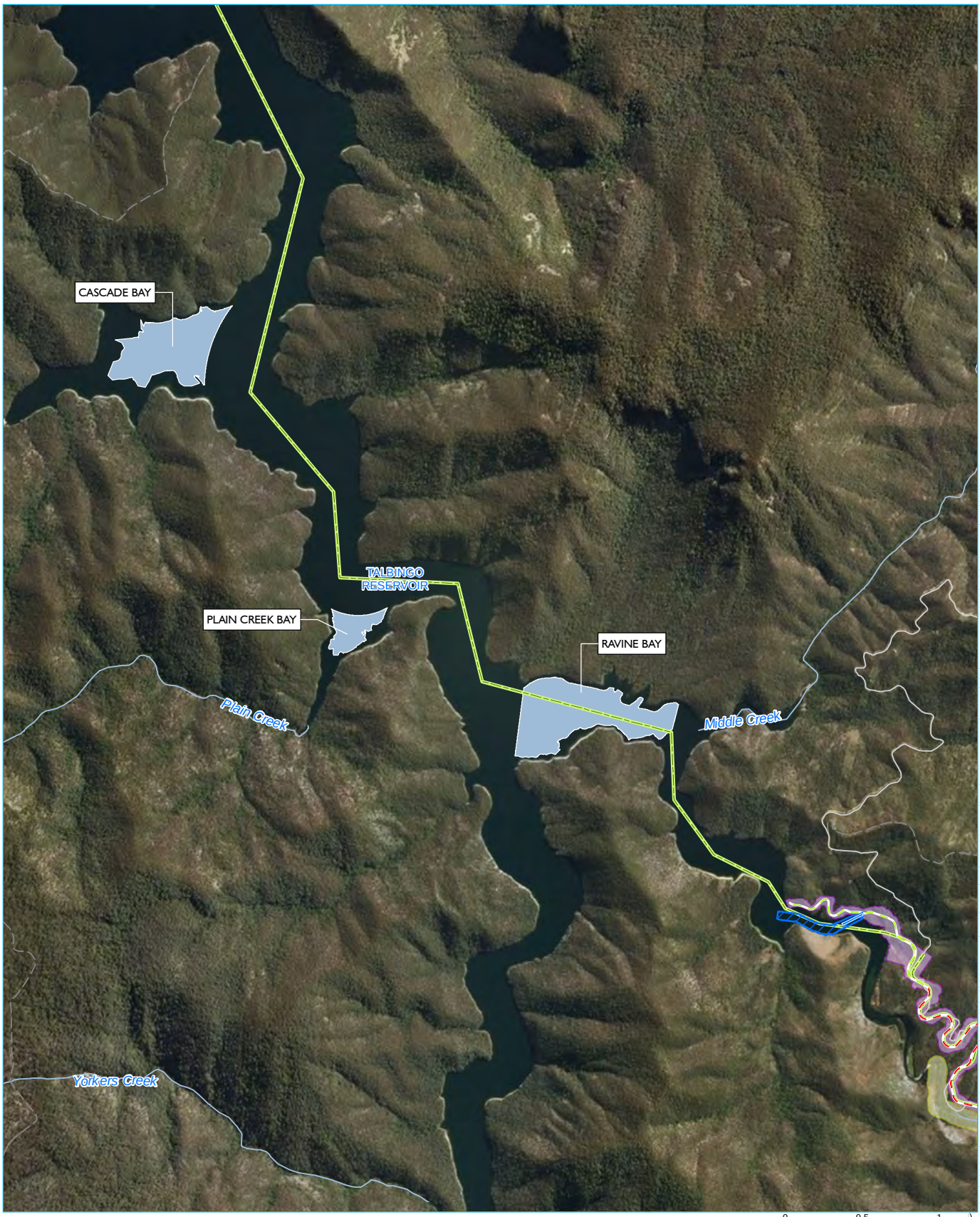
An accommodation camp is proposed to provide accommodation and supporting services for workers in close proximity to the exploratory tunnel. The accommodation camp layout is shown on Figure 2.7 and includes ensuite rooms surrounding central facilities including a kitchen, tavern, gym, admin office, laundry, maintenance building, sewage and water treatment plants and parking that will service the Exploratory Works workforce. The accommodation camp access road will connect to the north side of Lobs Hole Road at Lobs Hole. The conceptual layout of the accommodation camp is shown on Figure 2.7.

2.6 Road and access provisions

Existing road and access will need to be upgraded to a suitable standard to:

- provide for the transport of excavated rock material between the exploratory tunnel and the excavated rock emplacement areas;
- accommodate the transport of oversized loads as required; and
- facilitate the safe movement of plant, equipment, materials and construction staff to the portal construction pad.

Given the topographic constraints of the area, the standard of the existing roads and the environmental values associated with KNP, the option of barging larger and oversized loads to the site is available. This is discussed further at Section 2.7.



Source: EMM (2018); Snowy Hydro (2018); ESRI (2018); SMEC (2018); DFSI (2018); GA (2017); LPMA (2011)

0 0.5 1 km
GDA 1994 MGA Zone 55

N

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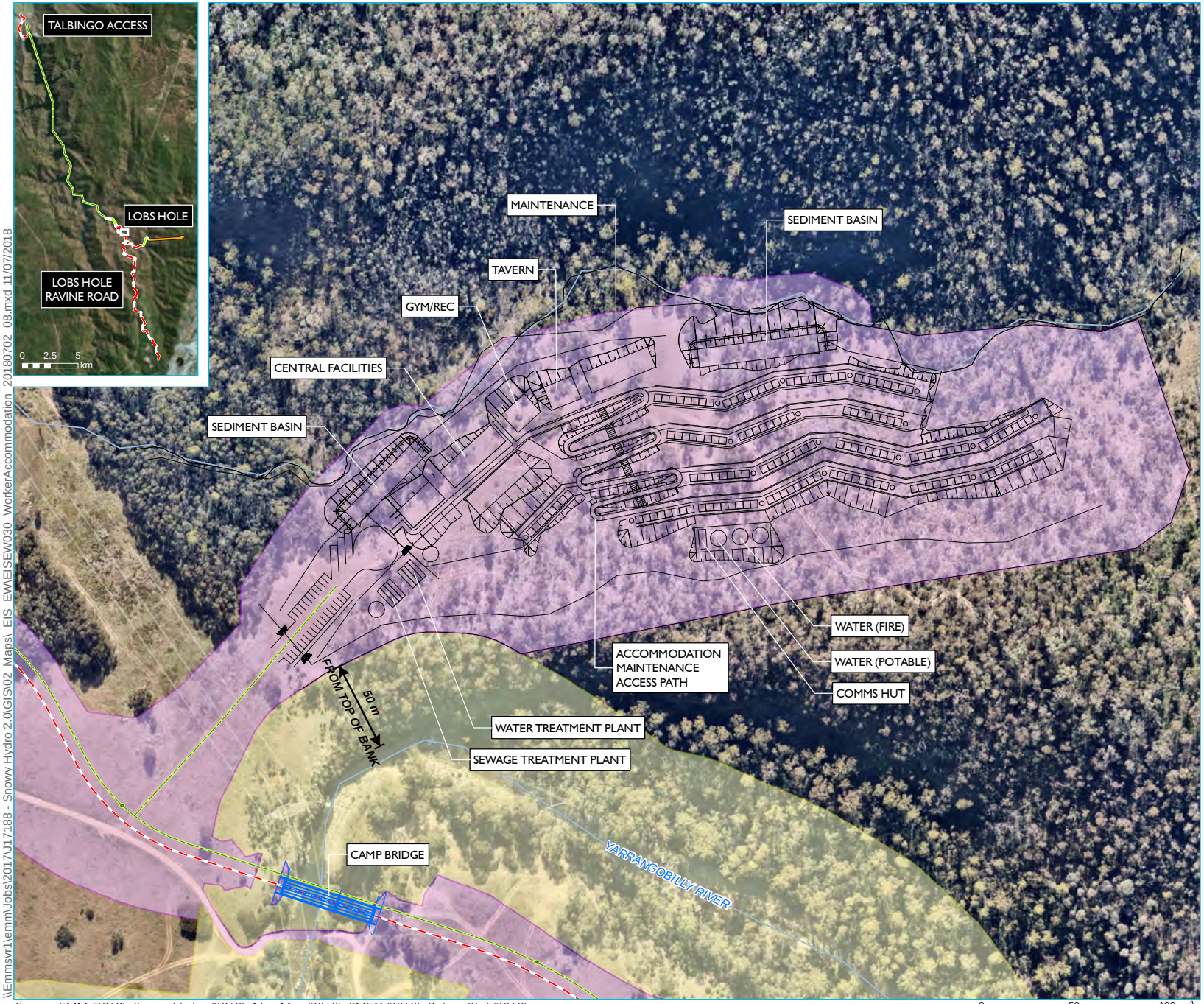
KEY

- Access road upgrade
- Access road extension
- Communications cable
- Subaqueous rock emplacement
- Major watercourse
- Local road
- Track
- Middle Bay barge access
- Disturbance area - barge infrastructure
- Disturbance footprint
- Avoidance footprint

Subaqueous excavated rock placement

Snowy 2.0
Regulatory Framework Report
Exploratory Works
Figure 2.6

snowy 2.0 EMM



KEY

- Exploratory tunnel
- Access road upgrade
- Access road extension
- Permanent bridge
- Accommodation camp conceptual layout
- Communications cable
- Watercourse
- Disturbance footprint
- Avoidance footprint

\\Emmsvr1\emm\Jobs\2017\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS EWEISEW030 WorkerAccommodation 20180702 08.mxd 11/07/2018

Source: EMM (2018); Snowy Hydro (2018); NearMap (2018); SMEC (2018); Robert Bird (2018)

Conceptual layout – accommodation camp

Snowy 2.0
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Figure 2.7

2.6.1 Access road works

The access road upgrades will be designed based on access for a truck and dog trailer. The proposed road works are shown in Figure 2.8 and described in Table 2.1. It is expected that the majority of materials and equipment will travel along the Snowy Mountains Highway, Link Road and Lobs Hole Ravine Road, with some required to travel on Miles Franklin Drive via Talbingo to Talbingo Dam Wall and be transferred via a barge to site. The primary haul routes for construction material on site are provided in Figure 2.9. Where existing roads are replaced by new access roads or road upgrades, the existing roads will be removed and rehabilitated in line with the rehabilitation strategy for Exploratory Works.

Table 2.1 Access road works summary

Roadwork area	Overview
Upper Lobs Hole Ravine Road upgrade	Minor upgrades to 7.5 km section of existing road. Only single lane access will be provided. No cut and fill earthworks or vegetation clearing will be undertaken.
Lower Lobs Hole Ravine Road upgrade	Upgrades to 6 km section of existing road involving cut and fill earthworks in some sections. Only single lane access will be provided.
Lobs Hole Road upgrade	Upgrade to 7.3 km section of existing road providing two-way access.
Mine Trail Road upgrade	Upgrade to 2.2 km section of existing track to two-way access.
Mine Trail Road extension	Establishment of a new two-way road providing access to the exploratory tunnel portal.
Middle Bay Road	Establishment of a new two-way road to the proposed Middle Bay barge ramp.
Spillway Road	Upgrade of a 3 km section of existing road to provide two-way access to the proposed Spillway barge ramp.

