



# WORKER RECREATIONAL MANAGEMENT PLAN SNOWY 2.0 – EXPLORATORY WORKS

Stage 1 - Exploratory Works Access Roads

December 2019



**leed**

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## Worker – Recreational Management Plan

Rev 1

Report Snowy 2.0 - Exploratory Works - Worker - Recreational Management Plan | Prepared for Snowy Hydro Limited |

12 December 2019

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### Document Control

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## Abbreviations and Glossary

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CSSI	Critical State Significant Infrastructure
DPIE	NSW Department of Planning, Industry and Environment Formerly NSW Department of Planning and Environment
EIS	<i>Environmental Impact Statement Exploratory Works for Snowy 2.0</i>
EMS	Environmental Management Strategy
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	NSW Environment Protection Authority
EWMS	Environmental Work Method Statement
KNP	Kosciuszko National Park
NPWS	National Park and Wildlife Services
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PoM	<i>Kosciuszko National Park Plan of Management 2006</i>
Submissions Report or RTS	<i>Response to Submissions Exploratory Works for Snowy 2.0</i>
WRMP	Worker – Recreational Management Plan

# 1 Introduction

## 1.1 Context

This Worker Recreational Management Plan (WRMP or Plan) forms part of the Environmental Management Strategy (EMS) for Snowy 2.0 – Exploratory Works (the Project). The Exploratory Works is the first phase of Snowy 2.0, a pumped hydro-electric storage and generation project which will increase the hydro-electric capacity within the existing Snowy Mountains Hydro-electric Scheme. The second phase, or main project, will be subject to a separate Environmental Impact Statement in 2019.

The WRMP has been prepared to address the requirements of the Infrastructure Approval (SSI 9208) issued for Snowy 2.0 Exploratory Works on 11 February 2019, the *Environmental Impact Statement Exploratory Works for Snowy Hydro 2.0*, and the revised environmental management measures within the *Response to Submissions Exploratory Works for Snowy 2.0*.

This revision of the WRMP has been prepared to address the requirements of the Exploratory Works for Snowy 2.0 Modification 1 Assessment Report (MOD1) and the REMMs within the Exploratory Works Modification 1 Response to Submissions Report which were approved by Department of Planning, Industry and Environment (DPIE) on 2 December 2019.

The Exploratory Works for Snowy 2.0 includes, but is not limited to:

- an exploratory tunnel to the site of the underground power station for Snowy 2.0;
- horizontal and test drilling;
- a portal construction pad;
- an accommodation camp;
- road works and upgrades providing access and haulage routes;
- barge access infrastructure;
- excavated rock management, including subaqueous placement within Talbingo Reservoir;
- services infrastructure; and
- post-construction revegetation and rehabilitation.

Having regard to the design changes identified in Modification 1, the Exploratory Works scope now comprises:

**Table 1.1 New scope items for EW (Stage 1 & 2) as a result of MOD1**

Stage 1	
<b>Lobbs Hole Substation</b>	Additional disturbance area required for the construction power connection to an existing transmission line (Line 2) at Lobs Hole for power supply to the Exploratory Works accommodation camp and construction areas. This will provide a reliable

	<p>and long-term source of construction power and will reduce the reliance on diesel generation and associated on-site storage requirements and emissions. Works in this area will include establishing a substation, connection infrastructure, access roads and ancillary construction areas;</p> <p>This will include:</p> <ul style="list-style-type: none"> <li>• construction of a 330/33 kV substation within Kosciuszko National Park and adjacent to Line 2, which forms a 330-kV connection between Upper Tumut Switching Station and Yass Substation;</li> <li>• geotechnical investigation works to inform the detailed design of the construction power substation;</li> <li>• replacement of one transmission support structure (Structure 54) within the existing transmission easement. This will involve removal of the existing structure and establishment of one new steel lattice tower, approximately 50 m in height;</li> <li>• short overhead 330 kV transmission line connections (approximately 100 m in length) between the substation and the new Structure 54;</li> <li>• 33 kV feeder connection between the substation and the Exploratory Works construction power network. This will be either overhead lines or underground cables;</li> <li>• establishment and upgrade of access tracks and roads to the new substation and transmission line structures;</li> <li>• installation of a fibre optic communication link into the new substation from the approved communication network; and</li> <li>• ancillary activities, including brake and winch sites, crane pads, site compounds and equipment laydown areas.</li> </ul> <p>(Illustrated Appendix B Figure 1i)</p>
<b>Camps Bridge and Wallaces Creek</b>	<ul style="list-style-type: none"> <li>• additional disturbance area around Camp Bridge and Wallaces Creek Bridge required for improved constructability of the crossings. Works within these areas will include vegetation clearing, levelling earthwork, erection of falsework, sediment controls, laydown, parking and movement of equipment;</li> </ul> <p>(Illustrated in Appendix B Figures 1h and 1i of this plan and Modification 1 Assessment Report Figure 3.9)</p>
<b>Lobs Hill Ravine Road and Construction Boundary Changes</b>	<ul style="list-style-type: none"> <li>• minor changes to the project boundary identified through detailed design including: <ul style="list-style-type: none"> <li>– revised road upgrade for Lobs Hole/Ravine Road to improve access, drainage and safety;</li> <li>– minor additions to construction areas for design optimisation.</li> </ul> </li> <li>• removal of dangerous trees on Lobs Hole Ravine Road. This will involve either complete or partial removal of up to 91 trees that have been identified to pose a safety risk to road users on Lobs Hole Ravine Road and Mine Trail Road;</li> </ul> <p>(Illustrated in Appendix B, Figures 1d, 1e, 1f and 1i)</p>
<b>Operating Hours</b>	<ul style="list-style-type: none"> <li>• modify operating hours from existing 7 am to 6pm to sunrise to sunset</li> </ul>



<b>Miscellaneous</b>	<ul style="list-style-type: none"> <li>continued use of existing communications towers within KNP that were previously approved by the NPWS under a separate review of environmental factors (REF R – Wallaces Creek Geotechnical drilling) environmental impact assessment carried out under the NSW National Parks and Wildlife Act 1974 (NPW Act) and its regulation for the geotechnical investigation program; and</li> <li>increase in peak traffic volumes. Additional vehicles will be required to access the site to facilitate construction of Exploratory Works, however no change in impacts to the road network are expected.</li> </ul> <p>(location of communications towers illustrated in Appendix B, Figures 1a, 1f, 1l)</p>
<b>Stage 2</b>	
<b>Borehole drilling and geophysical surveys</b>	<ul style="list-style-type: none"> <li>Borehole drilling and geophysical surveys for further geotechnical investigation of the Snowy 2.0 power station and power waterway at Marica, Talbingo and Tantangara;</li> <li>clearing of up to 2.79 hectares (ha) of additional vegetation for access tracks and drilling pads.</li> <li>About 1.33 ha within Smokey Mouse potential habitat;</li> <li>trimming of overhanging dangerous branches on adjacent trees (these trees will not require removal);</li> <li>mulching of trees and vegetation;</li> <li>establishment of an additional 1 km of access tracks (4 m wide), including minor earthworks,</li> <li>placement of geofabric (as required) and import of stabilised material;</li> <li>establishment of eight drilling pads and boreholes at top of the cavern area, with an area of 900 m<sup>2</sup> per pad, including minor earthworks, placement of geofabric (as required) and import of stabilised material (as required);</li> <li>undertaking geophysical surveys near Talbingo and Tantangara reservoirs;</li> <li>establishment of two drilling pads and boreholes at both Tantangara and Talbingo with an area of</li> <li>900 m<sup>2</sup> per pad, including approximately 400 m of additional access tracks and minor earthworks (as required);</li> <li>establishment of in-reservoir boreholes including one in Talbingo Reservoir and two in Tantangara Reservoir;</li> <li>drilling of additional nested vertical boreholes at each of the drilling pads up to a depth of 1,100 m;</li> <li>conversion of the investigation boreholes into monitoring bores;</li> <li>undertaking geophysical surveys; and</li> <li>rehabilitation of the drilling pads and access tracks following completion of works</li> <li>ongoing maintenance of existing access tracks required for geotechnical investigations within KNP</li> </ul> <p>(Illustrated in Appendix B Figure 1j, 1k, 1l, 1m and 1n)</p>
<b>Talbingo Laydown</b>	<p>Outside of KNP, SHL is proposing to add four laydown locations to facilitate the construction of the communications cable linking Lobs Hole with the Tumut 3 Power Station.</p> <p>These are proposed on existing hardstand areas along Talbingo Reservoir within Snowy Hydro owned land.</p>



	(Illustrated in Appendix B, Figure 1o)
<b>Tantangara Access</b>	Two additional geotechnical boreholes are required to facilitate the detailed design of cuttings, bridge foundations, retaining wall foundations, and drainage structures near Nungar Creek  (Illustrated in Appendix B, Figure 1m and 1n)

Exploratory works will be delivered in two stages:

- **Stage 1a - Exploratory Works Access Roads (EWAR)** - includes minor pre construction works in accordance with SSI 9208 Consent Conditions. Pending approvals, works are proposed to commence in quarter one (Q1) 2019;
- **Stage 1b – Exploratory Works Access Roads (EWAR)** - includes roadworks and upgrades to enable access and haulage routes during Exploratory Works. This includes upgrades to 26 km of existing roads and creating about 2 km of new roads, two new bridge crossings and two temporary bridge crossings. Pending approvals, works are proposed to commence in quarter one (Q1) 2019;
- **Stage 2 – Exploratory Works** – is the remainder of the Exploratory Works, including the exploratory tunnel, portal construction pad, accommodation camp and excavated rock management. This would include subaqueous placement within Talbingo Reservoir. Works proposed to commence in quarter three (Q3) of 2019.

**This Plan identifies the project’s environmental management measures in relation to the management of worker recreation. It has been specifically developed for Stage 1 of the Exploratory Works project and will be revised accordingly prior to commencement of Stage 2 works.**

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

**Figure 1 Timing of Exploratory Works stages**

Leed Engineering (Leed) are the contractor who will be carrying out the Snowy 2.0 Stage 1 work on behalf of Snowy Hydro. During Stage 1 all workers will be accommodated at the Snowy Hydro facilities at Cabramurra or surrounding towns.

**Accommodation will not be provided within Lobs Hole and recreational activities within the work area on and off shifts will not occur.**

This plan will be updated prior Exploratory Works Stage 2 where tunnelling activities will result in increased worker activity and the use of accommodation facilities within Lobs Hole. The timing of the preparation, consultation, submission and approval of this plan is shown within Figure 3.3 of the EMS. Ongoing revisions to the WRMP will occur in accordance with Section 11 of the EMS.

Management measures identified in this Plan will be incorporated into site specific documents which are to be prepared by the Contractor. These site-specific documents will be prepared for construction activities and will detail the management measures which are to be implemented on the ground.

Construction personnel will be required to undertake works in accordance with the mitigation measures identified in the site-specific documents.

