S2-FGJV-LOG-PLN-0006

TRAFFIC MANAGEMENT PLAN

Approval Record			
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6	02.06.2020	UPDATED FROM DPIE COMMENTS

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ABBREVIATIONS AND DEFINITIONS

Acronym	Definition
AFL	Agreement for Lease
ADG code	Australian Code for the Transport of Dangerous Goods by Road and Rail
BCD	Biodiversity and Conservation Division (part of Department of Planning, Industry and Environment)
CMP	Construction Management Plan
CMS	Construction Method Statement
CoA	Conditions of Approval
CoR	Chain of Responsibility
CSEP	Community and Stakeholder Engagement Plan
DCC	Driver Code of Conduct
DPIE or Department	NSW Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
Exploratory Works EIS	*Environmental Impact Statement Exploratory Works for Snowy 2.0*
EMS	Environmental Management Strategy
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
EWAR	Exploratory Works Access Roads
FMP	Fatigue Management Plan
Future Generation	Future Generation Joint Venture
Future Generation-PMS	Project Management System
GHS code	Globally Harmonised System of Classification and Labelling of Chemicals National Codes of Practice
HML	Higher Mass Limit
HVNL	Heavy Vehicle National Law
IAP	Intelligent Access Program
ISO	International Standards Organisation
IVMS	In Vehicle Monitoring Systems
KNP	Kosciuszko National Park
NPW Act	NSW *National Parks and Wildlife Act 1995*
NPW Regulation	NSW *National Parks and Wildlife Regulation 2009*
NPWS	NSW National Parks and Wildlife Service
OSOM	Over-sized Over-mass
PEP	Project Execution Plan
POEO Act	*Protection of the Environment Operations Act 1997*
QMP	Quality Management Plan

Acronym	Definition
RAV	Restricted Access Vehicle
REMMs	Revised environment management measures
RMS	Roads and Maritime Services
ROL	Road Occupancy Licence
RTS or Submissions Report	*Response to Submissions Exploratory Works for Snowy 2.0*
SDS	Safety Data Sheet
SEP	Site Environmental Plan
Snowy Hydro	Snowy Hydro Limited
SMRC	Snowy Monaro Regional Council
SSI	State significant infrastructure under EP&A Act (Infrastructure Approval 9208)
SVC	Snowy Valleys Council
TBM	Tunnel Boring Machine
TCG	Traffic Control Group
TCP	Traffic Control Plans
TfNSW	Transport for New South Wales
TMC	Traffic Management Centre
TMP	Traffic Management Plan (this plan)
TTLG	Traffic and Transport Liaison Group
UN number	United Nations numbers for Dangerous Goods transportation
VMP	Vehicle Movement Plans

1. INTRODUCTION

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

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

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

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

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

1.1. Purpose

This Traffic Management Plan (TMP or the plan) forms part of the Environmental Management Strategy (EMS) for Snowy 2.0 – Exploratory Works – Stage 2 (Exploratory Works – Stage 2). 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 Main Works or second phase, will be subject to a separate Environmental Impact Statement (EIS) in 2019.

This TMP has been prepared to address the requirements of:

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

The Exploratory Works 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 and dredge works*;
- excavated rock management, including subaqueous placement* within Talbingo Reservoir;
- services infrastructure; and
- post-construction revegetation and rehabilitation*.

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

Exploratory Works will be delivered in three distinct stages and these stages will be completed by two different contractors. Leed Engineering (Leed) is the contractor who will be carrying out the Snowy 2.0 Stage 1 work on behalf of Snowy Hydro. Future Generation is the contractor who will be delivering the Snowy 2.0 Stage 2 works on behalf of Snowy Hydro.

Works to be completed by Leed on behalf of Snowy Hydro:

- **Stage 1a – Pre-construction Minor Works** - Stage 1a has been approved and commenced in the first quarter of 2019. The scope of pre-construction minor works includes dilapidation studies, survey work, borehole installation, site office establishment, minor access roads, installation of monitoring equipment, installation of erosion and sediment controls, and minor clearing. Works commenced in the quarter two (Q2) of 2019.
- **Stage 1b - Exploratory Works Access Roads (EWAR)** – Stage 1b has been approved and commenced in the second quarter of 2019. The scope includes roadworks and upgrades to enable access and haulage routes during Exploratory Works. This includes upgrades to 26 km of existing roads and creating about 2 km of new roads, two new bridge crossings and two temporary waterway crossings.

Works to be completed by Future Generation on behalf of Snowy Hydro:

- **Stage 2 – Exploratory Works** – Stage 2 has been approved and works commenced in October of 2019. The scope for Stage 2 Exploratory Works includes:
  - pre-construction minor activities including dilapidation studies, survey, investigations, access etc; and
  - construction works including exploratory tunnel, portal construction pad, accommodation camp, dredging*, barge access infrastructure, excavated rock management and additional geotechnical investigation. This includes subaqueous emplacement within Talbingo Reservoir.