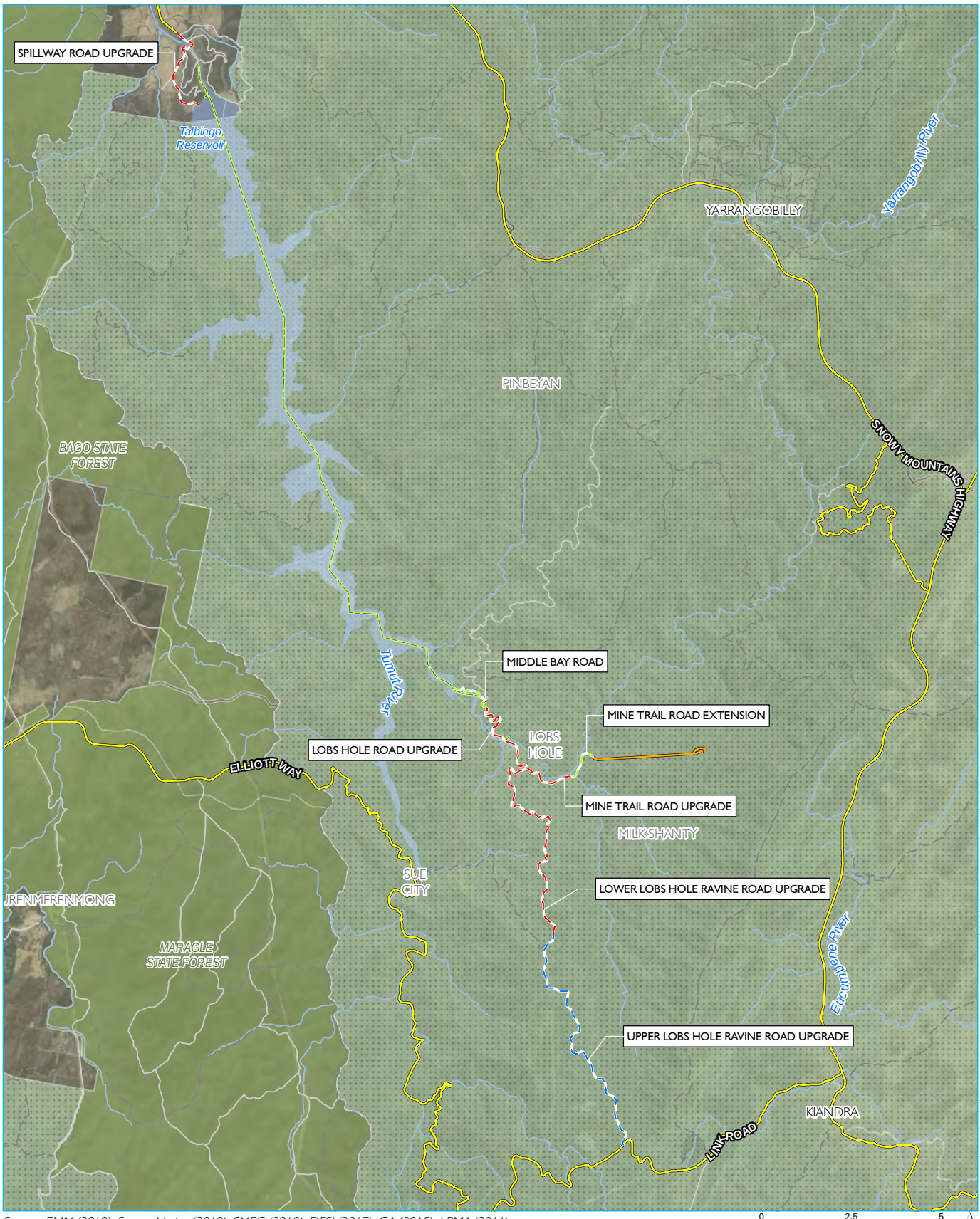
While no cut and fill earthworks or vegetation clearing is proposed along Upper Lobs Hole Ravine Road, a laydown area is proposed within and adjacent to the existing transmission line easement. This area will be used to store materials required for the road works to the lower section of Lobs Hole Ravine Road.

2.6.2 Watercourse crossings

Bridge construction will be required at two locations as described in Table 2.2. The locations of these bridge works are shown in Figure 2.9.

Table 2.2 Watercourse crossing summary

Bridge works area	Overview
Camp bridge	An existing crossing on Yarrangobilly River will be used as a temporary crossing while a new permanent bridge is built as part of Lobs Hole Road upgrade. The existing crossing will require the crossing level to be raised with rocks to facilitate vehicle passage. The rocks used to raise the crossing level will be removed and the crossing no longer used once the permanent bridge has been constructed. The new bridge (Camp Bridge) will be a permanent crossing and used for both Exploratory Works and Snowy 2.0 main works, should it proceed.
Wallaces Creek bridge	Establishment of a new permanent bridge at Wallaces Creek as part of the Mine Trail Road extension. Establishment of this bridge will require an initial temporary pre-fabricated 'Bailey bridge' to be constructed, which will be removed before the end of Exploratory Works.



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Source: EMM (2018); Snowy Hydro (2018); SMEC (2018); DFSI (2017); GA (2015); LPMA (2011)

0 2.5 5 km
GDA 1994 MGA Zone 55

N

KEY

- Access road upgrade - without widening
- Access road upgrade - with widening
- Access road extension
- Exploratory tunnel
- Communications cable
- Main road
- Local road
- Vehicular track
- Perennial watercourse
- Scheme storage
- Kosciuszko National Park
- State forest

Access road upgrades and establishment

Snowy 2.0
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Figure 2.8

KEY

- Access road upgrade
- Access road extension
- Permanent bridge
- Exploratory tunnel
- Portal construction pad and accommodation camp conceptual layout
- Communications cable
- Excavated rock haul route
- Watercourse
- On land rock management
- Middle Bay barge access
- Disturbance footprint
- Avoidance footprint

\\Emmsvr1\emm\Jobs\2017\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS EWEISEW005 ExcavatedRockHaulRoute 20180702 10.mxd 11/07/2018

Source: EMM (2018); Snowy Hydro (2018); NearMap (2018); SMEC (2018); Robert Bird (2018); DFSI (2017)

Excavated material haul route

Snowy 2.0
Regulatory Framework Report
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Figure 2.9

The design for permanent bridges at both crossings will consist of steel girders with a composite deck. This is the most common type of permanent bridge constructed in and around the existing Snowy Scheme. Lightweight steel girders are easy to transport and will therefore allow for efficiencies in the construction schedule and permit the use of smaller-scale lifting equipment at the construction site.

2.7 Barge access infrastructure

To provide an alternative to road access, a barge option is proposed, not only for bulky and heavy equipments but for materials and also in case of emergency. During Exploratory Works, barges will be loaded at the northern barge ramp (Talbingo barge ramp), travel about 18 km along Talbingo Reservoir and be unloaded at the southern barge ramp (Middle Bay barge ramp) before returning to the north. Some loads may also be transported in the reverse direction.

Barge access infrastructure will comprise two dedicated barge ramps at Middle Bay and Talbingo Spillway, with a slope of approximately 1 vertical to 10 horizontal (1V: 10H) at each location. A navigation channel is also required adjacent to the Middle Bay barge ramp. Construction will involve:

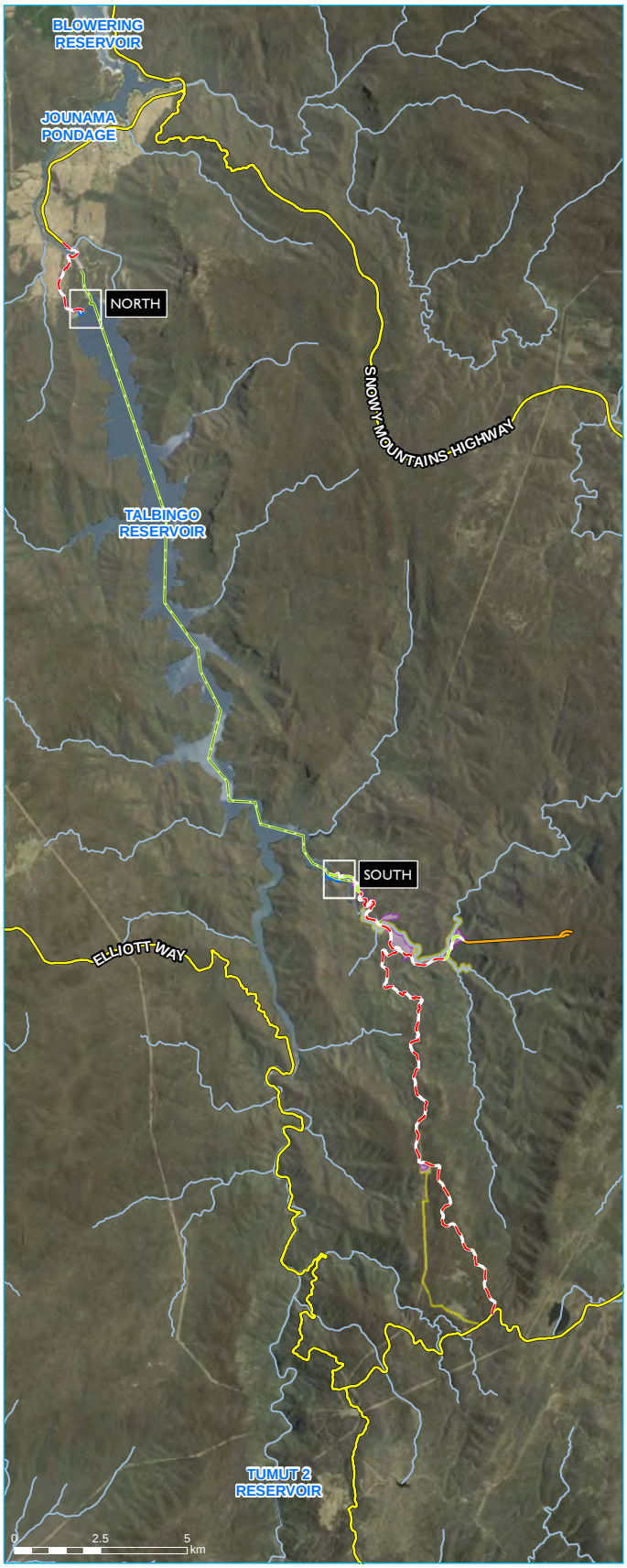
- geophysical and geotechnical investigation of the barge access area to inform detailed design;
- site establishment and excavation of barge access area;
- installation of precast concrete panels at the ramp location;
- installation of bollards for mooring lines;
- removal of trees and debris to establish a navigation channel allowing barge access; and
- minor dredging to allow barge access at the reservoir minimum operating level.

To facilitate construction, laydown areas are proposed adjacent to the Middle Bay barge ramp and adjacent to the water inlet pipeline. Laydown will also be used within the footprint of the Talbingo barge ramp.

Dredged material will be placed as part of the subaqueous placement program or within one of the designated on land rock emplacement areas. The infrastructure proposed for the Talbingo Spillway barge ramp and Middle Bay barge ramp is provided in Figure 2.10.

2.8 Services and infrastructure

Exploratory Works will require additional power and communication infrastructure. Water services are also needed and include a water services pipeline and water and waste water treatment facilities. A summary of services required is provided at Table 2.3.



T:\Jobs\2017\J17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_EWEISEW018_BargeWharfInfrastructure_20180711_08.mxd 11/07/2018

Source: EMM (2018); Snowy Hydro (2018); NearMap (2018); SMEC (2018); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N

KEY

- Exploratory tunnel
- Access road upgrade
- Access road extension
- Communications cable
- Main road
- Local road or track
- Perennial watercourse
- Middle Bay barge access
- Disturbance area - barge infrastructure
- Disturbance footprint
- Avoidance footprint

Barge access locations

Snowy 2.0
Regulatory Framework Report
Exploratory Works
Figure 2.10

Table 2.3 Summary of services and infrastructure

Services infrastructure	Description
Power	Power will be provided at the portal construction pad and accommodation camp by diesel generators, with fuel storage provided at the portal construction pad.
Communication	Communication will be provided via fibre optic link. The fibre optic service has been designed to incorporate a submarine cable from Tumut 3 power station across Talbingo Reservoir to Middle Bay, and then via a buried conduit within the access roads to the accommodation camp and the portal construction pad.
Water and waste water (sewage)	A water services pipeline is proposed for the supply and discharge of water for Exploratory Works which will pump water between Talbingo Reservoir and the exploratory tunnel portal, portal construction pad and accommodation camp.
	A package water treatment plant is proposed at the accommodation camp to provide potable water to the accommodation camp and portal construction pad facilities and will be treated to a standard that complies with the Australian Drinking Water Guidelines. The accommodation camp water supply will be pumped via the water pipeline from Talbingo Reservoir at Middle Bay.
	A package waste water (sewage) treatment plant (STP) is proposed at the accommodation camp for Exploratory Works waste water. The STP will produce effluent quality comparable to standard for inland treatment facilities in the region (eg Cabramurra). Following treatment waste water will be discharged to Talbingo reservoir via the water services pipeline connecting the accommodation camp to Talbingo Reservoir.
	Waste water from the exploratory tunnel and concrete batching plant will be either re-used on site or sent to the waste water treatment plant for treatment prior to discharge.