## 1.2 Background

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

Snowy Hydro proposes to carry out Exploratory Works prior to the main construction works for the Snowy 2.0 project, to inform the detailed design and to reduce project risk. Exploratory Works are required to obtain detailed geological data for the location of the underground power station. An exploratory tunnel is to be constructed to gain this information. The Exploratory Works will predominantly be in the Lobs Hole area of Kosciuszko National Park. If the Exploratory Works are not undertaken, risks to the design and construct elements of the power station cavern are significantly increased.

The *Environmental Impact Statement Exploratory Works for Snowy 2.0* (EIS) was prepared to assess the impact of these works on the environment, including an assessment of social impacts within Chapters 5.7 and R. MOD1 also identified worker recreational values relevant to the modification area, assessed any impacts, and proposed any required mitigation measures within Chapter 6.5.9.

The EIS identified that there is potential for a small number (approximately 24 of the estimate 200 workers, during peak construction) of workers to stay within the local region and take advantage of the recreational opportunities it provides, including camping within the KNP during their off-swing period. The EIS concluded that, even if all workers off-swing recreate within the KNP, this level of demand will have a negligible impact. It is estimated that there are 2.2 million annual visitors to KNP.

The *Response to Submissions Exploratory Works for Snowy 2.0* (Submissions Report or RTS) included revised environmental management measures within Chapter 8. There were no management measures from that report associated with worker – recreational management.

MOD1 identified that there will be an additional 70 workers to construct the substation. These will mostly comprise FIFO and DIDO workers. The proposed modification is expected to have no measurable impacts on the capacity of community services and infrastructure. This is based on the negligible population changes predicted and the existing service and infrastructure capacity of service level providers within the local area.

## 1.3 Environmental management system

The overall environmental management system for the Project is described in the EMS. This WRMP forms part of Snowy Hydro Limited's environmental management framework for the Project, as identified in Figure 1.2 and as described in Section 3 of the EMS.

This Plan aims to transfer the relevant requirements of the Approval documents into a management plan which can be practically applied on the Project site.

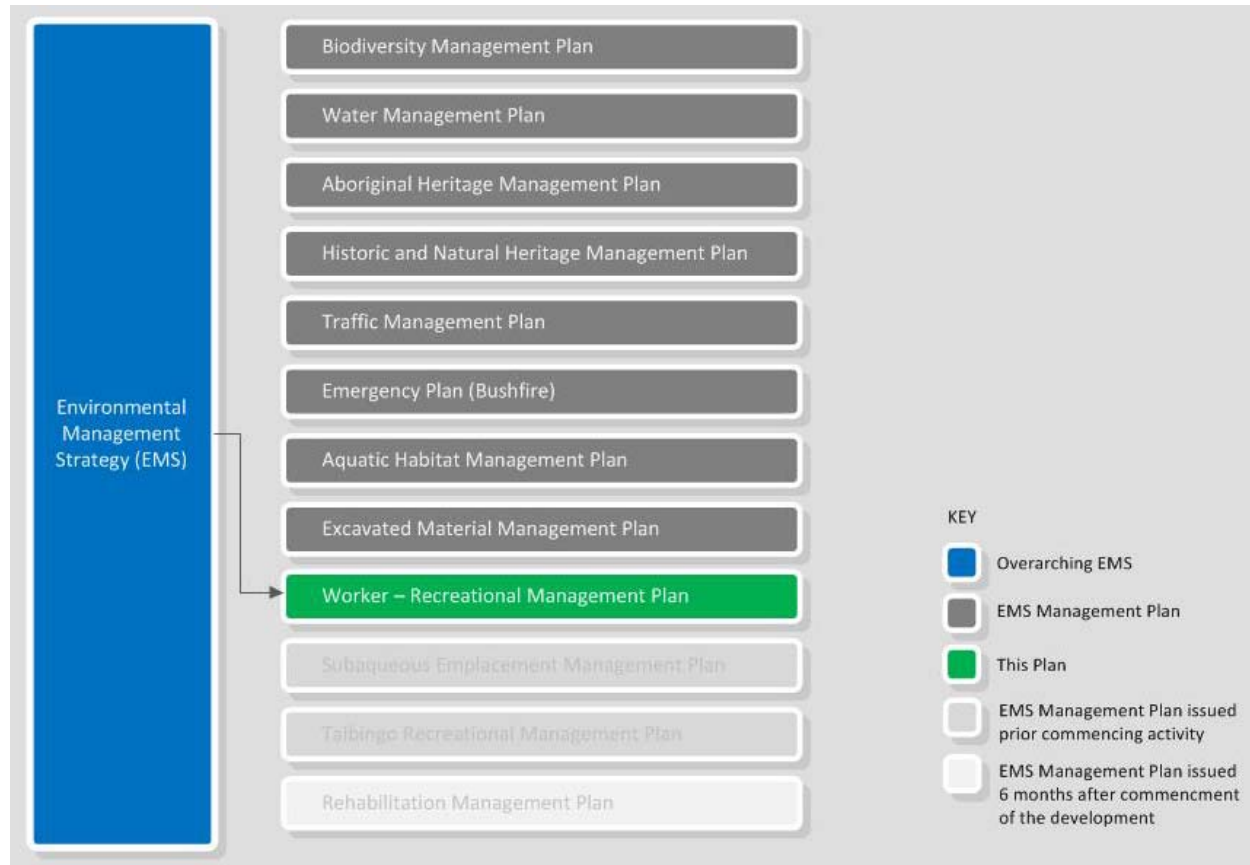


Figure 1.2 EMS structure

## 1.4 Purpose and objectives

The key objective of the Worker Recreational Management Plan (WRMP) is to describe the management measures and the monitoring program that are to be implemented to ensure that worker recreational impacts to the values of Kosciuszko National Park (KNP) are minimised during delivery of the project. To achieve this, Snowy Hydro and the Contractor will:

- ensure appropriate measures are implemented to address the relevant conditions of approval as detailed within Table 2.1 of this Plan;
- ensure appropriate measures are implemented during construction to avoid or minimise worker recreational impacts to the values of KNP and potential adverse impact;
- establish a monitoring program to assess the effectiveness of the worker recreational management controls and to monitor worker recreational impacts outside the approved disturbance area; and
- establish a plan to respond if the values of KNP are adversely affected by worker recreational activities.

## 1.5 Consultation

In accordance with Condition 2a of Schedule 3 of the Infrastructure Approval (SSI 9208) (Approval), the WRMP is to be prepared in consultation with the National Park and Wildlife Services (NPWS).

On the 12<sup>th</sup> of February 2019, the WRMP was issued to NPWS, seeking review of this Plan. Written feedback was received from NPWS on the 18<sup>th</sup> of February noting that the WRMP was relevant to the scale of Stage 1 of the project.

On the 4<sup>th</sup> of October 2019, as a result of MOD1 changes, the WRMP was issued to NPWS, seeking review of this Plan. Written feedback was received from NPWS with no further comments.

## 2 Environmental requirements

### 2.1 Legislation

Legislation relevant to worker recreational management includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- *Environmental Planning and Assessment Regulation 2000*; and
- *National Parks and Wildlife Act 1974*.

Relevant provisions of the above legislation are explained in the register of legal and other requirements included in Appendix A1 of the EMS.

### 2.2 Conditions of approval

**Table 2.1** Conditions of approval relevant to worker recreational management

Condition	Requirement	Where addressed
2	Prior carrying out any construction, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Worker – Recreational Management Plan to the satisfaction of the Planning Secretary.	Section 2.4
	This plan must:	Section 1.6
	(a) be prepared in consultation with the NPWS;	
	(b) identify the measures that would be implemented to minimise the impacts of workers on the values of the Kosciuszko National Park surrounding the site, outside the approved disturbance area for the project, particularly the recreational activities of workers staying in the accommodation camp on site;	Table 5.1 – Stage 2
	(c) include a program to monitor the impacts of the development outside the approved disturbance area;	Section 6.1
	(d) include a Trigger Action and Response Plan (TARP) that would be implemented if monitoring shows the values of the Kosciuszko National Park are being adversely affected by the development.	Appendix A
3	The Proponent must implement the approved Worker – Recreational Management Plan.	Section 1.3

### 2.3 Licences and permits

There are no licences and permits applicable to this WRMP

### 2.4 Guidelines

The guidelines also considered in the completion of this management plan include:

- Kosciuszko National Park Plan of Management 2006.

## 3 Existing environment

### 3.1 Kosciusko National Park

KNP is unique in Australia as it contains Australia's highest mountains, unique glacial landscapes and unusual assemblages of plants and animals. It has a rich Aboriginal and European history. The existence of older homesteads, farming and mining activity within KNP as well as current debates about conservation and heritage activities within the park are testimony to the importance of these values to local communities and our definition of national identity.

However, to many people the primary attractions of KNP are the snowfields and the opportunities provided by the existence of a series of alpine resorts that make KNP Australia's pre-eminent skiing destination.

Exploratory Works is mostly located in the Ravine region, with additional barge facilities proposed at the northern end of Talbingo Reservoir, near Tumut 3 power station and outside the KNP boundary.

The Ravine region is relatively isolated at the north-western extremity of the KNP. The location is accessed from the Snowy Mountains Highway that links Tumut and Cooma. However, once off the highway, the area is serviced by minor roads and tracks that have no through road or network function.

As for the values and importance of the Ravine region to the KNP, the Ravine area has not been included in a Wilderness Area within the PoM, neither has it been recognised as possessing places and values of exceptional significance (NPWS 2006).

There are three areas identified in the PoM that contain significant natural and cultural values but that are considered highly vulnerable to human-induced disturbance and require specific management measures to ensure their protection. These are:

- the alpine landscapes of the Main Range –around the concentration of alpine resorts near Mount Kosciuszko;
- the Yarrangobilly karst catchment – about 30 km by road north east of the project area; and
- the Cooleman Plain karst catchment – about 70 km north east of the project area.

There are an additional four management units identified as significant for their recreational values. These are the alpine skiing areas of:

- Charlotte Pass – within the Main Range Management Unit, in the southern part of KNP;
- Thredbo - within the Main Range Management Unit, about 2 hours and 40 minutes drive (152 km) by road south east of the project area;
- Selwyn – on the south side of Kings Cross Road, about 40 minutes drive (22 km) from Lobs Hole; and
- Perisher Range –within the Main Range Management Unit, about 3 hours 30 minutes (210 km) by road, south of the project area.

The KNP PoM also contains Schedules (at Part C of the KNP PoM) that address more site-specific matters, including features and items that may be potentially directly or indirectly affected by Exploratory Works. Those features and items relevant to Exploratory Works are included in Table 3.1.