Further detail on construction activities and staging is presented in Section 1.7and Figure 1-1.

This plan identifies the project's environmental management measures in relation to traffic management for the Exploratory Works – Stage 2. It has been specifically developed for the Exploratory Works – Stage 2.

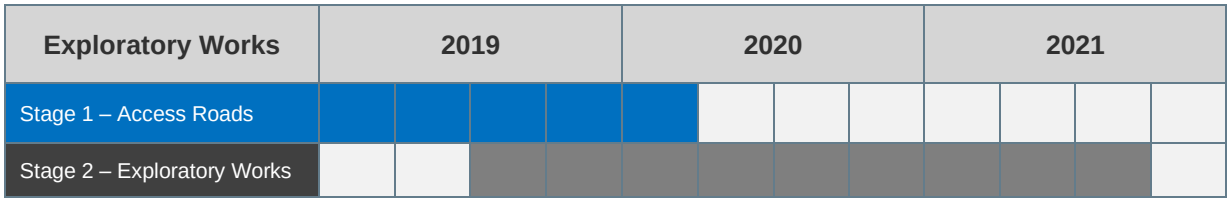

Figure 1-1: Timing of Exploratory Works stages

Stage 2 management plans have been revised from the corresponding Stage 1 management plan, as demonstrated in the document revision section of each Stage 2 plan. The intent of this arrangement is to ensure a consistent approach to managing environmental risk and regulatory requirements for the Exploratory Works project. In the event that both Exploratory Works Stages are undertaken concurrently, and / or in overlapping locations, the Stage 1 management plan will apply to the Stage 1 works, and the Stage 2 management plans will apply to the Stage 2 works. This arrangement would not affect management standards as all relevant measures from each management plan would continue to apply. As the proponent, Snowy Hydro will oversee both Stages of the Exploratory Works Project.

The timing of the preparation, consultation, submission and approval of this plan, along with other management plans required by the Conditions of Approval (CoA), is shown within Table 4.4 and Figure 4.4 of the EMS.

Specific on-site management measures identified in this plan will be incorporated into site documents. 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 is the proponent of the 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.

Future Generation proposes to carry out the Exploratory Works – Stage 2 project prior to the main construction works for the 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 – Stage 2 project will predominantly be in the Lobs Hole area of KNP. If the Exploratory Works are not undertaken, risks to the design and construct elements of the power station cavern are significantly increased.

The Exploratory Works EIS was prepared to assess the impact of these works on the environment, and included an assessment of traffic impacts within Chapter 5.6 and Appendix Q.

The RTS included REMMs within Chapter 8. The management measures from that report have been addressed within this TMP. The Exploratory Works EIS identified that the main traffic and transport issue for the Exploratory Works would be the increase in traffic volumes from the delivery of materials to site. The peak heavy vehicle volume generated by the project was forecasted to occur in the sixth month of the project with some 423 heavy vehicles accessing the project area in one month. For Stage 2 of the work heavy vehicles will include truck and dogs, rigid flatbed trucks, rigid tip trucks and semi-trailers with some oversize deliveries required for large plant and equipment.

The EIS concluded that the impact of the additional traffic volumes generated by Exploratory Works on the external road network would not lead to any noticeable change in road network performance. Similarly, no significant, negative impacts on the internal road network, public transport, traffic crashes or emergency vehicles were predicted.

1.2.1. Modification 1

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

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

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

Modification 1 included an assessment for an increase in peak traffic volumes. Additional vehicles are required to access the site to facilitate construction of Exploratory Works, and in particular in relation to the construction of the new substation and transmission connection. Detailed design has also identified an increase in traffic volumes during construction of the Exploratory Works. This is expected to increase the overall traffic volumes, and therefore Modification 1 includes revised traffic numbers for Exploratory Works.

Modification 1 recommended that along Lobs Hole Ravine Road, existing restrictions on traffic movement remain in place to avoid risks of fauna vehicle strike. In the Marica area this was considered to not be feasible due to operations needing to access laydown areas at the eastern extent of the Marica area during operations. To mitigate the risk of fauna vehicle strike on Smoky Mouse, vehicle movements will be limited to a speed of 20 km/h. These restrictions will be in place from dusk until dawn.

1.2.2. Modification 2

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

- revise the tunnelling method from drill and blast to predominantly tunnel boring machine (TBM);
- provide for road upgrades required to enable the transport and delivery of TBM equipment and materials required for tunnelling;
- include vegetation trimming, and selective tree lopping/removal on Lobs Hole Ravine Road (south) to provide adequate clearance for transport of the TBMs;
- improve access and egress to Lobs Hole via Lobs Hole Ravine Road (north);
- relocate the Middle Bay barge ramp;
- increase the capacity of the Lobs Hole accommodation camp from 152 personnel to up to 250;

- provide for additional diesel storage capacity for the TBM until the Lobs Hole substation construction power is available;
- provide for the additional diesel generators required to provide power supply to the TBM prior to Lobs Hole substation commissioning; and
- revise the transport strategy to reduce the use of barging for delivery of materials to site.