2.9 Construction and schedule

2.9.1 Geotechnical investigation

To assist the design development for the portal construction pad, accommodation camp, Middle Bay Road, Spillway Road, and Lobs Hole Ravine Road, further survey of ground conditions is required. A program of geotechnical investigations including geophysical survey, construction of test pits, and borehole drilling within the disturbance footprint, will be undertaken as part of construction activities. Excavation of test pits in areas where information on relatively shallow subsurface profiles is required, or where bulk sampling is required for laboratory testing. Borehole drilling is required to facilitate the detailed design of cuttings, bridge foundations, retaining wall foundations, and drainage structures.

2.9.2 Construction activities

A disturbance footprint has been identified for Exploratory Works. The extent of the disturbance footprint is shown on Figure 2.1 and shows the area required for construction, including the buildings and structures, portal construction pad, road widenings and bridges, laydown areas, and rock emplacement areas. Typical construction activities that will occur within the footprint are summarised in Table 2.4.

Table 2.4 Construction activities

Activity	Typical method
Geophysical and geotechnical investigation	Geophysical surveys will generally involve: • laying a geophone cable at the required location and establishing seismic holes; • blasting of explosives within seismic holes; and • in-reservoir geophysics surveys will use an air gun as the seismic source. Geotechnical surveys will generally involve: • establishing a drill pad including clearing and setup of environmental controls where required; • drilling a borehole to required depth using a tracked or truck mounted drill rig; and • installing piezometers where required for future monitoring program. Geophysical and geotechnical investigation within Talbingo Reservoir will be carried out using barges and subject to environmental controls.
Site establishment for portal construction pad, accommodation camp, rock placement areas and laydown areas	Site establishment will generally involve: • identifying and flagging areas that are to be avoided during the Exploratory Works period; • clearing of vegetation within the disturbance footprint, typically using chainsaws, bulldozers and excavators; • civil earthworks to create a stable and level area suitable for establishment. This will involve a cut and fill approach where required to minimise the requirement for imported material; • installing site drainage, soil erosion and other permanent environmental controls where required; • surface finishing, compacting only existing material where possible, or importing additional material. Where suitable, this material will be sourced locally (eg from upgrade works to Lobs Hole Ravine Road); and • set up and commissioning of supporting infrastructure, including survey marks.
Road works	Upgrades of existing tracks (no widening) will generally involve: • identifying and flagging areas that are to be avoided during the Exploratory Works period; and • removing high points, infilling scours, levelling of rutting, and compacting surfaces. Extension or widening of existing tracks will generally involve: • identifying and flagging areas that are to be avoided during the Exploratory Works period; • installing site drainage, soil erosion and other permanent environmental controls where required; • clearing and earthworks within the disturbance footprint; and • placing road pavement material on the roadway.
Bridge works	Establishment of permanent bridges will generally involve: • installing erosion and sedimentation controls around watercourses and installing scour protection as required; • establishing temporary diversions within the watercourse where required, including work to maintain fish passage; • establishing temporary bridges to facilitate permanent bridge construction; • constructing permanent bridges including piling, establishment of abutments and piers; and • removal and rehabilitation of temporary bridges and diversions.

Table 2.4 Construction activities

Activity	Typical method
Barge access works	Establishment of barge access infrastructure will generally involve: • installing sediment controls; • excavating and dredging of barge ramp area and navigation channel; • installing precast concrete planks and bollards; and • set up and commissioning of supporting infrastructure.
Exploratory tunnel construction	The drill and blast excavation process will be repeated cyclically throughout the tunnelling works, involving: • marking up and drilling blast holes in a predetermined pattern in the working face of the tunnel; • loading the blast holes with explosives, attaching detonators and connecting the holes into a blast sequence, and detonating the blast; • ventilating the tunnel to remove blast fumes and dust; • removing blasted rock; • scaling and wash down of the tunnel roof and walls to remove loosened pieces of rock; • geological mapping of the exposed rock faces and classification of the conditions to determine suitable ground support systems for installation; • installing ground support; and • advancing construction ventilation ducting and other utilities including power, water, compressed air and communications.

2.9.3 Ancillary construction areas

Ancillary facilities and laydown areas have been identified within the conceptual layout for the portal construction pad and accommodation camp. A number of other indicative construction and laydown areas have also been identified to support Exploratory Works. A summary of these sites are:

- Upper Lobs Hole Ravine Road laydown area;
- rock emplacement area laydown, storage and ancillary uses;
- barge access infrastructure laydown areas at Talbingo and Middle Bay; and
- other minor laydown areas as needed during site establishment of watercourse crossings.

All laydown areas are within the disturbance footprint identified for Exploratory Works.

In addition, an area near Camp Bridge has been identified to be used for a plant nursery and organic stockpile area.

2.9.4 Construction workforce requirements

i Staffing levels

It is currently expected that workforce for Exploratory Works will be approximately 200 people in total at peak construction. Workers are anticipated to work a 'swing' shift, for example two weeks on and one week off. These workers will be accommodated within the accommodation camp at Lobs Hole when rostered on.

The majority of the workforce will work on a fly-in fly-out and drive-in drive-out basis. It is expected that the majority of workers will fly in and out of either Cooma Airport or Canberra Airport and then travel to site via bus.

During construction of the accommodation camp, workers will be accommodated at Cabramurra. Some workers may also be accommodated at Snowy Hydro existing accommodation units at Talbingo during construction of the Talbingo barge ramp. No accommodation will be required outside of Cabramurra, the construction accommodation camp or Talbingo for the Exploratory Works workforce.

ii Hours of operation

It is expected that construction of the exploratory tunnel and haulage of rock material between the tunnel and excavated rock stockpile locations at Lobs Hole will be 24 hours a day, seven days a week for the duration of the tunnel drilling and blasting operation. Other construction activities, including the establishment works, road and infrastructure works, will normally work a 12 hour day, seven days a week.

The transport of materials along the haul route from Snowy Mountains Highway, Link Road and Upper Lobs Hole Ravine Road will only occur during day time hours (except during emergency), to avoid impacts to threatened species (Smoky Mouse). Transport by barge will be 24 hours a day, seven days a week.

2.9.5 Timing and staging

Exploratory Works are expected to take about 34 months, with the exploratory tunnel expected to be completed by late 2021.

It is expected that the construction works will be completed largely in parallel. However, road and access works are expected to be completed within the first six months from commencement. The proposed staging of construction activities are highlighted in Figure 2.11.

Figure 2.11 Indicative timing of Exploratory Works elements

2.10 Site rehabilitation

All Exploratory Works align with components of the main works for Snowy 2.0. However, should Snowy 2.0 not be approved or not progress, the Exploratory Works project area will need to be rehabilitated. Anticipated rehabilitation activities are summarised in Table 2.6.

Table 2.5 Planned Exploratory Works rehabilitation activities

Exploratory Works element	Indicative rehabilitation activities
Exploratory tunnel	Tunnel to remain open, and allowed to flood in lower portion provided groundwater impacts are negated.
Exploratory tunnel portal area	Permanent portal facade to be constructed, portal to be sealed from entry.
Portal construction pad and associated infrastructure	To be demobilised and all infrastructure removed. Site to be revegetated and returned to "original state".
Excavated rock emplacement areas	Emplaced excavated rock in the western emplacement area to be removed offsite and area to be revegetated and returned to "original state". The eastern emplacement area could remain in-situ and the landform rehabilitated as agreed with NPWS.
Accommodation camp	To be demobilised and all infrastructure removed. Site to be revegetated and returned to "original state".
Road access works	No remediation required as works are to be designed to be permanent.
Barge access infrastructure	No remediation works required as wharf and loading ramps are designed as permanent. Wharf can be removed if desired.
Services and infrastructure	To be demobilised and all infrastructure removed. Site to be revegetated and returned to "original state".

2.11 Decommissioning

Should Snowy 2.0 not proceed following the commencement or completion of Exploratory Works, elements constructed are able to be decommissioned and areas rehabilitated. Given works are within KNP, Snow Hydro will liaise closely with NPWS to determine the extent of decommissioning and types of rehabilitation to be undertaken. This approach will be taken to ensure that decommissioning allows for integration with future planned recreational use of these areas and to maintain the values of KNP.

2.12 Key aspects relevant to regulatory framework

All aspects of the Exploratory Works require State planning approval under the EP&A Act. Certain aspects will also require separate State or local environmental approvals or authorisations. These include:

- construction and occupation of buildings and structures;
- land-based excavation and excavation rock emplacement (on land and subaqueous);
- dredging within Talbingo Reservoir;
- helicopter use;
- sewage management facilities;
- road upgrades;
- interactions with water sources;
- operation of groundwater monitoring bores; and
- storage, use and transport of dangerous goods.

Commonwealth approval may also be required for the Exploratory Works.

3 NSW environmental planning approvals

3.1 Introduction

The EP&A Act and NSW *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) form the statutory framework for planning approval and environmental assessment in NSW. Implementation of the EP&A Act is the responsibility of the Minister for Planning, statutory authorities and local councils. It contains two parts that impose requirements for planning approval:

- Part 4, which provides for control of development that requires development consent from the relevant consent authority.
- Part 5, which provides for control of development that does not require development consent under Part 4. Part 5 'activities' are determined under Division 5.2 for State significant infrastructure (SSI) or Division 5.1 for all other types of development.

The identification of approval pathways and assessment requirements are set out in environmental planning instruments (EPIs) that may be made under Division 3.3 (State environmental planning policies) or Division 3.4 (local environmental plans) of the EP&A Act.

3.2 Objects of the Act and ESD principles

3.2.1 Section 1.3 objects

The objects of the EP&A Act are specified in Section 1.3 of the Act, and seek to promote the management and conservation of natural and artificial resources, while also permitting appropriate development to occur. The objects of the EP&A Act are reproduced below, followed by a consideration of the consistency of the Exploratory Works with these objects.

> (a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,

The Snowy Scheme is the largest engineering project ever undertaken in Australia and is one of the largest and most complex hydro-electric schemes in the world. Snowy 2.0 will develop the capabilities of the existing Snowy Scheme by linking Talbingo and Tantangara reservoirs, increasing energy generation capacity by almost 50%. The development of Snowy 2.0 will play a key role in helping NSW and the broader NEM achieve energy system reliability and security, with relatively low costs and emissions. Snowy 2.0 would also increase generation competition in the NEM at the peak times, and thus exert downward pressure on peak energy prices providing economic benefits to the consumer. The Exploratory Works will, therefore, promote the social and economic welfare of the community as an essential component of Snowy 2.0.

The Exploratory Works is an important first step in finalising the design of Snowy 2.0. It will provide a better understanding of the underground conditions and confirm the precise location of the power station and the construction method required, thereby, promoting the proper management and development of State resources.

> (b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,

The Commonwealth Government's 1992 *National Strategy for Ecologically Sustainable Development* defines ecologically sustainable development (ESD) as:

> using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life now, and in the future, can be increased.

The Exploratory Works, as a component of Snowy 2.0, would enhance existing community resources and would provide for an increased quality of life now, and in the future.

The Exploratory Works has the potential to impact ecological processes in two ways; via direct impacts from clearing of vegetation and ground disturbance, and via indirect impacts (eg water runoff, noise and light) to adjacent areas during construction activities. In recognition of these, the design of the Exploratory Works adopted avoidance and minimisation measures. Residual impacts have been assessed and mitigation and management measures recommended in the EIS.