**Table 3.1 Significant natural and cultural features within KNP**

<b>Significant natural and cultural feature</b>	<b>PoM Reference</b>	<b>Summary</b>
Yarrangobilly Caves and the karst formations	Schedule 1 Table S1:10 Karst	These features are about 8 km north east of the project area, where the significance of the karstic limestone and the importance of the caves as a key tourist feature are recognised; the limestone unit is stratigraphically interpreted to be at the base of the Ravine Beds and is unlikely to be intercepted by Exploratory Works
Yarrangobilly River	Table S1:12 Rivers, lakes and wetlands	Surface water features relevant to Exploratory Works are the Yarrangobilly River and Talbingo Reservoir including tributaries such as Wallaces and Stable creeks.
Communities and species of flora and fauna	Table S1:1 Mammal Species, Table S1.2 Amphibian species, Table S1.3 Reptile species, Table S1.4 Fish species, Table S1.5 Bird species, Table S1.6 Invertebrate species, Table 1.7 Plant species, Table S1.8 Plant communities and Table S1.14 Other	The EIS aquatic ecology assessment identified ecological values within the Yarrangobilly River and Wallaces Creek as well as within Talbingo Reservoir which included aquatic habitat, and in particular extensive areas of wood debris (primarily submerged dead trees) and the non-native aquatic macrophyte <i>Elodea canadensis</i> (Canadian pondweed) along shallow edges and embayment's. Five threatened aquatic species were identified with the potential to occur within that part of the reservoir that may be impacted by Exploratory Works. The project area is made up of nine PCTs, that comprise 28 vegetation zones (on the basis of broad condition state that vary between significant levels of disturbance to communities that are relatively intact and of high quality), three potential threatened ecological communities, three GDEs, three species of threatened flora and 19 species of threatened fauna with potential to occur within the project area.
Aboriginal heritage places and objects	Table S1.13	The Aboriginal cultural heritage assessment detailed the history of the Wolgalu people who inhabited the area, along with information of the existing material evidence, outcomes of the predictive model and results of the field assessments. EIS Appendix O (Aboriginal cultural heritage)
Mining sites and remnants of earlier European activity	Table S1.13	The historic heritage assessment detailed the alpine region and high country's rich history from the early explorer-settlers in the 1820s, the establishment of pastoralism and summer grazing in the 1830s and the gold rush at Kiandra in 1859-60 and early scientific exploration. The assessment includes details of the copper mine in the Lobs Hole area established in the late nineteenth century through to 1916, the remains of both surface and below ground works from the mine and the settlement of Ravine associated with the mining boom.
Rocks and landforms	Table S1.9	A geodiversity review identified the glacial and peri-glacial features of KNP within proximity to the project area. These included scree slopes and block streams and boulder fields along Lower Lobs Hole Ravine Road. EIS Appendix I (Geodiversity review)




## 4 Environmental aspects, impacts and risks

### 4.1 Environmental aspects

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

Key aspects of the Project that could result in worker recreation impacts are identified in Table 4.1. The extent of these impacts will depend on the nature, extent and magnitude of construction activities and their interaction with the natural environment (Column 2). This is further exacerbated by environmental factors (Column 3).

**Table 4.1 Project aspects and impacts relevant to worker recreation**

	Environmental Aspects (Activities likely to cause impacts)	Environmental Impacts	Environmental Factors (Conditions)
	Worker recreational activities during off- swing periods	Damage and theft of historic heritage and aboriginal heritage items	<b>Proximity</b> – location of KNP areas of significance relevant to Exploratory Works.
	Worker recreational activities during breaks and rest hours	Disturbance to flora and fauna outside of the approved disturbance footprint	
	General worker behaviour and attitude towards KNP values	Damage to karst features Littering	

### 4.2 Environmental risk assessment

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

## 5 Environmental management measures

A range of environmental requirements and control measures are identified in the EIS, Submissions Report and the conditions of approval. Safeguards and management measures will be implemented to avoid, minimise or manage impacts to KNP outside of the disturbance footprint from worker – recreational activities.

Specific safeguards and management measures to address the impacts to the surrounding environment from worker recreational activities are outlined in Table 5.1.

**Table 5.1 Worker – recreational management measures**

ID	Measure / Requirement	Applicable stage	When to implement	Responsibility	Source document
<b>General</b>					
WR01	Training will be provided to all project personnel, including relevant sub-contractors on the importance of preserving the values of KNP and the requirements from this plan through inductions, toolboxes and targeted training. The training will inform workers of the acceptable recreational activities within KNP, fishing restrictions and behaviors expected of personnel during construction.	All	Pre-construction and construction	Contractor	Condition 2
WR02	Recreational activities by workers during on shift times will be limited to areas within the approved EIS disturbance footprint.	All	Construction	Contractor	Condition 2
WR03	In the event that monitoring shows the values of KNP are being adversely affected by worker recreational activities the Trigger Action Response Plan in Appendix A will be implemented.	All	Construction	Contractor	Condition 2

## 6 Compliance management

### 6.1 Monitoring and inspection

Weekly environmental inspections of the project will occur in accordance with Section 9 of the EMS.

Monitoring of the values of KNP will be undertaken during Stage 1 construction and is addressed within the relevant management plans. The relevant management plans are listed in Table 6.1.

**Table 6.1 KNP Values and relevant management plan**

Significant natural and cultural features monitored as part of the EMS and management plans	Applicable management plans
Yarrangobilly Caves and the karst formations	Historic and Natural Heritage Management Plan
Yarrangobilly River	Water Management Plan and Biodiversity Management Plan
Communities and species of flora and fauna	Biodiversity Management Plan
Aboriginal heritage places and objects	Aboriginal Heritage Management Plan
Mining sites and remnants of earlier European activity	Historic and Natural Heritage Management Plan
Rocks and landforms	Historic and Natural Heritage Management Plan

### 6.2 Auditing

Audits will be undertaken to assess the effectiveness of the management measures, compliance with this WRMP, the conditions of approval, EIS, Submissions Reports and other relevant approvals, licences and guidelines.

Audit requirements are detailed in Section 7.3 of the EMS.

### 6.3 Reporting

Reporting will include monthly internal project reports and six monthly compliance reports as required by the conditions of approval. The six-monthly reports will track compliance against the conditions of approval and the revised environmental management measures and will be developed in accordance with the relevant Compliance Reporting requirements (DPE 2018).

Reporting requirements and responsibilities are documented in Sections 6 and 7 of the EMS. Any reporting to DPIE and NPWS will be via the Major Projects portal.

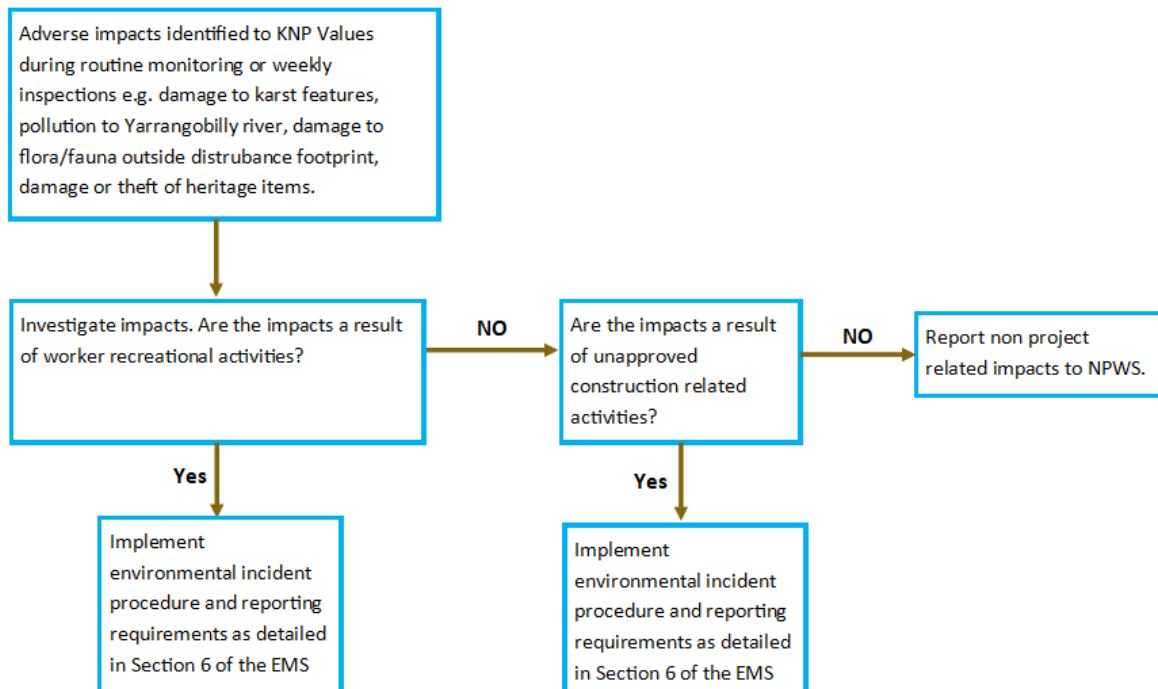
## Appendix A

### Trigger action response plan

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## Trigger Action Response Plan