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

Modification 2 included several changes, predominantly related to the revised tunnelling method, road upgrades and increasing the capacity of the Lobs Hole accommodation camp.

The Modification 2 Assessment Report also revised the transport strategy for the project, removing the principal use of barges for the transport of machinery, equipment and materials, and instead proposing the use of Lobs Hole Ravine Road (south) as the primary access. In proposing this change, it was requested that condition 45 of Schedule 3 of the Infrastructure Approval be removed. An assessment of traffic and transport impacts determined that the revised transport strategy was not expected to change the traffic volumes required for Exploratory Works, however it would have some impact on the transport route of OSOM vehicle movements. Impacts on the traffic volume through Talbingo township and on Miles Franklin Drive would be reduced.

This TMP has been revised to address the changes which have occurred as a result of Modification 2, in particular the potential traffic impacts associated with oversize and overmass (OSOM) deliveries to site.

1.3. Environmental Management System

The overall environmental management system for the project is described in the EMS. This TMP forms part of Future Generation's environmental management framework for the project as described in 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.

1.4. Relationship to Project Management System and Other Project Plans

It is a requirement of Volume 4 Employer's Requirements – Project Execution to develop and implement a number of project plans for the project. These plans are defined as deliverables. The Traffic Management Plan is required to support the deliverable plans.

The Environmental Management Strategy (EMS) will form part of the Project Management System (Future Generation-PMS) and will include any requirements specified in the contract documents, where appropriate. All Future Generation-PMS procedures will support, interface or directly relate to the development and execution of the plan.

The Project Execution Plan (PEP) is the overarching document that outlines the minimum requirements for project management on the project. The PEP is not a standalone document and has been prepared with consideration to other project plan requirements. The PEP will also detail the interfaces between other project plans and provide information on the responsibility and management of the interfaces and project works.

All project plans are reviewed by the Quality Manager and/or Systems Manager to ensure consistency with the Quality Management Plan (QMP) and Future Generation-PMS.

1.5. Purpose and Objectives

The purpose of this plan is to describe how traffic, transport and access requirements are to be managed during the delivery of Stage 2 of the project. It outlines the control measures that are to be implemented to minimise the potential impacts from construction traffic and transport on the surrounding community and environment.

The key objective of the TMP is to ensure that impacts related to traffic and transport are minimised and within the scope permitted by the conditions of approval. To achieve this, Snowy Hydro and Future Generation will:

- ensure appropriate measures are implemented to address the relevant CoA and the REMMs listed within the Submissions Report, the Submissions Report for Modification 1 and the Submissions Report for Modification 2, as detailed within Table 2-1 and Table 2-2 of this plan;
- ensure appropriate measures are implemented during construction to avoid or minimise traffic and transport related impacts including safety related impacts;
- ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 0 of this plan; and
- establish a traffic and transport monitoring program to assess the effectiveness of management measures and promote adherence with the code of conduct.

1.6. Consultation

In accordance with schedule 3, condition 46 of the conditions of approval, the TMP is to be prepared in consultation with;

- National Parks and Wildlife Services (NPWS);
- Transport for New South Wales (TfNSW);
- Snowy Valleys Council (SVC); and
- Snowy Monaro Regional Council (SMRC).

On 20 May 2019, the plan was issued to stakeholder agencies for review and comment. Comments from consultation have been incorporated into this plan where appropriate. Response to the comments have been provided back to the stakeholder agencies. Comments are summarised in Table 1-1.

An agency briefing for the TMP was held on 7 June 2019 with SVC, SMRC, NPWS, TfNSW and Police NSW on 7 June 2019. A separate document has been prepared detailing the consultation process.

Table 1-1: Consultation undertaken for the Stage 2 TMP

Date	Consultation	Outcomes
20 June 2019	TMP submitted for consultation to SVC, SMRC, TfNSW & NPWS	Comments received from NPWS and TfNSW. NPWS and TfNSW comments both related to perceived discrepancies of the EIS Traffic Assessment (App Q). Management plan was updated to reflect comments.
7 June 2019	Agency briefing with SVC, SMRC, NPWS, TfNSW & Police NSW,	-

Revision 1 of the TMP (prepared in response to Modification 1 of the Infrastructure Approval) was issued to the following agencies for consultation:

- NPWS on 10 October 2019;
- SVC, SMRC and TfNSW on 24 October 2019.