The concept of ESD, when used in the EP&A Act, has the same meaning it has in Section 6(2) of the *Protection of the Environment Administration Act 1991* (POEA Act) which states:

> ecologically sustainable development requires the effective integration of social, economic and environmental considerations in decision-making processes.

A determination of the project application will require consideration of all aspects of the Exploratory Works including the social, economic and environmental impacts both adverse and positive. On balance it is considered that the Exploratory Works would have an overall positive impact.

Further section 6(2) of the POEA Act states:

> Ecologically sustainable development can be achieved through the implementation of the following principles and programs...

Consideration of the Exploratory Works against each of the principles specified in section 6(2) of the POEA Act is given in section 3.2.2.

> (c) to promote the orderly and economic use and development of land,

The avoidance and minimisation measures adopted in the design of the Exploratory Works ensure that the land within the project area is developed in an orderly manner.

Snowy 2.0 would increase generation competition in the NEM at the peak times, and thus exert downward pressure on peak energy prices and provide economic benefits to the consumer. The Feasibility Study delivered in December 2017 confirmed that Snowy 2.0 is economic, technically feasible and financeable (Snowy Hydro 2017). The economic use of the land would be maximised through development of Snowy 2.0 and its integration into the wider Snowy Scheme. Following construction, most disturbed areas would be rehabilitated and returned to land uses generally consistent with their current use ensuring their existing economic benefits are maintained.

> (d) to promote the delivery and maintenance of affordable housing,

The Exploratory Works does not involve the construction of permanent residential accommodation. A temporary accommodation camp will be established on site which is anticipated to be used for the majority of the construction workforce. This will ensure that the existing supply of short-term accommodation and affordable housing in the region would not be significantly impacted.

(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,

The Exploratory Works has been designed in a way to avoid and minimise impacts where possible. In locations that would be disturbed by Exploratory Works, most of the land has been previously disturbed. However, the land contains habitat for native and threatened fauna including the Gang-gang Cockatoo, Eastern Pygmy-possum, Booroolong Frog, Smoky Mouse and Masked Owl.

Specific limitations to design and construction along identified Smoky Mouse habitat on Lobs Hole Ravine Road have been recommended. The minor loss of native vegetation and impacts to threatened species will require offsets in accordance with legislation, and implementation of an offset strategy will be determined in consultation with NPWS. Residual impacts on biodiversity conservation values will be managed through the implementation of a Threatened Species Management Plan.

(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),

The 50 m exclusion zone surrounding Yarrangobilly River, accompanied by a suite of other relevant mitigation measures, will protect high Aboriginal archaeological heritage values identified in this area. Disturbance areas within the project area have been previously disturbed and are considered to be of low significance for Aboriginal archaeology.

While there are local historic heritage items recorded in the project area under heritage registers, these will not be impacted by Exploratory Works. A number of potential historic items, not listed on heritage registers, in the project area have also been identified. These items have been assessed for their historic heritage significance and 15 are classified as locally significant. Of these, five are within the disturbance footprint. Four of these sites are associated with the former Lobs Hole Mine and will be subject to archival recording before any impacts to the items can occur. One site (Ravine cemetery) has been avoided by disturbance activities. While the majority of potential heritage items are not assessed to warrant protection or management, the material heritage at Lobs Hole is considered to be of value to the local community and individuals with historic ties to the area.

Residual impacts on heritage conservation values will be managed through the implementation of a Cultural Heritage Management Plan. Protocols will be put in place to manage any unexpected finds for historic heritage and Aboriginal cultural heritage.

(g) to promote good design and amenity of the built environment,

Through the design process for Exploratory Works, Snowy Hydro, in consultation with EMM and the design team, has undertaken significant steps to avoid, minimise and mitigate impacts. The objective was to locate, design and construct the proposed Exploratory Works in such a way that it avoids and minimises impacts to the receiving environment and retains the existing dominant, natural character of the area.

The Exploratory Works facilities will be constructed and used for the duration of the Exploratory Works phase. Should Snowy 2.0 proceed, these facilities would remain and have the potential to change amenity in the longer term. Should Snowy 2.0 not proceed, these facilities will be temporary and will result in short term amenity changes with the sites rehabilitated to their original state.

Design features such as the 50 m setback from Yarrangobilly River, minimising and refining the Exploratory Works footprint, as well as noise and air quality mitigation measures will result in a minimisation of potential impacts to the amenity of the project area. The visibility of infrastructure is contained to the immediate working areas which will be closed to the public during construction. Effective rehabilitation of the site post-construction will ensure that these impacts remain minimal once the area is made available to the general public. Works at Talbingo barge ramp and Spillway Road upgrades are likely to be intermittently visible from some locations in the vicinity.

Whilst the majority of Exploratory Works will not be visible to the public, appropriate standards and guidelines will be implemented (including adopting internationally accepted standards for marine and light sensitive locations, and consideration given to implementing available guidelines for outdoor lighting in Dark-Sky preserves where it can be shown that to do so will not compromise safety). The visual impacts of any residual impacts will be minimised through the development of a detailed rehabilitation strategy.

> (h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,

Buildings proposed as part of Exploratory Works have been designed in compliance with the Building Code of Australia. Buildings within the accommodation camp, as well as the portal construction pad and barge access infrastructure, will be constructed to comply with the construction requirements of the *Planning for Bush Fire Protection Guideline* (NSW Rural Fire Service 2006) and relevant Australian Standards.

Stringent health and safety procedures would be implemented for all workers with adherence to all Work Health and Safety requirements. An Emergency Response Plan (ERP) will be prepared and implemented during construction which will contain all procedures relating to flood, bushfire and other emergencies.

> (i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,

Stakeholder engagement prior to and during preparation of the EIS included consultation with all relevant government agencies including, but not limited to, DPE, NPWS, Snowy Valleys Council and Snowy Monaro Regional Council. The Minister for Planning and Environment is the determining authority for the project application. DPE, in its assessment of the application, will consider any matters raised by other State agencies and local governments.

> (j) to provide increased opportunity for community participation in environmental planning and assessment,

An extensive stakeholder engagement process was implemented prior to and during preparation of the EIS. The adopted stakeholder engagement framework is based on the International Association for Public Participation's *Public Participation Spectrum*, 2014. Identified stakeholders include government agencies, the community (including the general public, recreational users, tourism operators, irrigators, environment groups and Aboriginal stakeholders), industry groups, and the media. Consultation with the local Aboriginal community was undertaken with regard to the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (OEH 2010).

The engagement process will continue post lodgement of the EIS and during construction of Exploratory Works should approval be granted.

3.2.2 Principles of ecologically sustainable development

As detailed above, section 6(2) of the POEA Act states that ESD can be achieved through the implementation of a number of principles. These are also replicated in Clause 7(4) of the EP&A Regulation. Consideration of the Exploratory Works with regard to each of principles is given below.

i Precautionary principle

The precautionary principle holds that where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Section 6(2) of the POEA Act states that, in the application of the precautionary principle, public and private decisions should be guided by:

> (i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
>
> (ii) an assessment of the risk-weighted consequences of various options,

The Exploratory Works has been designed in a way to avoid and minimise serious or irreversible damage to the environment where possible. The assessments of any residual impacts have recommended a suite of mitigation and management measures to reduce the risk of significant impacts to the environment.

ii Inter-generational equity

Inter-generational equity is the concept that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

Snowy 2.0 would provide the following benefits to future generations:

- increase the generation capacity of the Snowy Scheme by almost 50% providing an additional 2,000 MW generating capacity, and make approximately 350 GWh of storage available to the NEM at any one time;
- increased storage lifespan, longer lifespan for storage, and cheaper full life cycle cost when compared to current lithium-ion storage batteries;
- more efficient dispatch of electricity to major load centres and less emission generation when compared to traditional electricity generating plants powered by fossil fuels; and
- improved security and reliability of supply when compared to the intermittency of primary renewable energy sources (such as wind and solar).

These benefits would ensure that the health, diversity and productivity of the environment are maintained or enhanced.

iii Conservation of biological diversity and ecological integrity

This principal holds that conservation of biological diversity and ecological integrity should be a fundamental consideration.

Conservation of biodiversity and the wider environment was a fundamental consideration in the design of the Exploratory Works with avoidance and minimisation measures implemented where possible. In locations that would be disturbed by Exploratory Works, most of the land has been previously disturbed though some land contains habitat for native and threatened fauna. Mitigation and management measures have been recommended to ensure conservation of biodiversity though specific limitations to design and construction, requirements for offsets in accordance with legislation, and implementation of an offset strategy and Threatened Species Management Plan.

iv Improved valuation and incentive mechanisms

This principal holds that environmental factors should be included in the valuation of assets and services. Examples of mechanisms are provided in section 6(2) of the POEA Act and include:

> (i) polluter pays—that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,
>
> (ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,
>
> (iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

The introduction and implementation of incentive mechanisms is beyond the control of Snowy Hydro. However, it is noted that the development of Snowy 2.0 would improve the reliability and security of the NEW, with lower costs and greenhouse gas emissions than other energy generation alternatives. Further, Snowy 2.0 would increase generation competition in the NEM at the peak times, exerting downward pressure on peak energy prices, providing economic benefits to the consumer.

3.3 State significant infrastructure

Part 5, Division 5.2 of the EP&A Act establishes the assessment and approval regime for State significant infrastructure (SSI) and CSSI. Sections 5.12 and 5.13 of Part 5 of the EP&A Act provide for the declaration of SSI and CSSI, respectively.

A State environmental planning policy (SEPP) may declare development to be SSI (section 5.12(2)) provided the development is permitted by a SEPP to be carried out without development consent under Part 4 and is either infrastructure or other development for which the proponent is also the determining authority and would require an EIS under Division 5.1 (section 5.12(3)). Despite this, specified development on specified land may be specifically declared to be SSI by a SEPP or by an order of the Minister for Planning to amend a SEPP (section 5.12(4)).

Section 5.13 enables the Minister for Planning to declare SSI to be CSSI if "it is of a category that, in the opinion of the Minister, is essential for the State for economic, environmental or social reasons". On 26 October 2017, Snowy Hydro requested that the NSW Minister for Planning declare Snowy 2.0 to be CSSI. On 7 March 2018 the NSW Minister for Planning declared Snowy 2.0 to be CSSI. This declaration came into effect on 9 March 2018 and is included in clause 9 of Schedule 5 of the SRP SEPP.

The Minister for Planning (or delegate) is the determining authority for SSI. Whilst Section 2.4 of the EP&A Act allows the Minister to delegate his or her function of determining an application for approval under Part 4 or Part 5 of the Act, section 2.4(3)(b) prevents this for the determination of an approval for CSSI.

3.4 State approval process

Division 5.2, Subdivision 2 (sections 5.14 – 5.19) of the EP&A Act sets out the environmental assessment and approval process for SSI. Figure 3.1 shows the approval process for the Exploratory Works with the key steps described below. As previously stated, a separate approval will be sought for the main works for Snowy 2.0.

- The proponent applies for the approval of the Minister under Division 5.2 to carry out SSI. An application for the Exploratory Works was lodged with the Secretary of Planning on 15 March 2018.

- The Secretary, in consultation with relevant public authorities, prepares the environmental assessment requirements (SEARs) for the development. SEARs for the Exploratory Works were issued to Snowy Hydro on 17 May 2018. A letter to amend the SEARs to include subaqueous spoil disposal was sent on 5 June 2018. Revised SEARs were then issued on 20 June 2018.

- An EIS is prepared by, or on behalf of, the proponent in accordance with the SEARs and Part 3 of Schedule 2 of the EP&A Regulation (as per Section 5.16(2) of the EP&A Act). The DPE will place the EIS on public exhibition for a minimum of 28 days (as per the minimum public exhibition periods for SSI EISs set out in Division 2, of Schedule 1 to the EP&A Act). During the exhibition period, government agencies and the community have the opportunity to review the EIS and make a written submission to the DPE for consideration in its assessment of the Exploratory Works.