### KNP Values adversely affected by worker recreational activities

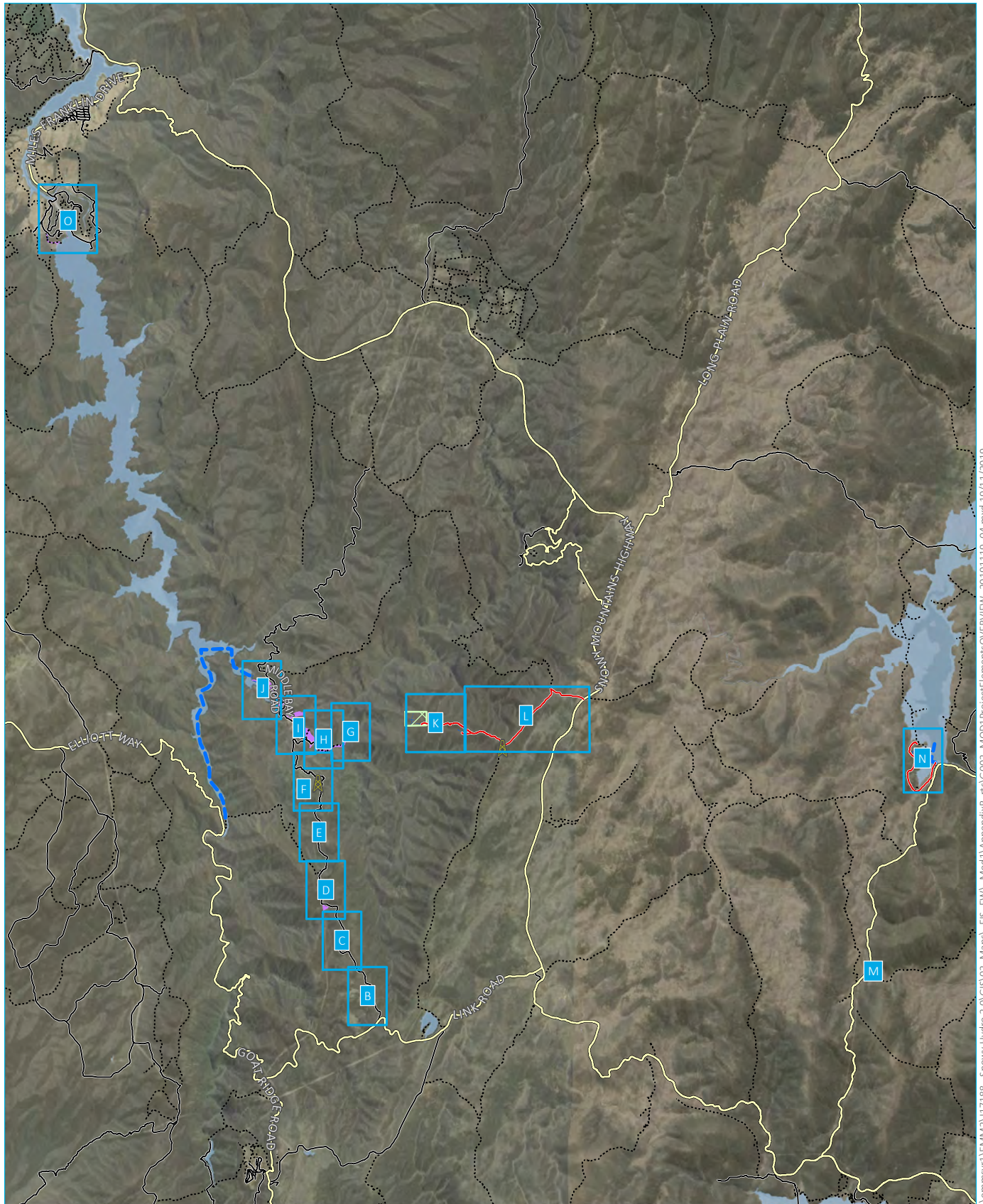


## Appendix B

### Project Boundary

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

## KEY

- Proposed temporary communications upgrade location
- Existing access track
- Boat access
- Main road
- Local road
- Vehicular track
- Map index
- EW approved construction footprint
- EW modification construction footprint (additional)
- Boreholes requiring on-site adjustment
- Waterbody

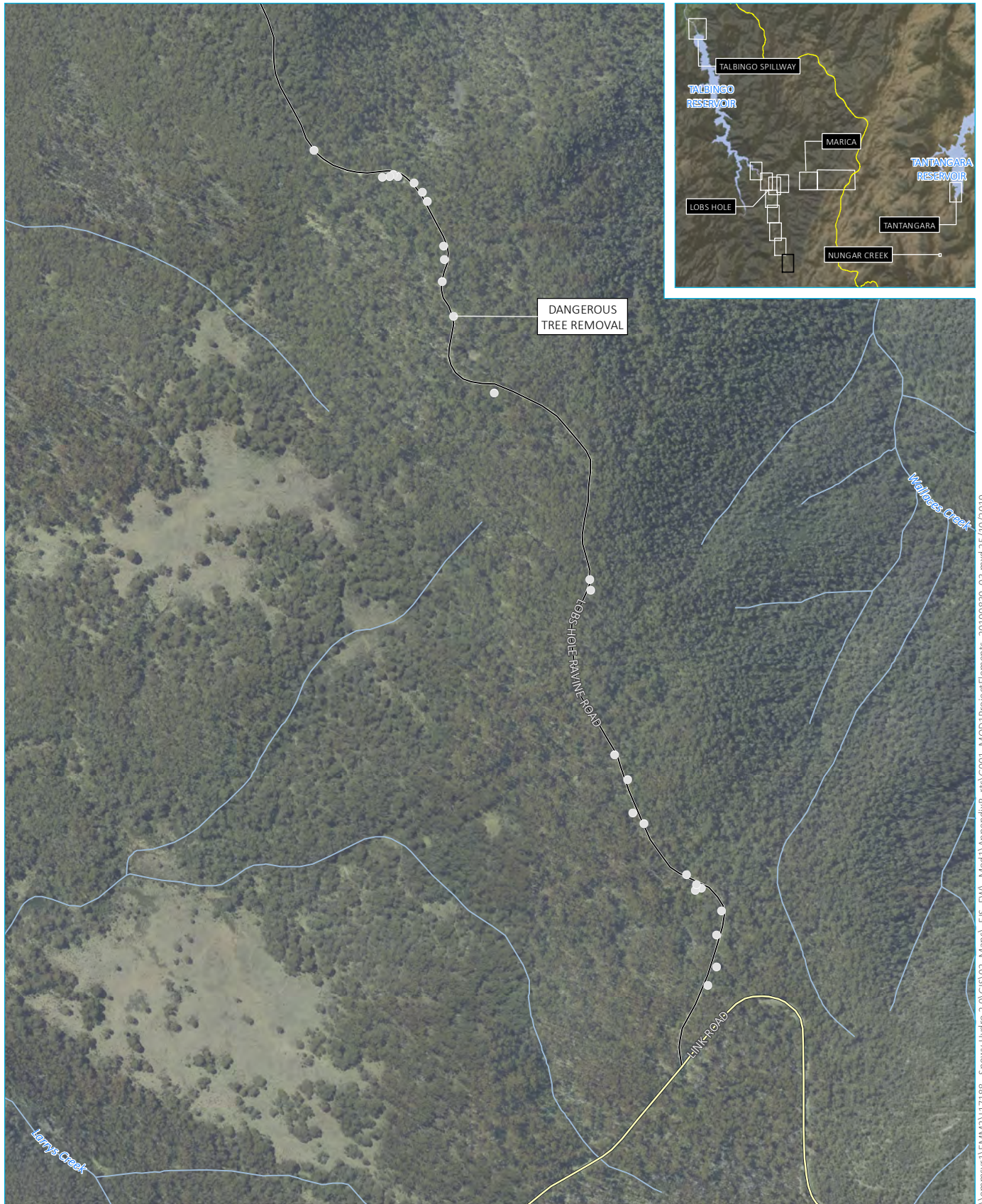
0 5 10 km  
GDA 1994 MGA Zone 55

## Exploratory Works project boundary - overview

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 a







Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

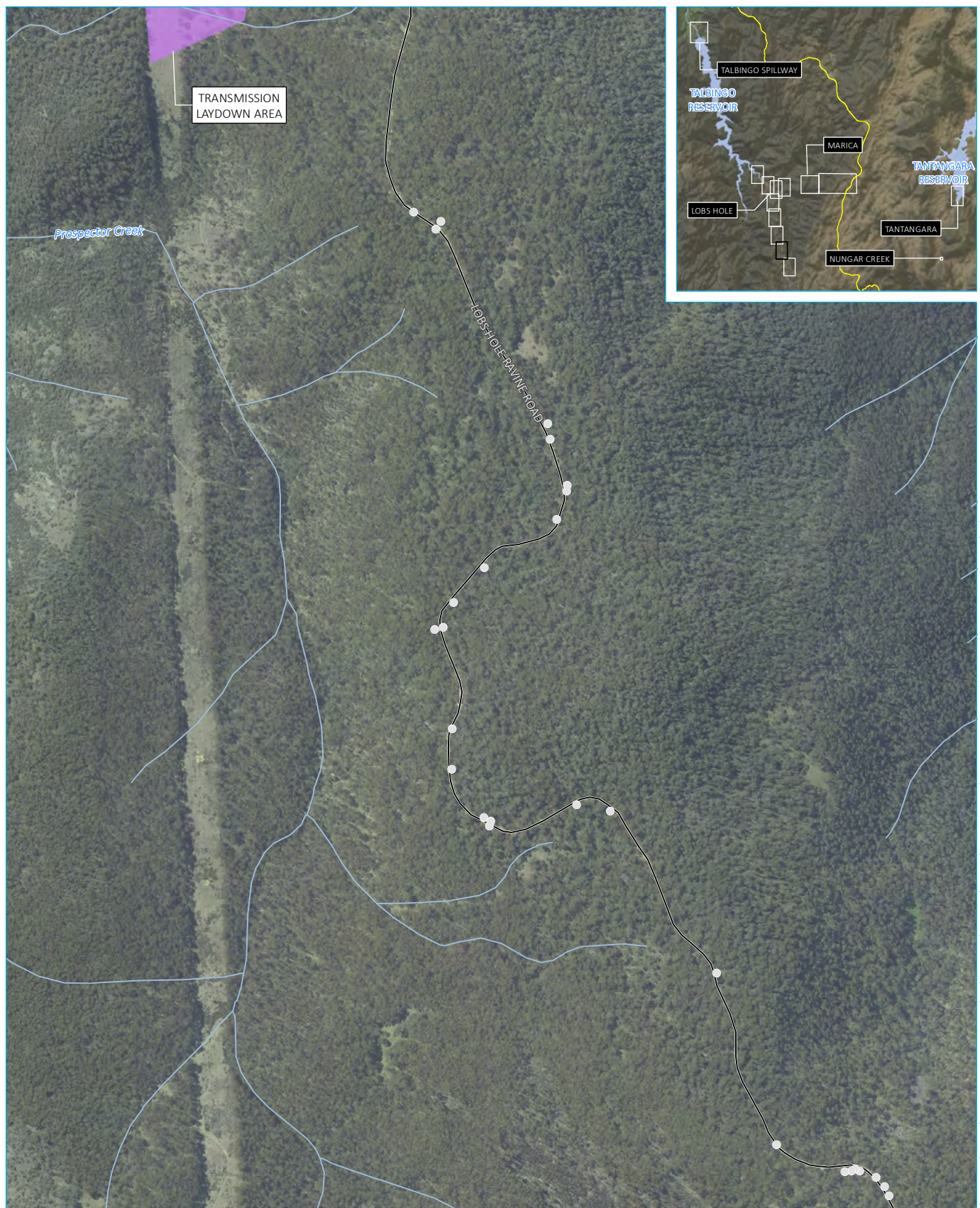
- Dangerous tree
- Main road
- Local road
- Watercourse/drainage line