Comments have been incorporated into the plan where appropriate. NPWS requested that information relating to aircraft and drone use be included and that Future Generation consult with TfNSW. Information relating to drones is included within Section 5.6 and TfNSW provided no comments.

Revision 4 of the TMP (prepared in response to Modification 2 consolidation approval conditions) was issued to NPWS, SVC, SMRC and TfNSW on 06 April 2020 for consultation. Comments have been incorporated into the plan where appropriate.

NPWS comments were not specific to this TMP and included minor updated to Section 1, and TfNSW comments regarded consultation of current and future plans and procedures through the Traffic and Transport Liaison Group (TTLG) (see Section 7.3).

1.7. Comments were not provided by SMRC and SVC following Future Generation reminders on 16 April 2020. Construction Activities

This plan relates to Stage 2 works. Stage 2 will include the following:

- pre-construction minor works (not construction activities) including:
  - building/road dilapidation studies;
  - survey works;
  - installing groundwater bores in the Ravine beds on site for water supply;
  - establishing a temporary site office;
  - minor access roads to facilitate the pre-construction minor works;
  - installation of environmental impact mitigation measures, including the installation of monitoring equipment, erosion and sediment controls, and fencing;
  - minor clearing or translocation of native vegetation within the approved disturbance footprint for the pre-construction minor works;
- the exploratory tunnel which is approximately 3.1 km long and will lead to the site of the underground power station. Excavation of the tunnel will occur through a method of both drill and blast and TBM;
- road upgrades for transport and delivery of the TBM and TBM equipment (undertaken by Snowy Hydro);

- a turnaround area on Link Road (undertaken by Snowy Hydro) for transportation of the TBM equipment and materials to the construction areas at Lobs Hole and to facilitate set down and turn-back of OSOM deliveries;
- horizontal and other test drilling, investigations and analysis in situ at the proposed cavern location and associated areas, and around the portal construction pad, access roads and excavated rock management areas all within the disturbance footprint;
- borehole drilling and geophysical surveys for further geotechnical investigation of the Snowy 2.0 power station and power waterway at Marica, Talbingo and Tantangara;
- ongoing groundwater monitoring using existing boreholes and access tracks within KNP;
- ongoing maintenance and rehabilitation of existing access tracks required for groundwater monitoring and geotechnical investigations within KNP;
- additional geotechnical drilling is proposed to enable investigation and detailed design of critical bridge works (Nungar Creek bridge) on Tantangara Road;
- additional laydown areas at Talbingo north for the transfer of plant and materials are proposed within Modification 1 to improve constructability;
- a portal construction pad for the exploratory tunnel. This will provide the entrance structure to the tunnel and an area for infrastructure and equipment needed to support tunnelling activities;
- an accommodation camp for the Exploratory Works construction workforce;
- barge access infrastructure, including one new barge ramp at Middle Bay near Lobs Hole at the southern part of Talbingo Reservoir;
- excavated rock management, including subaqueous placement within Talbingo Reservoir*. Up to 750,000 m^3 of excavated rock will need to be tested for its geochemical properties (i.e. whether the rock is reactive or non-reactive) before being managed by a combination of the following options:
    - re-use – suitable material can be used as construction materials for roads or similar. Some materials will be provided to NPWS for use in road maintenance and upgrades in other areas of KNP;
    - on land placement – material will be placed in one of two on land emplacement areas. The eastern emplacement area has been designed to safely treat reactive material during temporary storage. The western emplacement area will be used for temporary storage of materials for re-use or offsite disposal (Note: no material is to remain at any emplacement area and must be either sub-aqueously placed at Talbingo Reservoir or removed to a suitable place outside of KNP within three years of completion of the exploratory works (should Snowy 2.0 main Works not proceed));
    - subaqueous placement within Talbingo Reservoir – suitable material will be placed at a suitable location within Talbingo Reservoir, subject to a number of water quality controls and monitoring; and
- services infrastructure such as diesel-generated power, water and communication;
- post-construction revegetation and rehabilitation, management and monitoring.