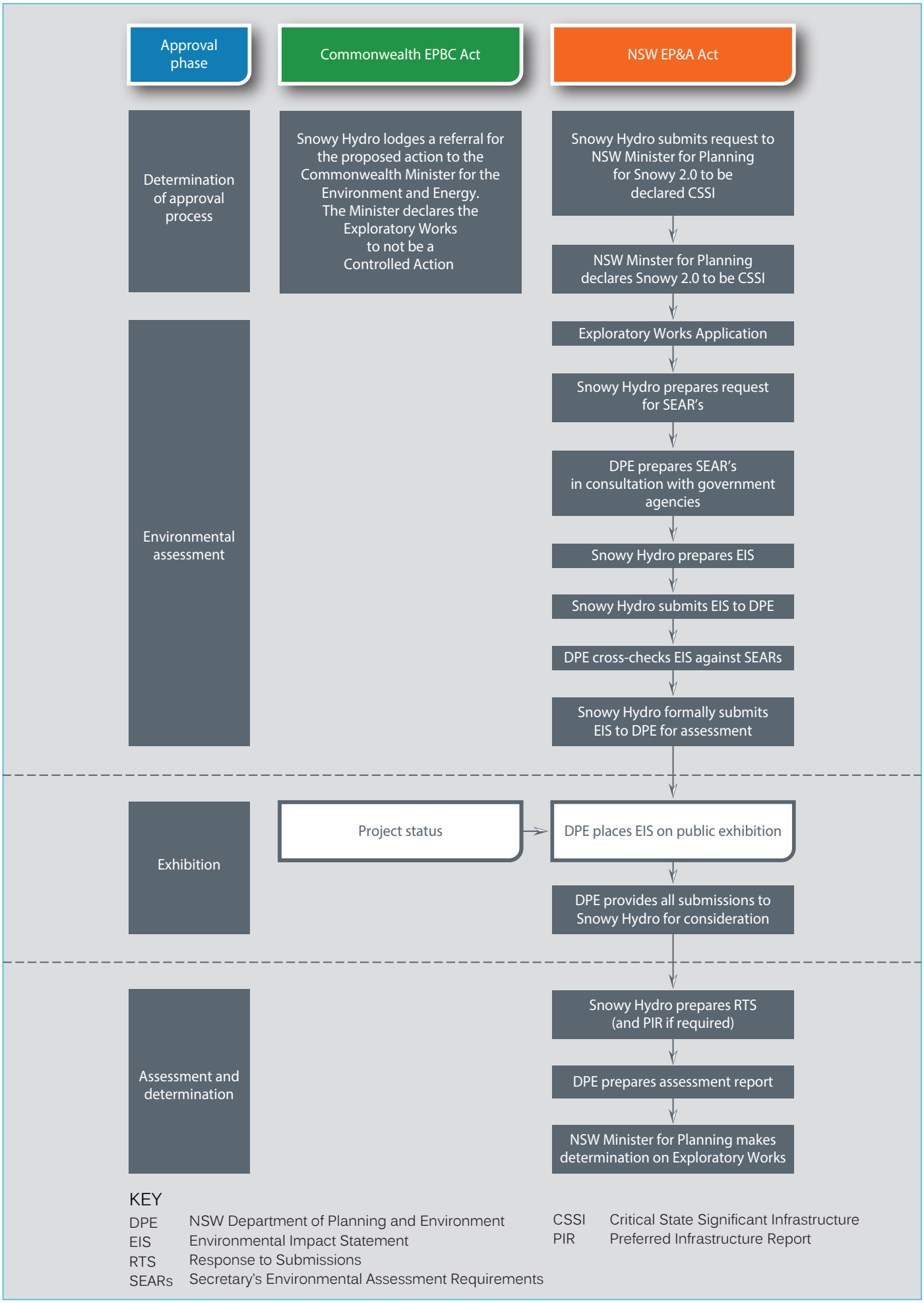
- At the completion of the public exhibition period, DPE will collate and provide Snowy Hydro with a copy of all submissions received during the exhibition period. Copies of the submissions, or a report of the issues raised in the submissions, will also be provided to the EPA (required under Section 5.17(5) for SSI that requires an EPL) and any other public authority the Secretary considers appropriate.

- After reviewing the submissions, Snowy Hydro will prepare a submissions report that responds to the relevant issues raised. If changes are required to the Exploratory Works as a result of the issues raised or to minimise environmental impact, a preferred infrastructure report (PIR) may also be required by the Secretary. If this is required, Snowy Hydro would prepare the PIR to address the changes to the design to minimise impacts and submit this for review to the DPE. The PIR would be made available to the public if the Secretary considers that significant changes are proposed.

- The Minister or the Secretary may, at any point, request the Independent Planning Commission (IPC) to provide advice on certain matters related to the Exploratory Works. The Minister may also request that the IPC hold a public hearing in relation to the project.

- The Secretary will issue a report to the Minister for his/her consideration of the application for approval. The report will include a copy of the EIS and PIR (if required), any advice provided by public authorities on the Exploratory Works, any report or advice of the IPC (if required) and any environmental assessment undertaken by the Secretary or other matter the Secretary considers appropriate.

- Approval from the NSW Minister for Planning is required before Snowy Hydro can proceed with the project. The Minister, when deciding whether or not to approve the carrying out of the Exploratory Works, is to consider the Secretary's report, any advice provided by the Minister having portfolio responsibility for the proponent, and any findings or recommendation of the IPC's review (if required).



snowy 2.0

EMM creating opportunities

Approvals assessment process

Snowy 2.0
Regulatory Framework Report
Exploratory Works
Figure 3.1

3.5 Application of other provisions

Division 5.2, Subdivision 4 (sections 5.22 – 5.24) details the application of other provisions of the EP&A Act and other NSW Acts to SSI. In particular, it is noted that:

- environmental planning instruments do not apply to, or in respect of, SSI except that they apply to the declaration of infrastructure as SSI or CSSI and in so far as they relate to section 3.16 of the Act (section 5.22). Irrespective of this, consideration has been given in this report to the instruments that would have applied if not for this section (see Section 3.8).

- a number of authorisations are not required for approved SSI (section 5.23). The authorisations that would have been required for the Exploratory Works, if not for this section, are detailed below in Section 4.

- a number of authorisations cannot be refused if it is necessary for carrying out approved SSI and is to be substantially consistent with an approval under Division 5.2 (section 5.24). The authorisations required for the Exploratory Works that cannot be refused are detailed below in Chapter 4.

Any works or activities related to building work and the occupation or use of a building requires a certificate under Part 6 of the EP&A Act. All buildings proposed in the Exploratory Works will require issue of a construction certificate and an occupation certificate by either Snowy Valleys Council or a private certifier.

3.6 Environmental Planning and Assessment Regulation 2000

An EIS for SSI is to be prepared in accordance with Part 3 of Schedule 2 of the EP&A Regulation (as per Section 5.16 of the EP&A Act). The requirements for preparation of an EIS are set out in Clause 6 and 7 of Schedule 2 of the EP&A Regulation. A summary of these requirements and where they are addressed in the EIS are provided in Table 3.1.

Table 3.1 Schedule 2 requirements for an EIS

Requirement	Where contained in the EIS
Clause 6 Form of environmental impact statement	
(a) the name, address and professional qualifications of the person(s) by whom the statement is prepared,	Certification page at the front of the EIS
(b) the name and address of the responsible person (the applicant),	Certification page at the front of the EIS
(c) the address of the land: (i) in respect of which the development application is to be made, or (ii) on which the activity or infrastructure to which the statement relates is to be carried out,	Section 1.7.1
(d) a description of the development, activity or infrastructure to which the statement relates,	Chapter 2
(e) an assessment by the person by whom the statement is prepared of the environmental impact of the development, activity or infrastructure to which the statement relates, dealing with the matters referred to in this Schedule,	Chapter 5

Table 3.1 Schedule 2 requirements for an EIS

Requirement	Where contained in the EIS
(f) a declaration by the person by whom the statement is prepared to the effect that: (i) the statement has been prepared in accordance with this Schedule, and (ii) the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and (iii) that the information contained in the statement is neither false nor misleading.	Certification page at the front of the EIS
Clause 7 Content of environmental impact statement	
(a) a summary of the EIS,	Executive summary
(b) a statement of the objectives of the development, activity or infrastructure,	Section 1.5, Chapter 7
(c) an analysis of feasible alternatives to the carrying out the development, activity or infrastructure, having regard to its objectives, including the consequences of not carrying out the development, activity or infrastructure,	Section 1.6.2 and Chapter 2
(d) an analysis of the development, activity or infrastructure, including:	
(i) A full description of the development, activity or infrastructure, and	Chapter 2
(ii) A general description of the environment likely to be affected by the development, activity or infrastructure, together with a detailed description of those aspects of the environment that are likely to be significantly affected, and	Chapter 5
(iii) The likely impact on the environment of the development, activity or infrastructure, and	Chapter 5
(iv) A full description of the measures proposed to mitigate any adverse effects of the development, activity or infrastructure, and	Chapter 5
(v) A list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out,	Section 3.2.5.v, Table 3.3
(e) a compilation (in a single section of the EIS) of the measures referred to in item (d)(iv),	Chapter 6
(f) the reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development.	Chapter 7

3.7 Land owners consent and notification

Landowners consent is not required for a CSSI application under clause 193(1) of the EP&A Regulation. However, under clause 193(4), the proponent is required to give notice of the application or request:

(a) by written notice to the owner of the land before, or no later than 14 days after, the application or request is made, or

(b) by advertisement published in a newspaper circulating in the area in which the infrastructure is to be carried out:

(i) in the case of an infrastructure application—at least 14 days before the environmental impact statement that relates to the infrastructure is placed on public exhibition, ...

Notification in accordance with clause 193(4) was undertaken by letter to NPWS on 13 July 2018.

3.8 Environmental planning instruments

Although environmental planning instruments do not apply to SSI by virtue of section 5.22(2) of the EP&A Act, consideration of the instruments that would have applied to the Exploratory Works project area is given below. It is also worth noting that, whilst in close proximity to the Mount Selwyn Alpine Resort, the Exploratory Works are outside of the application area for the State Environmental Planning Policy (Kosciuszko National Park – Alpine Resorts) 2007.

3.8.1 State Environmental Planning Policy (State and Regional Development) 2011

The SRD SEPP identifies development that is State significant development, SSI, CSSI or regionally significant development.

Clause 16 of the SRD SEPP states that development specified in Schedule 5 of the SEPP:

(a) may be carried out without development consent under Part 4 of the Act, and

(b) is declared to be State significant infrastructure for the purposes of the Act if it is not otherwise so declared, and

(c) is declared to be critical State significant infrastructure for the purposes of the Act.

Clause 9 of Schedule 5 of the SRD SEPP states:

9 Snowy 2.0 and Transmission Project

(1) The Snowy 2.0 and Transmission Project is a proposed program of works for the expansion of the generating capacity of the Snowy Mountains Hydroelectric Scheme and for associated upgrades and additions to the electricity transmission network. The object of this clause is to declare development for the purposes of the Snowy 2.0 and Transmission Project that is set out in this clause to be State significant infrastructure and critical State significant infrastructure.

(2) This clause applies to development on land in any of the following local government areas:

(a) Cootamundra-Gundagai Regional,

(b) Goulburn Mulwaree,

(c) Snowy Monaro Regional,

(d) Snowy Valleys,

(e) Upper Lachlan Shire,

(f) Yass Valley.

(3) **Snowy 2.0**

Development for the purpose of pumped hydro and generation works to be known as Snowy 2.0 on land between Tantangara Reservoir and Talbingo Reservoir that involves:

(a) the carrying out of exploratory geotechnical works or engineering investigations, and

(b) the construction and operation of an underground hydroelectric power and pump station capable of supplying approximately 2,000 megawatts of hydroelectric power, and

(c) the construction of water and access tunnels, surge tank and intake and outlet structures at and between the two reservoirs.