Exploratory Works project boundary  
- Lobs Hole Ravine Road (Upper) 1

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 b







Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

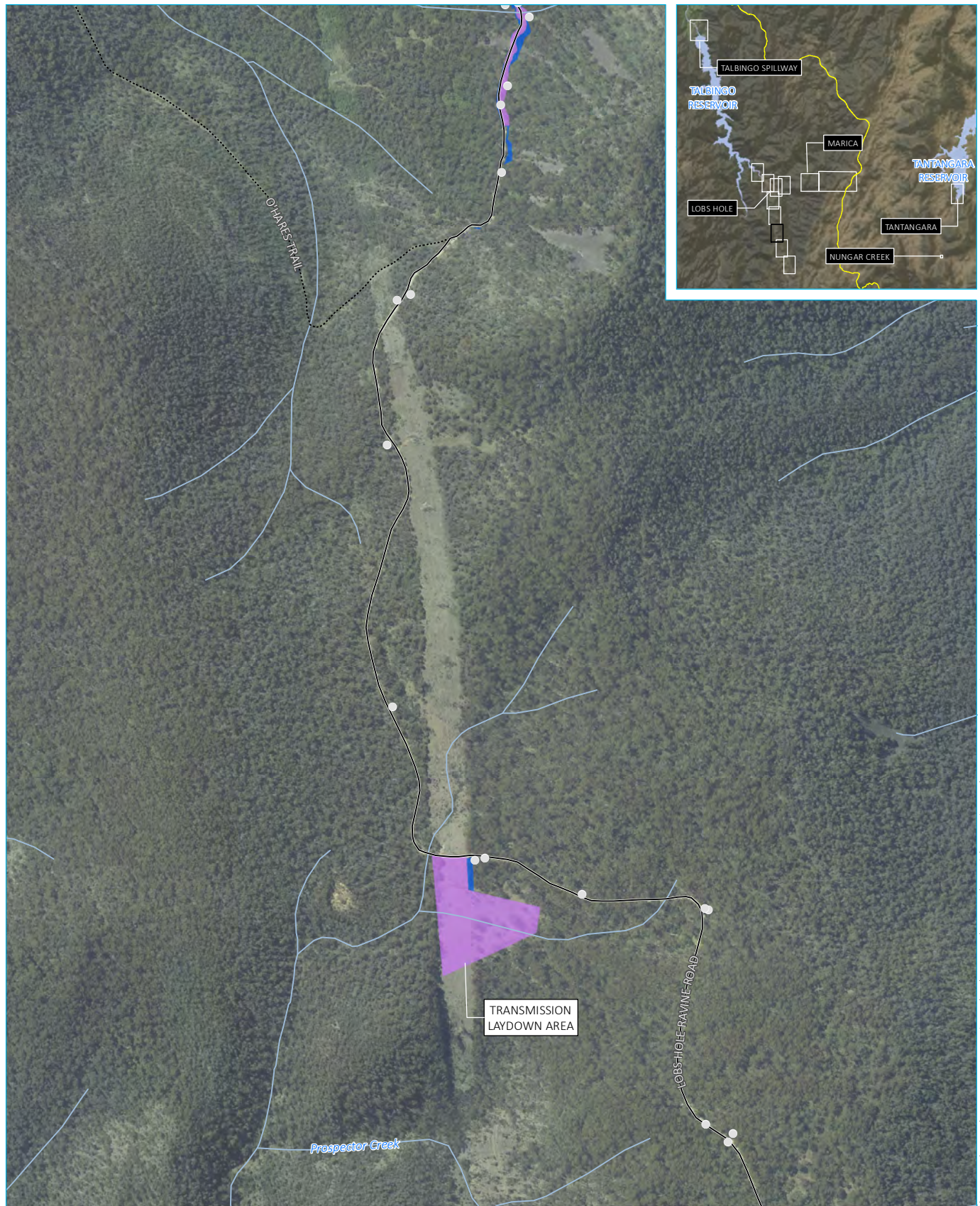
- Dangerous tree
- Local road
- Watercourse/drainage line
- EW approved construction footprint

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

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 c







Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

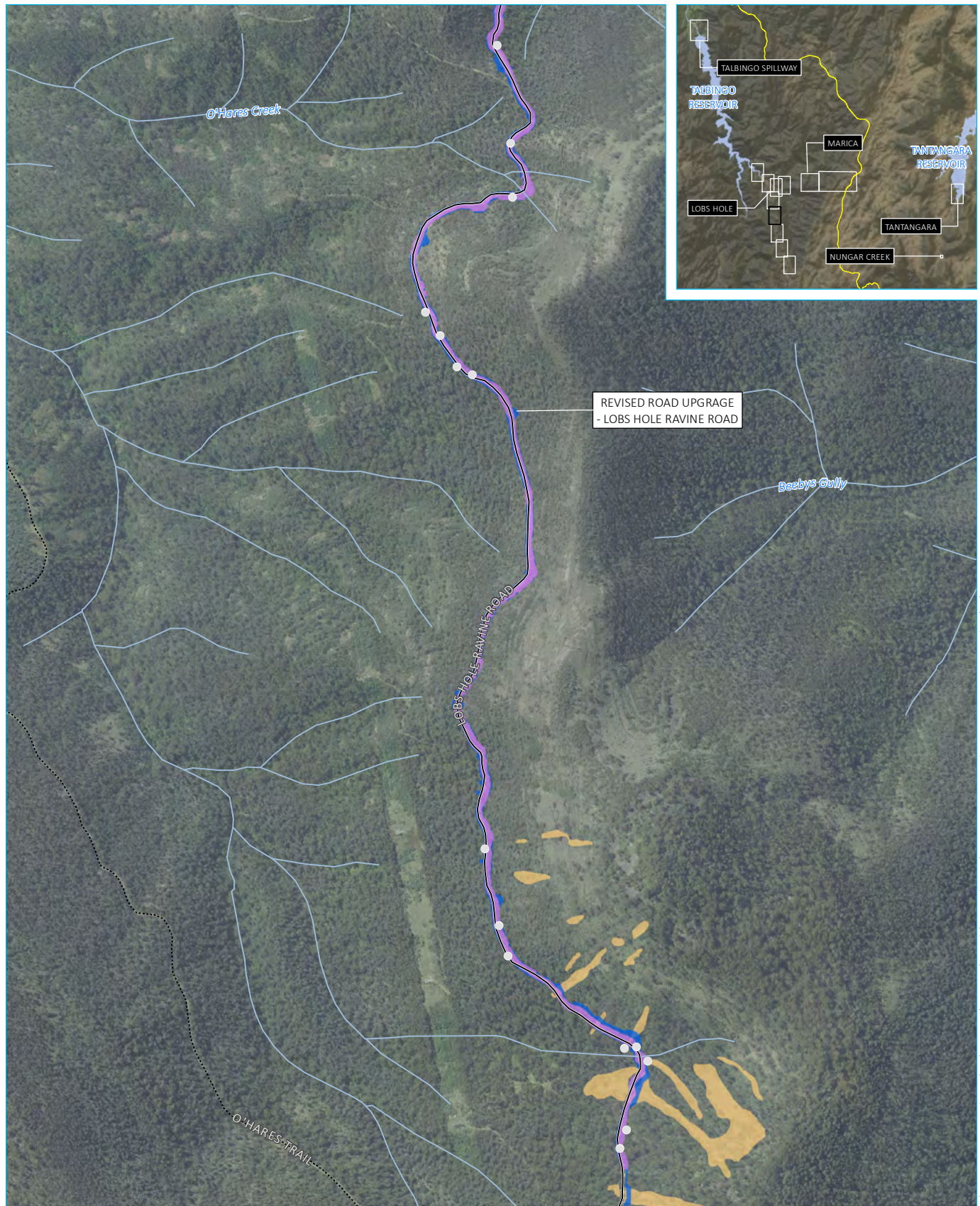
- Dangerous tree
- Local road
- ..... Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)

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

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 d







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

#### KEY

- Dangerous tree
- Local road
- ..... Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)
- Boulder stream

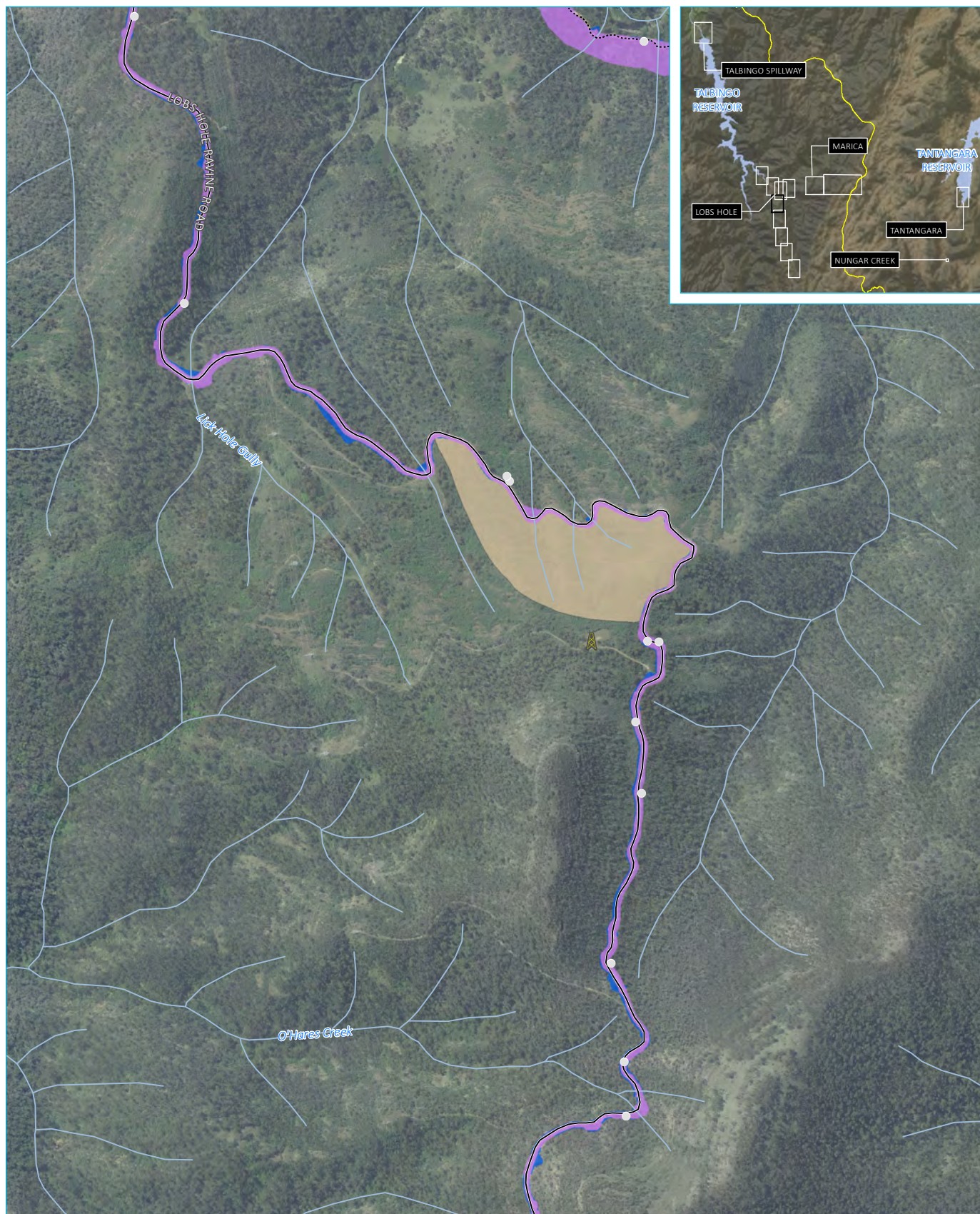
Exploratory Works project boundary  
- Lobs Hole Ravine Road (Lower) 1

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 e



OV17188 - Snowy Hydro 2.0\GIS\02\_Maps\EIS\_EWA\_Mod1\AppendixB\_rts\G001\_MOD1ProjectElements\_20191127\_05.mxd 27/11/2019





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

#### KEY

- Dangerous tree
- ▲ Existing temporary communications
- Local road
- ..... Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)
- Fossil area