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

1.7.1. Works approved through Modification 1

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

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

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

Stage 1	
Activity	**Description**
Lobs Hole Substation	Additional disturbance area required for the construction power connection to an existing transmission line (Line 2) at Lobs Hole for power supply to the Exploratory Works accommodation camp and construction areas. This will provide a reliable and long-term source of construction power and will reduce the reliance on diesel generation and associated on-site storage requirements and emissions. Works in this area will include establishing a substation, connection infrastructure, access roads and ancillary construction areas. Works in this area will include establishing a substation, connection infrastructure, access roads and ancillary construction areas. This will include: • 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; • geotechnical investigation works to inform the detailed design of the construction power substation; • 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; • short overhead 330 kV transmission line connections (approximately 100 m in length) between the substation and the new Structure 54; • 33 kV feeder connection between the substation and the Exploratory Works construction power network. This will be either overhead lines or underground cables; • establishment and upgrade of access tracks and roads to the new substation and transmission line structures; • installation of a fibre optic communication link into the new substation from the approved communication network; and • ancillary activities, including brake and winch sites, crane pads, site compounds and equipment laydown areas. (Illustrated in Appendix E, Figure 1i).
Camps Bridge and Wallaces Creek	Additional disturbance area around Camp Bridge and Wallaces Creek Bridge required for improved constructability of the crossings. Works within these areas will include vegetation clearing, levelling earthwork, erection of falsework, sediment controls, laydown, parking and movement of equipment. (Illustrated in Appendix E, Figures 1h and 1i).
Lobs Hill Ravine Road and Construction Boundary Changes	Minor changes to the project boundary identified through detailed design including: • revised road upgrade for Lobs Hole/Ravine Road to improve access, drainage and safety; • minor additions to construction areas for design optimisation; • 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. (Illustrated in Appendix E, Figures 1b to 1f and Figure 1i)
Operating Hours	Modify use of Upper Lobs Hole Ravine Road from 7 am to 6pm to sunrise to sunset.

Miscellaneous	• 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 • Increase in peak traffic volumes. Additional vehicles will be required to access the site to facilitate construction of Exploratory Works, however no change in impacts to the road network are expected. (The location of the communications towers are illustrated in Appendix E, Figures 1a, 1f and 1l).
Stage 2	
Activity	**Description**
Borehole drilling and geophysical surveys	This includes: • borehole drilling and geophysical surveys for further geotechnical investigation of the Snowy 2.0 power station and power waterway at Marica, Talbingo and Tantangara; • clearing of up to 2.79 hectares (ha) of additional vegetation for access tracks and drilling pads. About 1.33 ha within Smoky Mouse potential habitat; • trimming of overhanging dangerous branches on adjacent trees (these trees will not require removal); • mulching of trees and vegetation; • establishment of an additional 1 km of access tracks (4 m wide), including minor earthworks; • placement of geofabric (as required) and import of stabilised material; • establishment of eight drilling pads and boreholes at top of the cavern area, with an area of 900 m2 per pad, including minor earthworks, placement of geofabric (as required) and import of stabilised material (as required); • undertaking geophysical surveys near Talbingo and Tantangara reservoirs; • establishment of two drilling pads and boreholes at both Tantangara and Talbingo with an area of 900 m2 per pad, including approximately 400 m of additional access tracks and minor earthworks (as required); • establishment of in-reservoir boreholes including one in Talbingo Reservoir and two in Tantangara Reservoir; • drilling of additional nested vertical boreholes at each of the drilling pads up to a depth of 1,100 m; • conversion of the investigation boreholes into monitoring bores; • undertaking geophysical surveys; • rehabilitation of the drilling pads and access tracks following completion of works; • ongoing maintenance of existing access tracks required for geotechnical investigations within KNP. (Illustrated in Appendix E, Figures 1j, 1k, 1l, 1m and 1n).
Talbingo Laydown	Outside of KNP, Snowy Hydro is proposing to add four laydown locations to facilitate the construction of the communications cable linking Lobs Hole with the Tumut 3 Power Station. These are proposed on existing hardstand areas along the northern foreshore of Talbingo Reservoir within Snowy Hydro owned land. Additional widening of Spillway Road for accessibility is required. (Illustrated in Appendix E, Figure 1o).
Tantangara Access	Two additional geotechnical boreholes are required to facilitate the detailed design of cuttings, bridge foundations, retaining wall foundations, and drainage structures near Nungar Creek. (Illustrated in Appendix E, Figure 1m).
Operating Hours	Modify use of Upper Lobs Hole Ravine Road from 7 am to 6pm to sunrise to sunset.

1.7.2. Works approved through Modification 2

The Exploratory Works - Modification 2 scope for Stage 2 works is included in Table 1-3.

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

Table 1-3: Exploratory Works - Modification 2 works scope (Stage 2)