(4) **Transmission works**

Development that involves:

(a) the construction and operation of new electricity transmission lines and an electricity substation to the west of the Talbingo Reservoir to connect Snowy 2.0 to the existing electricity transmission network at Nurenmerenmong, east of Tumbarumba, and

...

(5) The development referred to in this clause does not include:

(a) the carrying out of surveys, sampling, environmental investigations, geotechnical borehole drilling, test drilling, test excavations, or other tests or investigations, for the purposes of feasibility assessment and the preliminary design of the Snowy 2.0 and Transmission Project, or

(b) the carrying out of works to upgrade or modify electricity transmission lines, works within existing switchyards, and the installation of communications infrastructure.

(6) **Ancillary development**

Development that is ancillary to any other development in this clause, including the carrying out of works to upgrade or construct access roads, utilities infrastructure, construction accommodation, construction compounds and construction power supply.

The Exploratory Works is development of the kind specified in Clause 9 of Schedule 5 of the SRD SEPP and, therefore, may be carried out without development consent under Part 4 of the Act and is declared to be SSI and CSSI.

3.8.2 State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (the Infrastructure SEPP) identifies the approval pathway and environmental assessment requirements for the development of infrastructure and the provision of services. Although, the Infrastructure SEPP is listed as a potentially relevant environmental planning instrument in the SEARs, the provisions of the Infrastructure SEPP are not relevant to the Exploratory Works.

3.8.3 State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (the Extractive Industries SEPP) provides for the management and development of mineral, petroleum and extractive material resources. The following definitions, as defined by the Extractive Industries SEPP, are relevant to the Exploratory Works:

> **extractive industry** means the winning or removal of extractive materials (otherwise than from a mine) by methods such as excavating, dredging, or quarrying, including the storing, stockpiling or processing of extractive materials by methods such as recycling, washing, crushing, sawing or separating, but does not include:
>
> (a) turf farming, or
>
> (b) tunnelling for the purpose of an approved infrastructure development, or
>
> (c) cut and fill operations, or the digging of foundations, ancillary to approved development, or
>
> (d) the creation of a farm dam if the material extracted in the creation of the dam is used on site and not removed from the site.
>
> **extractive material** means sand, gravel, clay, soil, rock, stone or similar substances but does not include turf.

By this definition, the removal of extractive materials for the exploratory tunnel is not 'extractive industry' as it is 'tunnelling for the purpose of an approved infrastructure development'. However, the dredging of extractive material from Talbingo Reservoir is 'extractive industry' to which the Extractive Industries SEPP would apply, if the Exploratory Works was not SSI.

Part 3 of the Extractive Industries SEPP details the matters that a consent authority is to consider in determining an application for an extractive industry. Consideration of the relevant Part 3 matters is given in Table 3.2.

Table 3.2 Extractive Industries SEPP, Part 3 matters for consideration

Relevant matter	Comments
12 Compatibility of proposed mine, petroleum production or extractive industry with other land uses	
Before determining an application for consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must:	
(a) consider:	
(i) the existing uses and approved uses of land in the vicinity of the development, and	Existing and approved uses in the vicinity of dredging works are national parks.
(ii) whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses of land in the vicinity of the development, and	The dredging works are not likely to have a significant impact on the current and future use of the land as a national park.
(iii) any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses, and	The dredging works would not result in any incompatibilities with the use of the national park as detailed in Section 5.3 of the EIS.

Table 3.2 Extractive Industries SEPP, Part 3 matters for consideration

Relevant matter	Comments
(b) evaluate and compare the respective public benefits of the development and the land uses referred to in paragraph (a) (i) and (ii), and	The dredging works are to support the exploratory works required for the development of the Snowy 2.0 project, a major infrastructure project that would have significant public benefits.
(c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii).	Measures proposed to avoid or minimise any incompatibilities with the use of the national park are detailed in the EIS.
12A Consideration of voluntary land acquisition and mitigation policy	The Voluntary Land Acquisition and Mitigation policy applies to State significant extractive industries. The dredging works, if not SSI, would not meet the relevant thresholds for State significant extractive industries.
13 Compatibility of proposed development with mining, petroleum production or extractive industry	The Exploratory Works is not on land that is in the vicinity of an existing mine, petroleum production facility or extractive industry nor is identified as being the location of significant resources of minerals, petroleum or extractive materials.
14 Natural resource management and environmental management	
(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following:	
(a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable,	The dredging works would have minor impacts on Talbingo Reservoir. Proposed measures to avoid or minimise impacts are detailed in the EIS.
(b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable,	The dredging works would impact on aquatic species and biodiversity within Talbingo Reservoir. Proposed measures to avoid or minimise impacts are detailed in the EIS.
(c) that greenhouse gas emissions are minimised to the greatest extent practicable.	There will be greenhouse gas emissions as a result of the Exploratory Works, with only a proportion of these associated with the dredging works.
(2) Without limiting subclause (1), in determining a development application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.	The total estimated emissions reflect a small increase and total in the context of State and National emissions and no significant greenhouse gas emissions management is warranted.
(3) Without limiting subclause (1), in determining a development application for development for the purposes of mining, the consent authority must consider any certification by the Chief Executive of the Office of Environment and Heritage or the Director-General of the Department of Primary Industries that measures to mitigate or offset the biodiversity impact of the proposed development will be adequate.	No such certification applies to the Exploratory Works.
16 Transport	No extractive materials would be transported by road using the public road network.

Table 3.2 Extractive Industries SEPP, Part 3 matters for consideration

Relevant matter	Comments
17 Rehabilitation	Rehabilitation of dredged areas through human intervention is not feasible as they are subaqueous. However, these areas would rehabilitate naturally over time as fine sediments would re-settle in these areas restoring benthic habitat. The dredged area would remain as a water reservoir following completion of dredging activities.

3.8.4 State Environmental Planning Policy No 33 – Hazardous and Offensive Development

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) requires the consent authority to consider a project's potential to cause hazards or be offensive, including consideration of the location of the development and the way in which it is to be carried out.

The potential hazards associated with the Exploratory Works and risks to public safety, property and the biophysical environment are considered in the EIS. Proposed management measures including the appropriate storage, handling and transport of dangerous goods are recommended. Potentially offensive emissions are considered in relevant technical assessments, namely air quality, noise and surface water (Appendices O, N and S to the EIS).

3.8.5 State Environmental Planning Policy No 44 – Koala Habitat Protection

State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44) encourages the conservation and management of Koala (*Phascolarctos cinereus*) habitat, to ensure permanent free-living Koala populations are maintained over their present range. SEPP 44 requires consideration of whether land covered by a development application is 'potential Koala habitat' or 'core Koala habitat'.

An assessment of Koala habitat was undertaken as part of the biodiversity study for the Exploratory Works (Appendix G to the EIS). No Koalas or scats were found in the Exploratory Works survey area during targeted surveys and, therefore, the site is not considered core Koala habitat under SEPP 44.

3.8.6 State Environmental Planning Policy No 55 – Remediation of Land

State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55) provides a state-wide approach to the remediation of contaminated land for the purpose of minimising the risk to human health and the environment. A contamination assessment was undertaken for the Exploratory Works with the findings detailed in Appendix R to the EIS.

3.8.7 Tumut Local Environmental Plan 2012

The land on which the Exploratory Works is to be undertaken is mostly zoned E1 National Parks and Nature Reserves under the Tumut Local Environmental Plan 2012. The objectives of the E1 zone are to protect the environmental significance, and enable the management and appropriate use, of land reserved under the NPW Act. Further discussion on the NPW Act is given in Section 4.2.

Where the Talbingo Access wharf locations are proposed, the land is zoned RU1 Primary Production under the Tumut Local Environmental Plan 2012. The objectives of the RU1 zone include to minimise the fragmentation and alienation of resource lands and to protect the natural environment and significant scenic landscapes. The potential impacts of the Exploratory Works on land capability, biodiversity and visual amenity are detailed in Appendices P and G to the EIS and Section 5.3 of the EIS, respectively.

4 Other NSW legislation

4.1 Snowy Hydro Corporatisation Act 1997

4.1.1 Overview

The NSW *Snowy Hydro Corporatisation Act 1997* (SHC Act) came into force on 28 June 2002. It enabled the corporatisation of the former Commonwealth Snowy Mountains Hydro-electric Authority to Snowy Hydro Limited, and entitled Snowy Hydro to a number of key operating instruments to enable the continued operation of the existing Snowy Scheme. Concurrent corporatisation legislation was also passed in each of the Commonwealth and Victorian parliaments. The SHC Act has eight parts. The parts relevant to the Exploratory Works include:

- Part 5 establishes the entitlement of Snowy Hydro to the Snowy Water Licence and prescribes the basic rights and obligations that are to be contained in the licence.
- Part 6 relates to leases under the NPW Act to allow for the operation of the Snowy Scheme and the Snowy Water Licence.
- Part 7 relates to the application of certain NSW legislation, including application of the EP&A Act.

Further details on the Snowy Water Licence, the Snowy Park Lease, and the application of the EP&A Act are provided below.

4.1.2 Snowy Water Licence

The Snowy Water Licence is a statutory instrument issued under Part 5 of the SHC Act. It embodies the operating and accounting principles of the Snowy Scheme. The Snowy Water Licence confers the following rights on Snowy Hydro:

- to collect all water from the rivers, streams and lakes within the Snowy Water Catchment;
- to divert that water;
- to store that water;
- to use that water to generate electricity and for purposes that are incidental or related to the generation of electricity; and
- to release that water from storage.

Snowy Hydro's rights are subject to the rights of certain other occupiers to take and use water (eg.. local councils). In addition to these rights, the Snowy Water Licence also sets out Snowy Hydro's water related obligations, in particular, release obligations.

The Exploratory Works, main construction works and operation of Snowy 2.0, would have no impact on downstream water users.

No amendments to the Snowy Water Licence will be required for the Exploratory Works. If Snowy 2.0 proceeds, minor amendments to the Snowy Water Licence may be required for the operation of Snowy 2.0 such as the net Jounama release calculation to reflect the addition of pumped hydro capability between Tantangara and Talbingo reservoirs.

4.1.3 Part 6 leases

Part 6, section 37(1) of the SHC Act entitles Snowy Hydro to the grant of a lease, licence, easement or right of way over KNP, for the purposes of the existing Snowy Scheme development. Section 41(5) of the SHC Act 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 NPW Act.

The Snowy Park Lease was granted under Part 6 of the SHC Act to Snowy Hydro by the NSW Minister for Environment in 2002 and has a term of 75 years. The lease covers land where surface infrastructure associated with Snowy Hydro has been constructed. These areas do not cover any part of the Exploratory Works project area.

Minor amendments are required to the Snowy Park Lease for Snowy 2.0. Further detail on these amendments is given in Section 4.1.6.

4.1.4 Plan of Management

Section 38(1) of the SHC Act, provides that a plan of management under Part 5 of the NPW Act for Kosciuszko National Park may deal with the activities of Snowy Hydro within that Park and impose obligations on the company to comply with the plan of management. This compliance obligation is supported by Part 4 of the National Parks and Wildlife Regulation.

The *Kosciuszko National Park Plan of Management* was published by the NSW Department of Conservation in 2006 (the KNP PoM). The Snowy Management Plan, set out in Schedule 2 of the Snowy Management Plan Procedures Agreement dated 3 June 2002, is incorporated into the KNP PoM. The Snowy Management Plan details Snowy Hydro's environmental management obligations in the KNP. Should approval be granted for the Exploratory Works, the Snowy Management Plan Procedures Agreement will be reviewed and updated as required.

4.1.5 Application of the EP&A Act

Part 7 of the SHC Act approved the Snowy Scheme as at the date of corporatisation (28 June 2002) under former Parts 4 and 5 of the EP&A Act. Section 41(2) of the SHC Act states:

> A determining authority is not required to comply with Part 5 of the EPA Act for the purposes of granting an initial approval. However, the determining authority is, for the purposes of any Act or law, taken to have complied with Part 5 of the EPA Act in granting the initial approval (but only to the extent that the determining authority would but for this Act have been required to comply with that Part).