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GDA 1994 MGA Zone 55  
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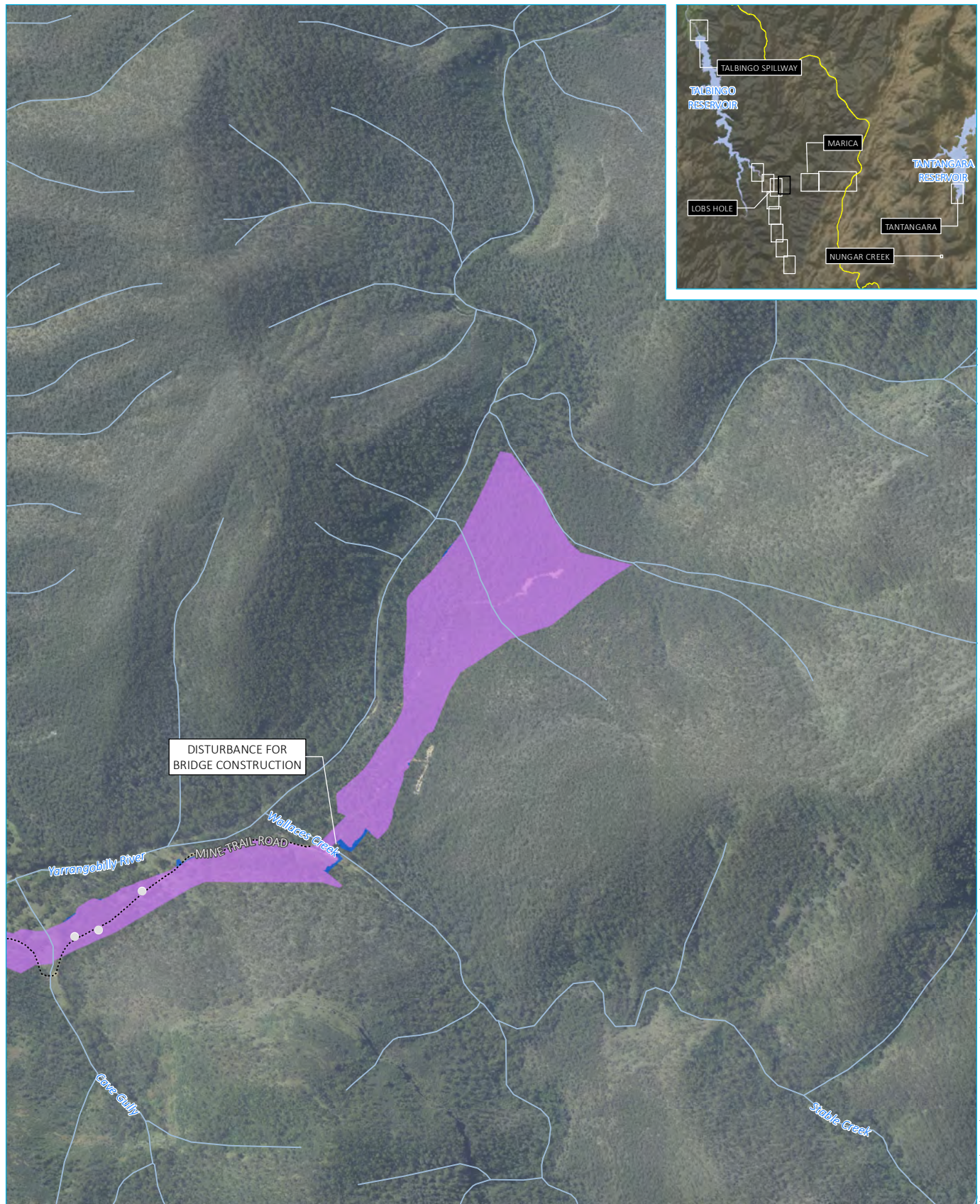
Exploratory Works project boundary  
- Lobs Hole Ravine Road (Lower) 2

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 f



OU17188 - Snowy Hydro 2.0\GIS\02\_Maps\EIS\_EWA\_Mod1\AppendixB\_rts\G001\_MOD1ProjectElements\_20191127\_05.mxd 27/11/2019





Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

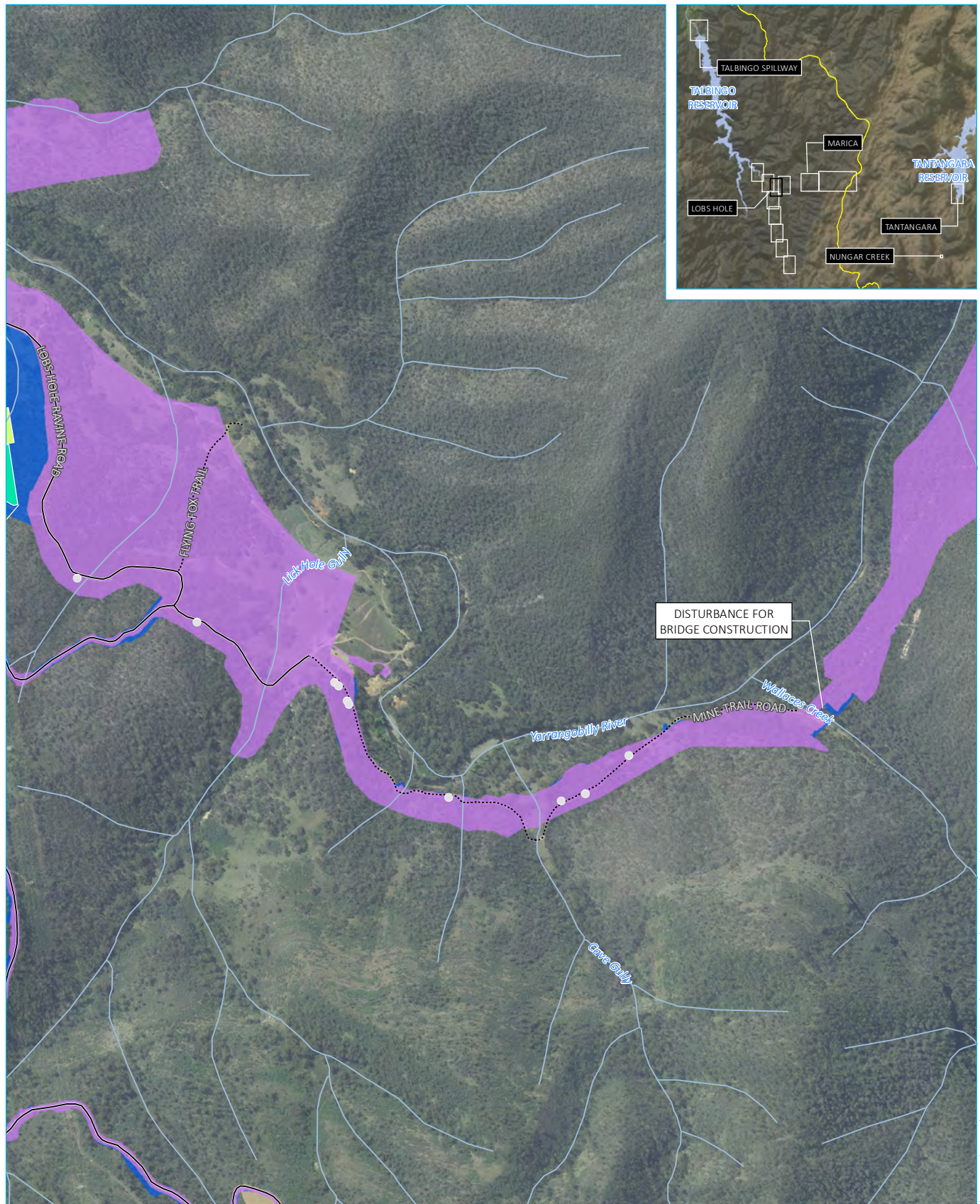
- Dangerous tree
- ..... Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)

Exploratory Works project boundary  
- Mine Trail Road 1

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 g







Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

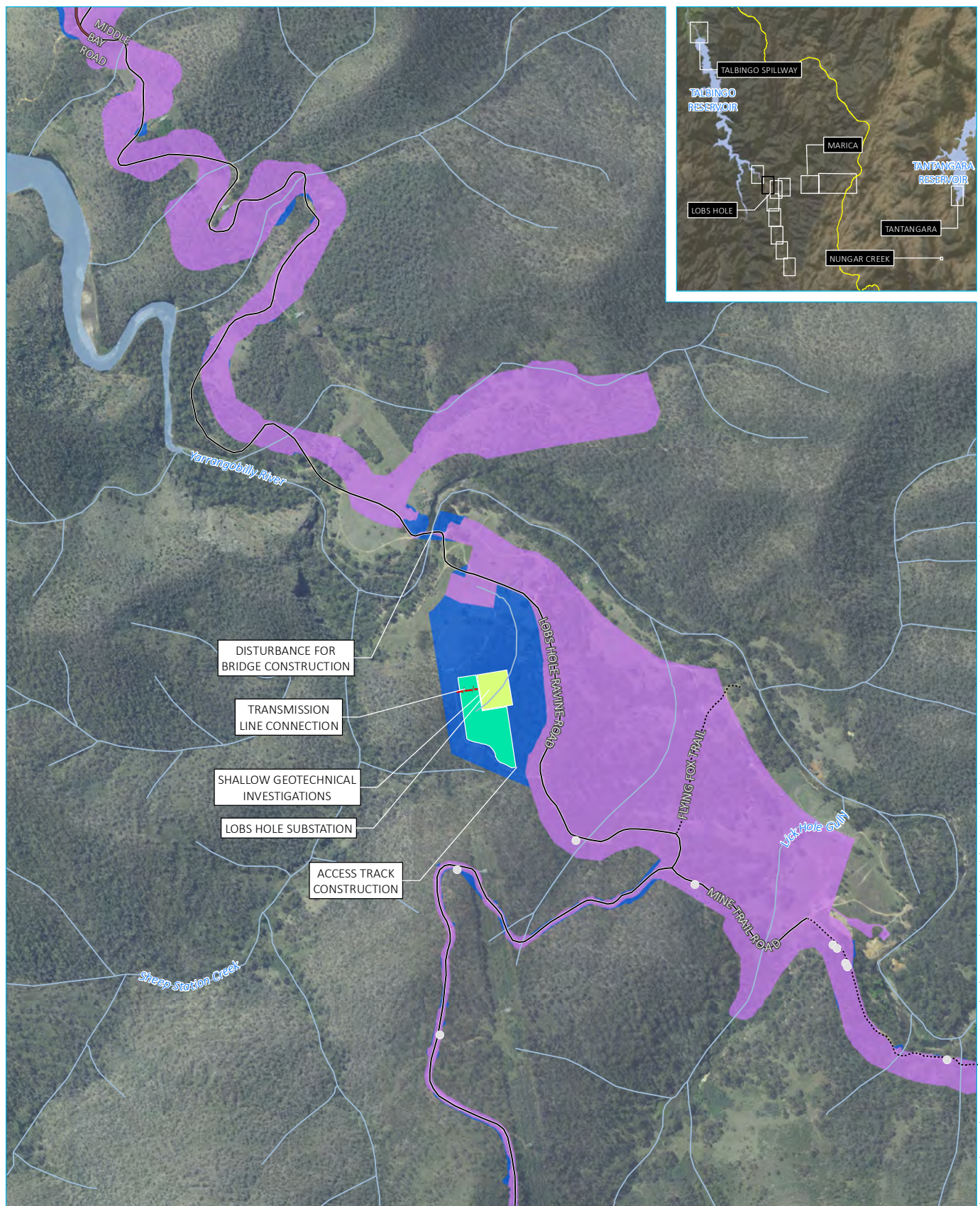
- Dangerous tree
- Local road
- ..... Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)
- Indicative laydown area
- Proposed substation
- Fossil area