Modification 2 - Stage 2 works	
Activity	**Description**
Tunnelling	The tunnelling methodology has been revised and include the following: • TBM method will used to excavate the exploratory tunnel. The TBMs will be fully equipped to perform the excavation, ventilation, lining, and removal of excavated material; • the TBMs will be engineered to facilitate dismantling operations. This will avoid the need to excavate a preliminary dismantling chamber and allow the TBMs to be retrieved from the tunnel, thereby reducing the amount of excavated rock material; • the TBM will be equipped with devices to perform the following surveys: – geophysical seismic reflection surveys; – geoelectrical surveys; and – systematic probe core retrieval ahead of the advancing tunnel face; • the probing results will also be used to determine the presence of potentially acid forming and naturally occurring asbestos material; • the TBMs will be equipped with drilling machines to drill drainage holes with pipes to relieve groundwater pressures. If required, pre-excavation grouting will also be used to seal-off groundwater inflow and to improve the stability of the excavation face; • post-excavation grouting from the segmental lining may also be used to further consolidate the surrounding rock and/or prevent water ingress if required. (Illustrated in Appendix E).
Design	Detailed design and geotechnical investigations have been optimised. The project optimisation is expected to reduce the exploratory tunnel length by approximately 600 m and reduce the volume of excavated material by approximately 65,000 m^3. (Illustrated in Appendix E).
Road upgrades (undertaken by Future Generation and Snowy Hydro or their contractors)	Minor road upgrade works will be undertaken to enable transport of TBM equipment and materials required for tunnelling. The road upgrades have been designed to avoid additionally impacting any areas of geodiversity significance including the boulder streams, karst and fossil features on Lobs Hole Ravine Road. (Illustrated in Appendix E).
Vegetation Clearing (undertaken by Future Generation and Snowy Hydro or their contractors)	The additional clearing will include approximately 2.78 ha of vegetation to establish road upgrades on Lobs Hole Ravine Road (south), Lobs Hole Ravine Road (north) and Link Road. (Illustrated in Appendix E).
Transport Strategy	Modification 2 proposes to revise the transport strategy so that materials and equipment required for Exploratory Works will be delivered using Lobs Hole Ravine Road (south) as the primary access road. (Illustrated in Appendix E).

Modification 2 - Stage 2 works	
Activity	**Description**
Link Road Turnaround Area (undertaken by Snowy Hydro or their contractors)	A turnaround area will be established on Link Road for safe transportation of the TBM equipment and materials to the construction areas at Lobs Hole. The turnaround area will facilitate set down and turn-back of OSOM deliveries. (Illustrated in Appendix E).
Lobs Hole Ravine Road (south) (undertaken by Snowy Hydro or their contractors)	Minor upgrade works will be undertaken on sections Lobs Hole Ravine Road (south) to enable the transport of the TBM equipment. (Illustrated in Appendix E).
Lobs Hole Ravine Road (north)	Roadworks will be conducted at Lobs Hole Ravine Road (north) to provide improved access and egress to Lobs Hole. Road works will include road upgrade and widening in several sections suitable for passing bays as well as regular maintenance of the existing roadway. (Illustrated in Appendix E).
Middle Bay Barge Ramp	The location of the Middle Bay barge ramp was revised as part of further refinement to the construction methodology. An alternative location for the Middle Bay barge ramp was identified to the west of the approved barge ramp location. A key benefit of the new barge ramp location is that it minimises the requirement for dredging as part of the barge ramp construction. (Illustrated in Appendix E).
Accommodation Camp	Lobs Hole accommodation camp will increase capacity to provide beds for up to 250 personnel. The additional accommodation will be created through an additional storey to the Lobs Hole accommodation camp using modular and stackable accommodation units that will allow the expansion to be entirely within the existing disturbance footprint.
Power Supply	Additional power supply capacity is required to enable TBM tunnelling for Exploratory Works. The Lobs Hole substation proposed under Modification 1 is scheduled to be online from approximately October 2020 and will provide the power supply required for operation of the TBM. It is currently planned to commence tunnelling with the TBM from August 2020. In the period prior to the Lobs Hole substation commissioning the additional power supply required for TBM tunnelling will be provided by additional diesel generator sets. Diesel generator sets with a total capacity of 20 MVa as well as an additional three 65 kL diesel storage tanks will be installed at the portal construction pad. (Illustrated in Appendix E).

1.8. Community and Stakeholder Engagement Plan

A Community and Stakeholder Engagement Plan (CSEP) has been developed by Snowy Hydro which establishes the framework and methods by which Snowy Hydro and Future Generation will engage and communicate with the community, relevant councils, government authorities, emergency services, local businesses and other parties impacted by the project during construction. It describes the processes by which interested parties will be consulted and the various means by which relevant project information will be shared with the affected community and stakeholders, including project information relating to traffic, transport and access.

The CSEP aims to ensure that clear, up to date and timely advice to the community is provided in advance of upcoming works and that opportunity is made available to provide feedback. The strategy sets out the likely issues to be encountered during construction and how these will be proactively managed and resolved.

Future Generation in consultation with Snowy Hydro will provide communication of upcoming works, construction activities, milestones, traffic changes and traffic restrictions including those within Kosciusko National Park through various forms of media including signage, the project

website, letter box drops and formal media releases. Advance communication will be provided prior to traffic changes, disruptions, access restrictions, oversize deliveries and road closures. Stakeholder consultation will also be undertaken through the Traffic Control Group and the Traffic and Transport Liaison Group described in Section 8.3.