Section 41(3) of the SHC Act states:

> For the purposes of the application of any Act or law to an activity that is part of the existing Scheme development but that is not the subject of an approval granted by a determining authority or of a development consent, the activity is taken to have been commenced and previously carried out in accordance with Part 5 of the EPA Act.

The Exploratory Works are a major augmentation to the Snowy Scheme, beyond the scope of Snowy Hydro operations currently authorised by the SHC Act. Assessment and approval under the EP&A Act is, therefore, required prior to commencing the Exploratory Works.

4.1.6 Amendments to the Act

New surface infrastructure works within KNP associated with the Exploratory Works (and main construction works for Snowy 2.0) are not covered by Snowy Hydro's existing Snowy Park Lease. Therefore, minor amendments will be required to the SHC Act to enable extension of the Snowy Park Lease to include the areas that will be accessed and occupied by Snowy Hydro during the Exploratory Works (as well as for the main construction works for Snowy 2.0, if it proceeds). The potential form of these amendments is currently the subject of ongoing discussions between Snowy Hydro and the NSW Government.

4.2 National Parks and Wildlife Act 1974

The NPW Act aims to conserve nature including habitats, biological diversity, and significant landforms, landscapes and natural features. It is administered by the NSW Office of Environment and Heritage (OEH), including the NSW National Parks and Wildlife Service (NPWS) which is part of OEH.

Part 4 of the NPW Act provides for the reservation of certain land as national park. Part 5 of the NPW Act details the requirements for preparation of Plans of Management for national parks. All activities on reserved land must be consistent with any adopted plan of management for the area. During design development of the Exploratory Works, consideration was given to the KNP PoM. Relevant provisions and management objectives are also considered in certain technical studies including: biodiversity; soils and land capability; bushfire and water and documented within the EIS.

Part 4 of the *National Parks and Wildlife Regulation 2009* (NPW Regulation) requires Snowy Hydro to comply with the obligations imposed on the Snowy Management Plan discussed above in Section 4.1.4.

Section 155A of the NPW Act provides that the regulations may confer or impose on OEH any function relating to the health of the public in Kosciuszko National Park that is, or but for being modified would be, the same as a function conferred or imposed on a council constituted by the *Local Government Act 1993* (LG Act) in relation to the health of the public in its area. OEH can issue orders under Part 3 of the NPW Regulation to provide for public health in KNP.

The NPW Act also aims to conserve objects, places or features of cultural value within the landscape and contain specific provisions protecting Aboriginal objects and Aboriginal places. Under Part 6 of the NPW Act, it is an offence for a person to harm or desecrate an Aboriginal object or place unless the harm or desecration concerned was authorised by an Aboriginal heritage impact permit issued under section 90. However, section 5.23(1) of the EP&A Act states that an Aboriginal heritage impact permit under section 90 of the NPW Act is not required for SSI or CSSI and that the provisions of Part 6 that prohibit an activity without such an authority do not apply.

Notwithstanding, an assessment of potential impacts on Aboriginal cultural heritage in accordance with OEH guidelines has been undertaken for the Exploratory Works, as required by the SEARs. The Aboriginal cultural heritage assessment is included as Appendix K to the EIS.

It is also noted that, by virtue of section 5.23(3) of the EP&A Act, the following directions, orders or notices under Part 6A of the NPW Act cannot be made or given so as to prevent or interfere with the carrying out of approved CSSI:

- interim protection orders;
- stop work orders; and
- remediation directions.

All activities on reserved land must be consistent with the objects and purpose of the NPW Act which are detailed in Section 2A of the Act which states:

(1) The objects of this Act are as follows:

(a) the conservation of nature, including, but not limited to, the conservation of:

(i) habitat, ecosystems and ecosystem processes, and

(ii) biological diversity at the community, species and genetic levels, and

(iii) landforms of significance, including geological features and processes, and

(iv) landscapes and natural features of significance including wilderness and wild rivers,

(b) the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to:

(i) places, objects and features of significance to Aboriginal people, and

(ii) places of social value to the people of New South Wales, and

(iii) places of historic, architectural or scientific significance,

(c) fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation,

(d) providing for the management of land reserved under this Act in accordance with the management principles applicable for each type of reservation.

(2) The objects of this Act are to be achieved by applying the principles of ecologically sustainable development.

(3) In carrying out functions under this Act, the Minister, the Chief Executive and the Service are to give effect to the following:

(a) the objects of this Act,

(b) the public interest in the protection of the values for which land is reserved under this Act and the appropriate management of those lands.

The Exploratory Works are considered to be consistent with the objects and purpose of the NPW Act as demonstrated in the biodiversity, soils, surface water, Aboriginal and historic heritage assessments (see Appendices G, P, S, K and L to the EIS, respectively) and in Section 3.2.2 of this report where consideration is given to ESD measures.

4.3 Biodiversity Conservation Act 2016

On 25 August 2017 the new *Biodiversity Conservation Act 2016* (BC Act) commenced operation, repealing and replacing the *Threatened Species and Conservation Act 1995* as the 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.

The scheme includes establishment of the biodiversity assessment method (the BAM) for use by accredited persons in biodiversity assessment and reports under the scheme. The purpose of the BAM is to assess the impact of actions on threatened species and threatened ecological communities, and their habitats and to determine offset requirements. For SSI and CSSI, use of the BAM is mandatory. The biodiversity assessment undertaken for the Exploratory Works is in accordance with the requirements of the BAM and will be accompanied by a biodiversity development assessment report (see Appendix G to the EIS).

It is also noted that, by virtue of section 5.23(3) of the EP&A Act, an order or direction under Part 11 (regulatory compliance mechanisms) of the BC Act cannot be made or given so as to prevent or interfere with the carrying out of approved CSSI.

4.4 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) is the principal NSW environmental protection legislation and is administered by the NSW Environment Protection Authority (EPA). The POEO Act regulates the carrying out of certain 'scheduled development work' and 'scheduled activities' (premises based and non-premises based) through the issue of Environment Protection Licences. Scheduled activities are defined in Schedule 1 of the POEO Act. Scheduled development work means work that is designed to enable scheduled activities to be carried on at the premises.

An EPL will be required for the Exploratory Works for the applicable scheduled activities outlined in Table 4.1. Under section 5.24(1) of the EP&A Act, an EPL cannot be refused if it is necessary for carrying out approved SSI and is to be substantially consistent with the EP&A Act approval.

Table 4.1 Scheduled activities defined in Schedule 1 of the POEO Act that may be applicable to Exploratory Works

<table>
<tr><th>Schedule activity</th><th>Schedule definition</th></tr>
<tr><td>9 Chemical storage</td><td>(1) This clause applies to the following activities:

general chemicals storage, meaning the storage or packaging in containers, bulk storage facilities or stockpiles of any chemical substance classified as a dangerous good in the Transport of Dangerous Goods Code, other than the following:

(a) petroleum or petroleum products,

(b) radioactive substances within the meaning of the Radiation Control Act 1990.

on-site generated chemical waste storage means the storage of any chemical substance produced on site that is prescribed waste (that is, hazardous waste, restricted solid waste or liquid waste, or any combination of them).

petroleum products storage, meaning the storage or packaging of petroleum or petroleum products in containers, bulk storage facilities or stockpiles.

(2) Each activity referred to in Column 1 of the Table to this clause is declared to be a scheduled activity if it meets the criteria set out in Column 2 of that Table.

<table>
<tr><td>Table</td><td></td></tr>
<tr><td>Column 1</td><td>Column 2</td></tr>
<tr><td>Activity</td><td>Criteria</td></tr>
<tr><td>general chemicals storage</td><td>capacity to store more than 20 tonnes (pressurised gases), 200 tonnes (liquefied gases) or 2,000 tonnes (chemicals in any other form)</td></tr>
<tr><td>on-site generated chemical waste storage</td><td>involves storing on site at any time more than 5 tonnes of any chemical substance produced on site that is prescribed waste, not including excluded material (where 1,000 litres of liquid is taken to weigh 1 tonne)</td></tr>
<tr><td>petroleum products storage</td><td>capacity to store more than 200 tonnes (liquefied gases) or 2,000 tonnes (chemicals in any other form)</td></tr>
</table>
</td></tr>
<tr><td>19 Extractive activities</td><td>(1) This clause applies to the following activities:

land-based extractive activity, meaning 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.

water-based extractive activity, meaning the extraction of extractive materials, either for sale or re-use, by means of dredging or other such water-based methods.

(2) In this clause, extractive materials means clay, sand, soil, stone, gravel, rock, sandstone or similar substances that are not minerals within the meaning of the Mining Act 1992.

(3) Each activity referred to in Column 1 of the Table to this clause is declared to be a scheduled activity if it meets the criteria set out in Column 2 of that Table.

<table>
<tr><td>Table</td><td></td></tr>
<tr><td>Column 1</td><td>Column 2</td></tr>
<tr><td>Activity</td><td>Criteria</td></tr>
<tr><td>land-based extractive activity</td><td>involves the extraction, processing or storage of more than 30,000 tonnes per year of extractive materials</td></tr>
<tr><td>water-based extractive activity</td><td>involves the extraction of more than 30,000 cubic metres per year of extractive materials</td></tr>
</table>
</td></tr>
</table>

Source: Schedule 1 of Protection of the Environment Operations Act 1997 No 156.

It is also noted that, by virtue of section 5.23(3) of the EP&A Act, an environment protection notice under Chapter 4 of the POEO Act cannot be made or given so as to prevent or interfere with the carrying out of approved CSSI.

4.5 Water Act 1912 and Water Management Act 2000

The NSW *Water Act 1912* (Water Act) and *Water Management Act 2000* (WM Act) regulate the management of water by granting licences, approvals for taking and using water, and trading groundwater and surface water. The WM act is progressively replacing the Water Act across the State and applies to those areas where a water sharing plan has commenced. The Water Act continues to apply where a water sharing plan has not yet commenced and also to the licensing of monitoring bores and reinjection into groundwater systems. The Water Act and WM Act are principally administered by the Department of Industry - Water (DoI Water).

The water sharing plans and water sources relevant for Exploratory Works are:

- *Water sharing plan for the Murrumbidgee unregulated and alluvial water sources 2012,* Upper Tumut surface water source;
- *Water sharing plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011*, Lachlan Fold Belt Murray Darling Basin Groundwater Source; and
- *Water sharing plan for the South Coast Groundwater Sources 2016,* Lachlan Fold Belt Coast Groundwater Source.

The application of these WSPs is considered and discussed in the groundwater assessment (Appendix J to the EIS).

Under the WM Act, where a WSP is in place, unless an exemption is available, water can only be extracted and used in accordance with:

- a water access licence (WAL) which authorises the taking of a specific number of water units (share component);
- water supply work approval which authorises the construction and use of a device by which water is extracted such as a pump, bore or well;
- water use approval which authorises the use of the water for a specific purpose;
- an activity approval which authorises the carrying out of controlled activities; and
- an activity approval for aquifer interference.

Of the above, all but a WAL and an aquifer interference approval are not required for SSI or CSSI pursuant to section 5.23(1) of the EP&A Act.

Required authorisations for the Exploratory Works include water access licences under the WM Act and monitoring bore licences under the Water Act. The water licensing requirements identified for the Exploratory Works are discussed in detail in the groundwater and surface water assessments (Appendices J and S to the EIS, respectively).

4.6 Roads Act 1993

The NSW *Roads Act 1993* (Roads Act) is generally administered by the Roads and Maritime Services (RMS), local government or Department of Industry - Lands (DI - Lands). The RMS has jurisdiction over major roads, local government over minor roads and DPI-Lands over Crown roads. The Roads Act also allows for other public authorities to be the authority for certain public roads. The Roads Act sets out the rights of the public in regard to access to public roads.