Exploratory Works project boundary  
- Mine Trail Road 2

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 h







Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPGA (2011)

## KEY

- Dangerous tree
- Approved EW access
- Transmission line connection
- Local road
- ..... Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)

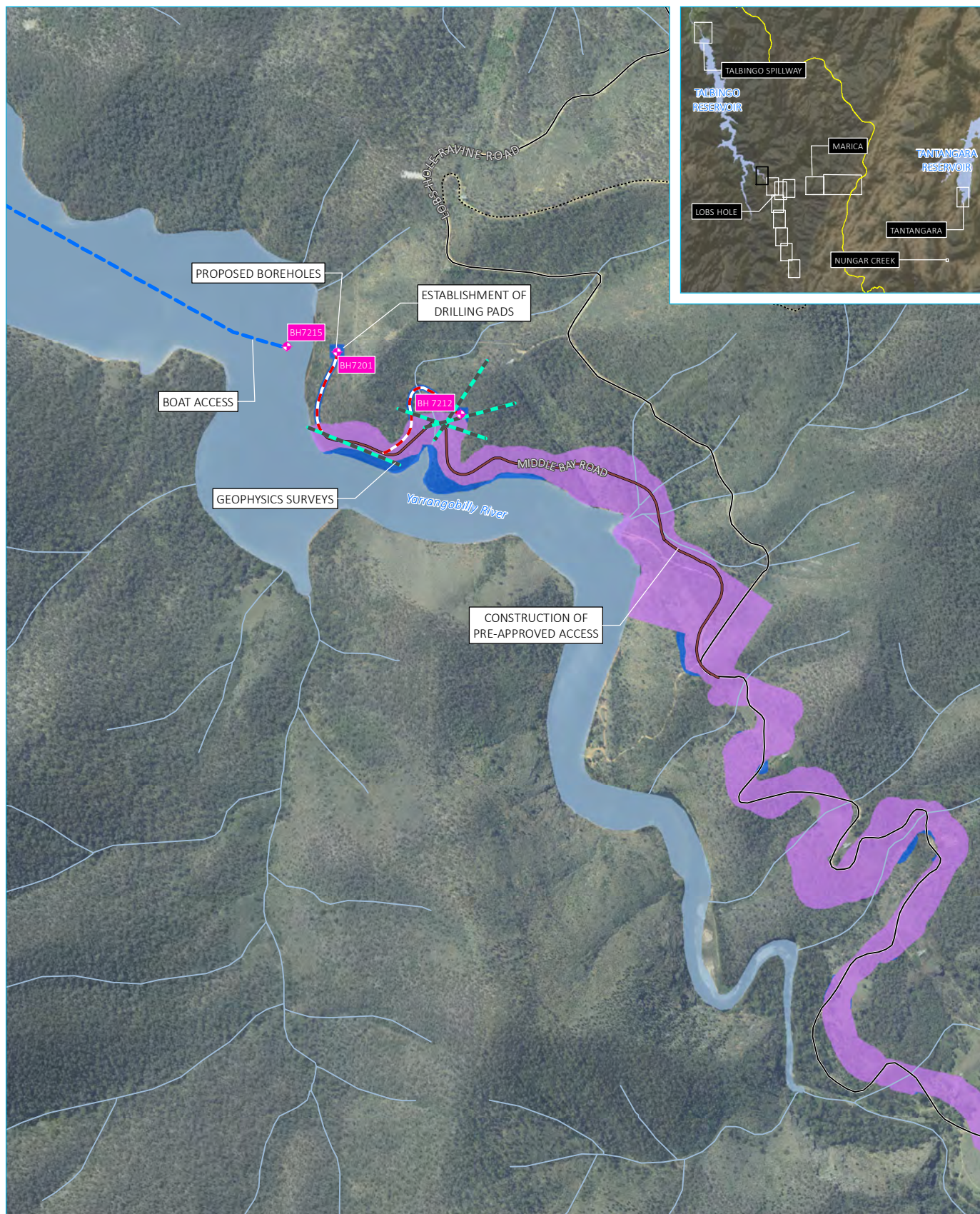
- Indicative laydown area
- Proposed substation
- Waterbody

Exploratory Works project boundary  
- Lobs Hole

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 i







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

#### KEY

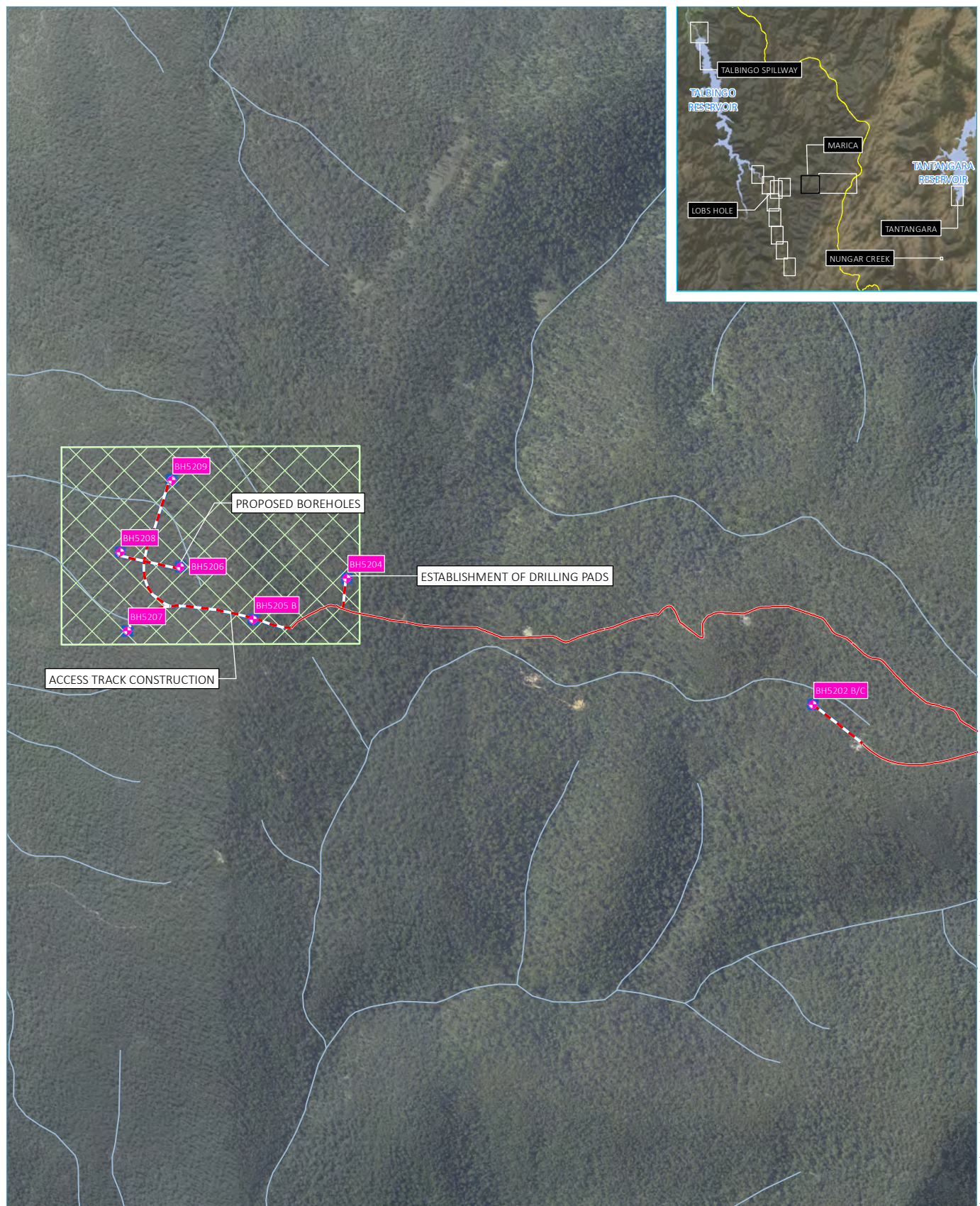
- ◆ Proposed borehole
- Proposed geophysics
- Proposed access track
- Approved EW access
- Boat access
- Local road
- ⋯ Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)
- Waterbody

Exploratory Works project boundary  
- Lobs Hole Ravine Road

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 j







Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- ✦ Proposed borehole
- Existing access track
- - Proposed access track
- Watercourse/drainage line
- EW modification construction footprint (additional)
- Boreholes requiring on-site adjustment

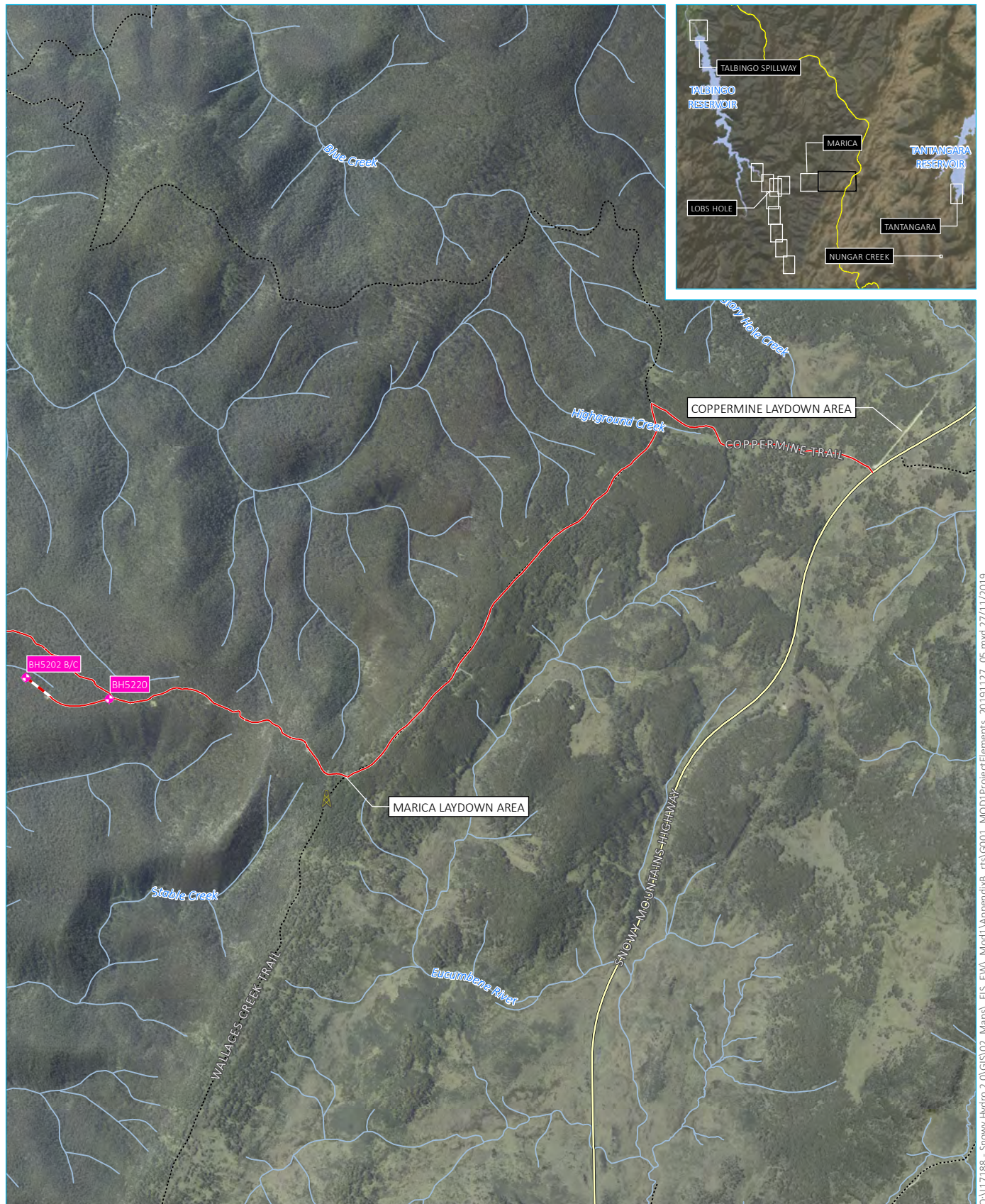
Exploratory Works project boundary  
- Marica 1