2. ENVIRONMENTAL REQUIREMENTS

2.1. Legislation

Legislation relevant to traffic and transport management includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation);
- *Roads Act 1993*;
- *Dangerous Goods (Road and Rail Transport) Act 2008*;
- *Road Transport Act 2013*;
- *Transport Administrations Act 1988*;
- *Heavy Vehicle National Law* (NSW) (2013 No 42a);
- *Road Rules 2014*;
- *Marine Safety Act 2013*;
- *Marine Safety Regulation 2016*;
- *Commonwealth Marine Safety (Domestic Commercial Vessel) National Law 2012*; and
- *National Parks and Wildlife Act 1974* (NPWS Act).

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

The conditions relevant to traffic, transport and access are presented in Table 2-1.

Table 2-1: Conditions of approval relevant to traffic, transport and access

Condition	Requirement	Where addressed
40A	Prior to using Lobs Hole Ravine Road – North, unless the Planning Secretary agrees with otherwise, the Proponent must: (a) upgrade Lobs Hole Road – North in accordance with the approved plans (see the figures in Appendix 2) to the satisfaction of NPWS; and (b) seal the last 30 metres of Lobs Hole Road – North before its intersection with the Snowy Mountains Highway to the satisfaction of the TfNSW.	Section 5.3.2
40B	Once Lobs Hole Ravine Road - North has been upgraded in accordance with Condition 40A above, the Proponent must restrict the use of the road by the development to: (a) access to and egress from the site during emergencies; and (b) light vehicles at all other times with: • a maximum of 120 vehicle movements allowed a day (60 each way); and • an annual average maximum of 60 vehicle movements allowed a day (30 each way).	Section 5.3.2.
41	The Proponent must ensure the Miles Franklin Drive/Snowy Mountains Highway intersection complies with the relevant Austroads sight distance requirements for a reaction time of 2.5 seconds for the posted speed limit, as amended by any relevant supplements adopted by the RMS.	Section 5.3.1.

Condition	Requirement	Where addressed
42	Prior to using any OSOM vehicles to deliver the tunnel boring machine or concrete segments required to line the exploratory tunnel to the site, the Proponent must: (a) prepare detailed designs for the upgrade of the following intersections to the satisfaction of TfNSW and Snowy Monaro Regional Council: • Snowy Mountains Highway/Sharp Street and Bombala Street intersection; and • Snowy Mountains Highway/Sharp Street and Vale Street intersection; (b) ensure the designs comply with the relevant requirements in the Austroads Guide to Road Design (as amended by TfNSW supplements), and include works to the existing kerbs, signage and internal roundabout pavement to accommodate OSOM vehicle movements; and (c) carry out the approved upgrades to the satisfaction of TfNSW.	Section 5.4.4
43	The Proponent must: (a) prepare a dilapidation survey in accordance with guidelines and standards established by Austroads of the relevant section of Miles Franklin Drive, Link Road and Kings Cross Road: • prior to the commencement of any construction and/or decommissioning works; • within 2 months of the completion of any construction and/or decommissioning works; (b) rehabilitate and/or make good any development-related damage: • identified during the carrying out of the relevant construction and/or decommissioning works if it could endanger road safety, as soon as possible after the damage is identified, but within 7 days at the latest; and • identified during any dilapidation survey carried out following the completion of the relevant construction and/or decommissioning works within 2 months of the completion of the survey, unless the relevant roads authority agrees otherwise, • to the satisfaction of the relevant roads authorities. If there is a dispute about the scope of any remedial works or the implementation of these works, then either party may refer the matter to the Planning Secretary for resolution. *Note: For the purposes of this condition Snowy Valleys Council / Crown Lands is the relevant road authority for Miles Franklin Drive and the NPWS is the relevant road authority for Link Road and Kings Cross Road.*	Section 5.3.3
44	During the development, the Proponent may close the following to the public: (a) Lobs Hole Ravine Road from the Blue Creek Trail intersection (in the north) to the Link Road (in the south); (b) Ravine campground; and (c) Middle Bay Boat Ramp. *Note: the roads to be closed to the public are shown in Appendix 2.*	Section 5.5
45	All OSOM and heavy vehicles associated with the development must travel to and from the site via the: (a) Snowy Mountains Highway, Miles Franklin Drive and Spillway Road; (b) Snowy Mountains Highway, Link Road, and Lobs Hole Ravine Road; (c) Snowy Mountains Highway, Coppermine Trail and Wallaces Creek Trail; or (d) Snowy Mountains Highway, Tantangara Road and Quarry Trail. *Note: The Proponent is required to obtain relevant permits under the Heavy Vehicle National Law (NSW) for the use of OSOM vehicles on the road network.*	Section 5.4.1 and Appendix A