The interaction of the Exploratory Works with the local and regional road network is discussed in the Traffic and Transport assessment (Appendix X to the EIS). Under section 138 or Part 9, Division 3 of the Roads Act, a person must not undertake any works that impact on a road, including connecting a road (whether public or private) to a classified road, without approval of the relevant authority depending upon classification of the road. The majority of the publicly accessible roads likely to be impacted by the Exploratory Works are under the jurisdiction of NPWS. The proposed upgrades to existing access roads near Tumut 3 Power Station to enable barge access infrastructure are under the jurisdiction of Snowy Valleys Council.

Section 138 approvals for road upgrade works will be sought for the Exploratory Works from both NPWS and Snowy Valleys Council. By virtue of section 5.24(1) of the EP&A Act, an approval under section 138 or Part 9, Division 3 of the Roads Act cannot be refused if it is necessary for carrying approved SSI and is to be substantially consistent with the EP&A Act approval.

4.7 Rural Fires Act 1997

The RF Act aims to prevent, mitigate, and suppress bush and other fires in local government areas of the State. Section 63(2) of the RF Act requires the owners of land to prevent the ignition and spread of bushfires on their land. The RF Act is administered by the NSW Rural Fire Service (RFS) and NPWS.

In proximity to the Exploratory Works, NPWS is the local authority responsible for fire management in the KNP in accordance with the RF Act (DEC 2006). As the local authority under the RF Act, the NPWS has certain rights and responsibilities to undertake appropriate measures to prevent fire from entering or leaving its estate. Further, the NPWS is required to implement the provisions of bushfire management plans (NPWS 2008).

Under section 5.23(1) of the EP&A Act, a bush fire safety authority under Section 100B of the RF Act is not required for SSI or CSSI and that the provisions of Part 6 that prohibit an activity without such an authority do not apply.

A bushfire risk and hazard assessment has been undertaken for the Exploratory Works which is included as Appendix V to the EIS.

4.8 Heritage Act 1977

The NSW *Heritage Act 1977* (Heritage Act) aims to protect and conserve the natural and cultural history of NSW, including scheduled heritage items, sites and relics. There are locally significant listed heritage items in proximity to the Exploratory Works including the Washington Hotel at Lobs Hole. The Snowy Scheme and KNP are also listed as places on the National Heritage List under the EPBC Act.

An historical heritage assessment has been undertaken as part of the EIS in accordance with principles of *The Australian International Council on Monuments and Sites*, *Charter for Places of Cultural Significance* (also known as the Burra Charter, Australian ICOMOS 2013) and the *NSW Heritage Manual* (Heritage Office 1996 and 2006). The assessment is included as Appendix L to the EIS.

Approvals under Part 4 or an excavation permit under Section 139 of the Heritage Act are not required for SSI or CSSI by virtue of section 5.23(1) of the EP&A Act. Nevertheless, potential heritage impacts of the project are assessed in detail in the historical heritage assessment.

4.9 Fisheries Management Act 1994

The NSW *Fisheries Management Act 1994* (FM Act) aims to conserve, develop and share the fishery resources of NSW for the benefit of present and future generations. It lists threatened aquatic species and ecological communities and contains measures to conserve these.

An assessment of the potential impacts on aquatic ecology is contained in Appendix H to the EIS.

It is also noted that, by virtue of section 5.23(3) of the EP&A Act, a stop work order under Division 7 of the FM Act cannot be made or given so as to prevent or interfere with the carrying out of approved CSSI.

4.10 Wilderness Act 1987

The NSW Wilderness Act 1987 (Wilderness Act) provides for the protection of wilderness areas, requiring it to be managed in a way that will maintain its wilderness values and pristine condition by limiting activities likely to damage flora, fauna and cultural heritage. The term 'wilderness' is used to describe large, natural areas of land that, together with their native plant and animal communities, remain essentially unchanged by modern human activity.

Wilderness areas are declared to be so by the Minister for the Environment under section 8 of the Wilderness Act. Nearly all declared wilderness is within national parks and nature reserves with the KNP containing a number of wilderness areas. The Exploratory Works will be undertaken outside of declared wilderness areas within KNP.

4.11 Local Government Act 1993

The NSW *Local Government Act 1993* (LG Act) identifies the responsibilities and powers of local governments. Section 68 of the LG Act requires approval of the relevant local council to build/install and operate a sewage management system. As described in Section 2.8.1.iii of the EIS, sewage will be treated at an onsite treatment plant. Approval from Snowy Valleys Council will be required prior to the construction of the sewerage treatment plant.

It is also noted that, by virtue of section 5.23(3) of the EP&A Act, an order under section 124 of the LG Act cannot be made or given so as to prevent or interfere with the carrying out of approved CSSI.

4.12 Work Health and Safety Act 2011

The NSW *Work Health and Safety Act 2011* seeks to ensure the health and safety of workers. The Exploratory Works will implement the necessary policies, training and procedures required under this Act, including obtaining licences to store and handle dangerous goods. Further information on hazards and safety is provided in Section 5.9.4 of the EIS.

5 Environment Protection and Biodiversity Conservation Act 1999

5.1 Introduction

Snowy Hydro Limited became a 'Commonwealth agency' for the purposes of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 2 July 2018 following the acquisition of all shares of Snowy Hydro Limited by the Commonwealth.

An approval under the EPBC Act is required for the Exploratory Works if:

- it will have or is likely to have a significant impact on matters of national environmental significance (MNES); or
- it will have or is likely to have a significant impact on the environment inside or outside the Australian jurisdiction.

Consideration of potential EPBC Act approval requirements for Exploratory Works is given in the following sections.

5.2 Matters of National environmental significance

5.2.1 Protected matters

The EPBC Act aims to protect MNES including:

- world heritage properties;
- national heritage places;
- Ramsar wetlands of international importance;
- nationally threatened species and ecological communities;
- migratory species;
- Commonwealth marine areas;
- the Great Barrier Reef Marine Park;
- nuclear actions (including uranium mining); and
- a water resource, in relation to coal seam gas development and large coal mining development.

The MNES with the potential to be impacted by the Exploratory Works include:

- national heritage places; and
- nationally threatened species.

These impacts are considered unlikely to be significant as detailed below.

5.2.2 Assessed impacts to MNES

i National heritage places

An action that has, will have or is likely to have a significant impact on the National Heritage values of a National Heritage place protected under Section 15B of the EPBC Act requires approval. The Exploratory Works will mostly be undertaken within the KNP. Both the KNP, as part of the Australian Alps National Parks and Reserves, and the Snowy Mountains Scheme are listed on the National Heritage List and, therefore, are defined as national heritage places under the EPBC Act. The Exploratory Works was designed to avoid and minimise direct impacts to heritage items (both Indigenous and historic) wherever possible.

An assessment of impacts on national heritage places was prepared by New South Wales Archaeology Pty Ltd (2018). The assessment was undertaken with reference to *Matters of National Environmental Significance – Significance Impact Guidelines 1.1* (Commonwealth Department of the Environment 2013).

The proposed action was assessed according to the national heritage values associated with the two national heritage places against the significant impact criteria. The assessment determined that the proposed action area is very small in nature. Furthermore, the areas that would be disturbed are not sensitive or intrinsic to the value of national heritage places and will not impact upon the values of the national heritage places in a noticeable way. The assessment concluded that the Exploratory Works would not have a significant impact on either of the national heritage places. No national environmentally significant values would be lost, degraded or damaged, notably altered, modified, obscured or diminished.

ii Nationally threatened species

An action that has, will have or is likely to have a significant impact on nationally listed threatened species protected under Section 18 of the EPBC Act requires approval. The main direct impacts of Exploratory Works will be associated with clearing of native vegetation communities and loss of species habitat. Field surveys of impacted areas were undertaken by EMM during 2017 and 2018. Threatened species listed under the EPBC Act considered to have potential to occur following completion of field surveys are:

- Smoky Mouse (endangered);
- Booroolong Frog (endangered);
- Spotted-tail Quoll (vulnerable);
- Macquarie Perch (endangered); and
- Trout Cod (endangered).

Snowy Hydro have undertaken significant steps to avoid, minimise and mitigate impacts with a key focus of design to avoid and minimise impacts to biodiversity values identified during the field surveys. Once the proposed avoidance, mitigation and management measures are implemented the residual impacts to biodiversity values from Exploratory Works are expected to be very low.

An assessment of impacts on nationally threatened species was prepared by EMM Consulting (2018a). Significant impact assessments were undertaken in accordance with *Matters of National Environmental Significance – Significance Impact Guidelines 1.1* (Commonwealth Department of the Environment 2013). These assessments concluded that the Exploratory Works are unlikely to result in a significant impact on these MNES (EMM 2018).

5.3 Protection of the environment from proposals involving the Commonwealth

Snowy Hydro is, as of 2 July 2018, now wholly owned by the Commonwealth. Under Section 28 of the EPBC Act, approval is required for the Commonwealth or a Commonwealth agency to take an action, inside or outside the Australian jurisdiction, that has, will have, or is likely to have a significant impact on the environment inside or outside the Australian jurisdiction. The EPBC Act defines 'environment' to include:

(a) ecosystems and their constituent parts, including people and communities; and

(b) natural and physical resources; and

(c) the qualities and characteristics of locations, places and areas; and

(d) heritage values of places; and

(e) the social, economic and cultural aspects of a thing mentioned in paragraph (a), (b), (c) or (d).

Actions may be declared by the Commonwealth Minister for the Environment to be exempt from requiring an approval under Section 28 of the EPBC Act. Specifically, Section 28(4) of the EPBC Act states:

> The Minister may make a written declaration that all actions, or a specified class of actions, taken by a specified Commonwealth agency are actions to which this section does not apply.

5.4 Approval process

A Referral of the Proposed Action was submitted to the Commonwealth Department of the Environment and Energy (DEE) on 28 May 2018 (Ref 2018/H217) and publicly notified from 2 June 2018 to 20 June 2018. A decision on the referral was made by the Assistant Minister for the Environment (as delegate) on 11 July 2018 which stated that Exploratory Works:

- would not significantly impact the national heritage values of any national heritage places and was not a controlled action under Section 15B of the EPBC Act (within Part 3, Division 1);
- would not significantly impact any nationally threatened species and was not a controlled action under Section 18 of the EPBC Act (within Part 3, Division 1); and
- is a class of actions to which Section 28 of the EPBC Act (within Part 3, Division 2) does not apply.

6 Conclusion

The Exploratory Works for the Snowy 2.0 Project is declared to be SSI and CSSI under the provisions of the EP&A Act. An application and accompanying EIS is to be submitted under Part 5, Division 5.2 of the EP&A Act. The Minister for Planning is the consent authority for the application. The EIS for the Exploratory Works is to be prepared in accordance with Schedule 2 of the EP&A Regulation.

Although environmental planning instruments do not apply to SSI by virtue of section 5.22 of the EP&A Act, consideration has been given in this report to the instruments that would have applied. A number of authorisations are not required for approved SSI, by virtue of section 5.23 of the EP&A Act, and a number of authorisations cannot be refused if it is necessary for carrying out approved SSI by virtue of section 5.24 of the EP&A Act.

A Referral of Proposed Action for the Exploratory Works has been submitted to DEE for its determination of whether the Exploratory Works is a controlled action that would require approval under the EPBC Act.

A summary of the licences, approvals and permits that are likely to be required for the Exploratory Works is provided in Table 6.1.

Table 6.1 Summary of required licences, approvals and permits

Legislation	Authorisation	Consent of approval authority
EP&A Act	SSI and CSSI approval	Minister for Planning or delegate
	Construction certificate required for construction of relevant structures in the surface infrastructure area	Snowy Valleys Council or private certifier
	Occupation certificate required prior to use of certain buildings in the surface infrastructure area	Snowy Valleys Council or private certifier
SHC Act	Amendments to Snowy Park Lease	Minister for Environment
POEO Act	EPL for the following scheduled activities: • Chemical storage; and • Extractive industry.	EPA
Roads Act	Section 138 permits	NPWS and Snowy Valleys Council
WM Act	Water access licences	DoI Water
Water Act	Licensing of monitoring bores	DoI Water
Local Government Act	Approval for carrying out sewerage work	Snowy Valleys Council
WHS Act	Licensing of dangerous goods	NSW WorkCover Authority

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