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 k



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

#### KEY

- ◆ Proposed borehole
- ▲ Existing temporary communications
- Existing access track
- - - Proposed access track
- Main road
- ⋯ Vehicular track
- Watercourse/drainage line
- EW modification construction footprint (additional)

Exploratory Works project boundary  
- Marica 2

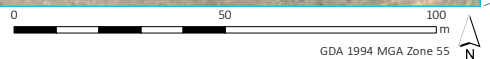
Snowy 2.0  
Exploratory Works EIS  
Modification 1  
11







Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)



#### KEY

- Proposed borehole
- Main road
- Watercourse/drainage line
- Proposed work area

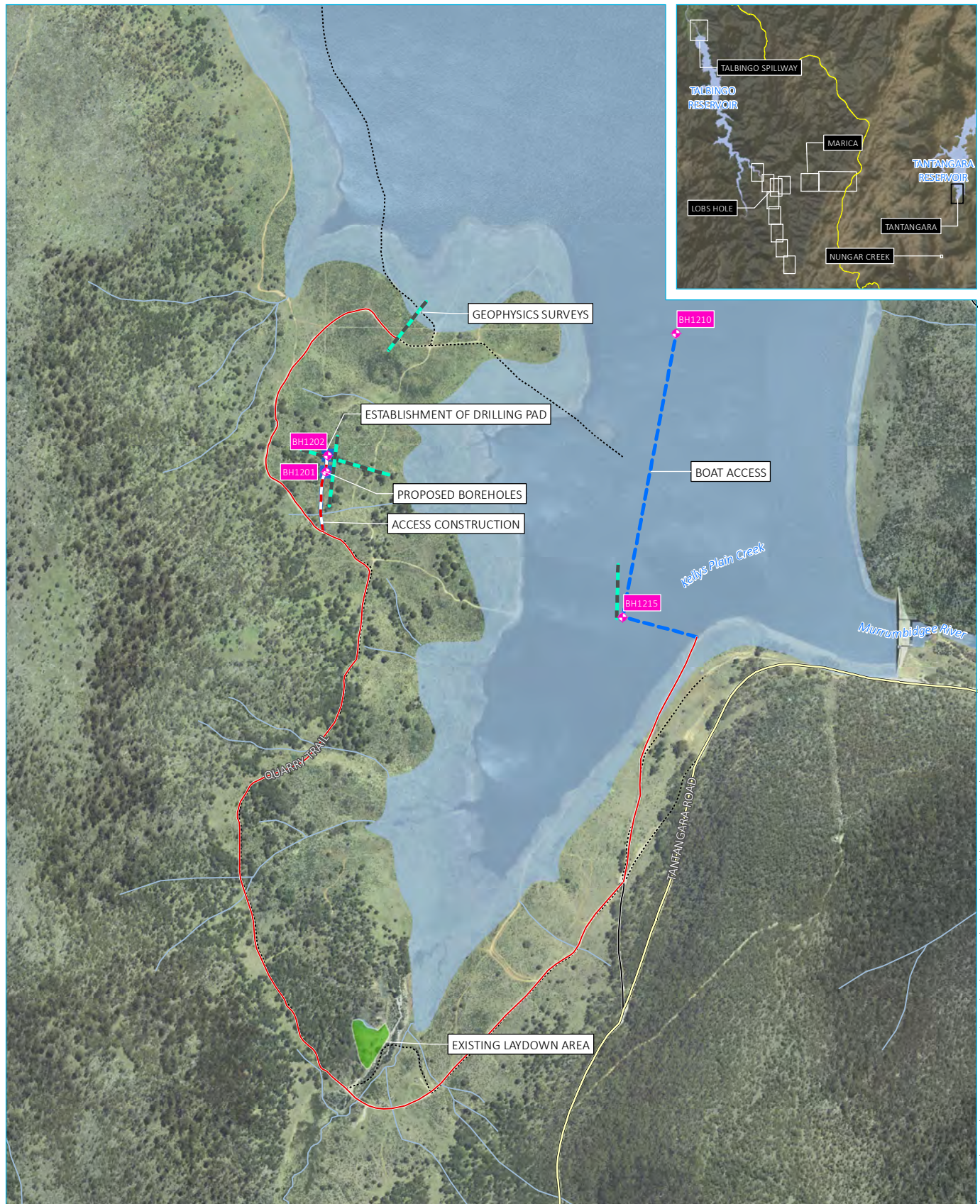
Exploratory Works project boundary  
- Nungar Creek

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 m



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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- |                       |   |
|-----------------------|---|
| Proposed borehole     | Watercourse/drainage line                           |
| Proposed geophysics   | EW modification construction footprint (additional) |
| Existing access track | Existing laydown area                               |
| Proposed access track | Waterbody   |
| Boat access           |   |
| Main road             |   |
| Local road            |   |
| Vehicular track       |   |

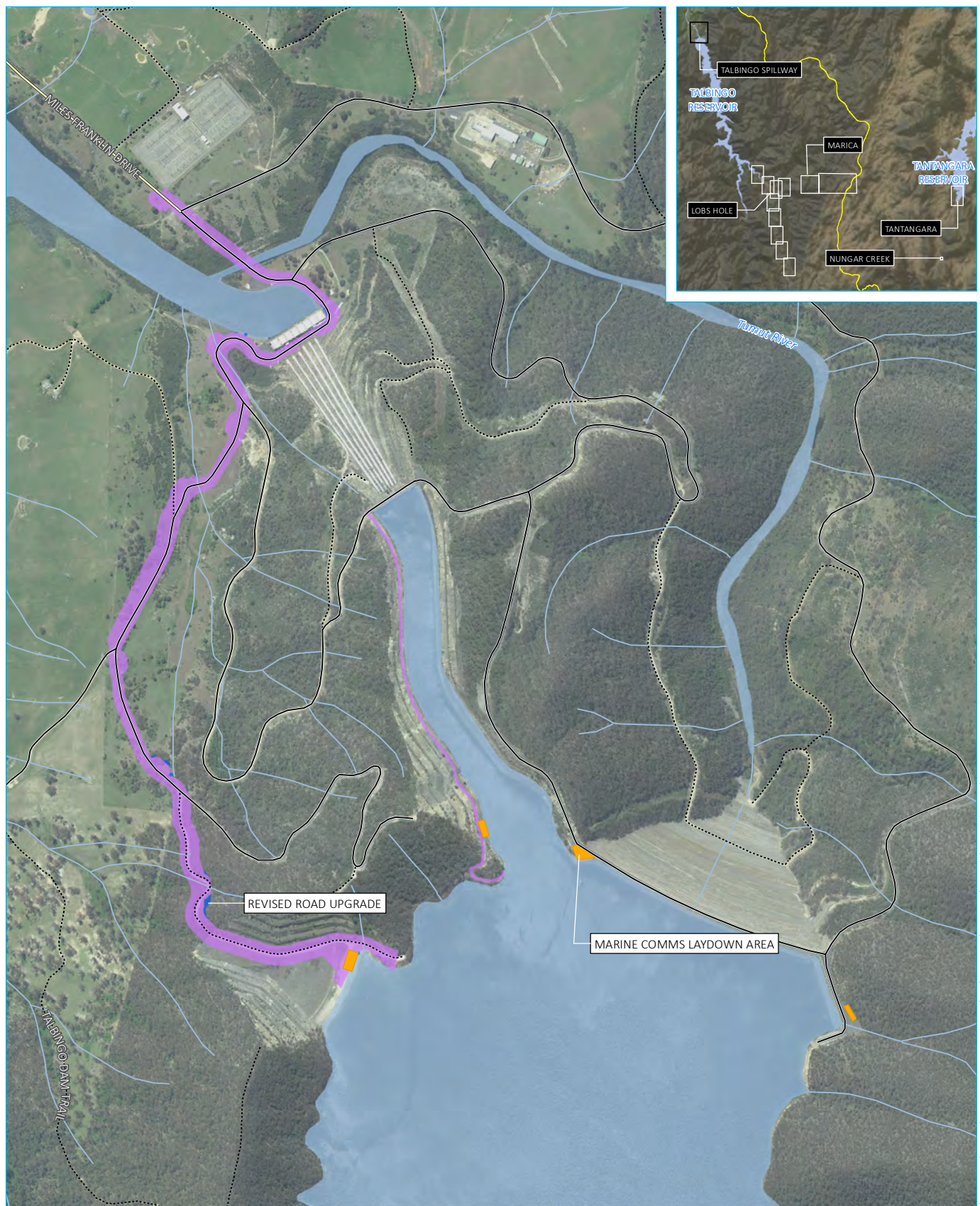
Exploratory Works project boundary  
- Tantangara Reservoir

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
1 n



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Source: EMM (2019); Snowy Hydro (2019); PhotoMapping (2018); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011)

#### KEY

- Main road
- Local road
- Vehicular track
- Watercourse/drainage line
- EW approved construction footprint
- EW modification construction footprint (additional)
- Marine comms laydown (proposed)
- Waterbody

Exploratory Works project boundary  
- Talbingo spillway

Snowy 2.0  
Exploratory Works EIS  
Modification 1  
10