Condition	Requirement	Where addressed
46	Prior to carrying out any development, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Traffic Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	This plan
	(a) be prepared in consultation with the NPWS, TfNSW, Snowy Valleys Council and Snowy Monaro Regional Council;	Section 1.6
	(b) include a description of the measures that would be implemented to: • minimise the traffic safety impacts of the development on: – road users on Miles Franklin Drive and Link Road; – road users on the Snowy Mountains Highway in proximity to the intersections with Link Road, Tantangara Road and Coppermine Trail during the borehole investigations at Tantangara and Marica; – road users at the Snowy Mountains Highway/Lobs Hole Ravine Road – North intersection; – recreational water users in the Talbingo Reservoir and Tantangara Reservoir;	Section 0
	• notify the local community about development-related traffic impacts;	Section 1.8
	• restrict the following along the Upper Lobs Hole Ravine Road: – vehicle speeds to 40 km/h; – hours of operation to between sunrise and sunset;	Section 4.1.2
	• restrict vehicle speeds along Wallaces Creek Trail and access tracks in the Marica area to 20 km/h between sunrise and sunset;	Section 4.1.2
	• maintain suitable access to the site for NPWS vehicles required to carry out any park or emergency operations;	Section 5.5
	• schedule the use of heavy vehicles to minimise convoy length or congestion on the public road network;	Section 5.4
	• ensure loaded vehicles entering or leaving the site have their loads covered or contained;	
	• minimise dirt being tracked on the public road network from development-related traffic;	Section 5.3.1
	• minimise workers using private vehicles to get to and from the site;	Section 5 and 4.1.1
	• minimise light vehicles using routes to the site other than the Coppermine Trail, Wallaces Creek Trail, Tantangara Road, Quarry Trail, Miles Franklin Drive, Spillway Road, Link Road and Lobs Hole Ravine Road to get to and from the site;	Section 5.4.1
	• provide sufficient parking on-site for all development-related traffic;	
	• manage any traffic safety risks associated with the use of the	
	(c) include a detailed strategy for the use of OSOM vehicles and the repair of any damage caused by these vehicles;	Section 5.4
	(d) include a heavy vehicle salvage strategy for the development, covering the salvage of heavy vehicles on the road network in KNP and on the public road network;	Section 5.4.6
	(e) include a driver's code of conduct that addresses: • travelling speeds; • procedures to ensure that drivers adhere to the designated OSOM and heavy vehicle routes; • procedures to ensure drivers implement safe driving practices;	Appendix B
	(f) include a program to monitor and report on the effectiveness of these measures and the code of conduct. *Note: Sunrise and sunset times are to be taken from the nearest Bureau of Meteorology centre*	Section 7 and Appendix B

Condition	Requirement	Where addressed
47	The Proponent must implement the approved Traffic Management Plan for the development.	Section 1.2.2

2.3. Revised Environmental Management Measures

Environmental safeguards and management measures are included in the EIS in Section 6.3. During preparation of the Submissions Report, REMMs were developed and are included in Section 8 of the Submissions Report.

The environmental management measures relevant to this plan are listed in Table 2-2 below. If additional measures are cross-referenced from another section of the EIS or Submissions Report, these measures are also included. The revised environmental management measures from Modification 1 have also been incorporated into Table 2-2

Table 2-2: Revised environmental management measures relevant to traffic, transport and access

Impact	Reference	Revised Environmental Management Measures	Where addressed
Impacts to threatened species	ECO05	Vehicle traffic movements along Upper Lobs Hole Ravine Road will be: • limited to day time hours only (except for emergencies). Day time hours are to be taken as the time between First Light and Last Light; • limited to 40km/h; and • where practicable, reduced through the use of Talbingo Reservoir to barge heavy machinery, construction equipment and materials.	Section 4.1.2
Construction traffic management plan	TRA01	A Construction Traffic Management Plan (CTMP) will be prepared and implemented during construction. The CTMP will set out the strategy and procedures to manage the impacts of the Exploratory Works construction on the local road network and traffic systems, including: • community and stakeholder notification processes for oversized vehicle movements and any planned disruptions to traffic and restriction of access to areas of KNP and Talbingo Reservoir • traffic safety requirements, including appropriate signage, driver conduct and safety protocols.	This plan

Impact	Reference	Revised Environmental Management Measures	Where addressed
Road maintenance	TRA02	Road maintenance will be managed through the following measures: • a Road Dilapidation Report will be prepared and submitted to the relevant road authority prior to and following Exploratory Works for: – Link Road; – all roads within KNP not upgraded as part of the exploratory works and which will potentially be used by Heavy Vehicles during construction; – local roads within Talbingo which will potentially be used by Heavy Vehicles during exploratory works; – Spillway Road; and – Miles Franklin Drive. • routine defect identification and rectification of the roads used by construction heavy vehicles within KNP and the Spillway Road will be managed as part of the project maintenance procedure; and • internal access roads upgraded or constructed as part of the Exploratory Works will be designed in accordance with the relevant vehicle loading requirements.	Section 5.3.3 Section 6.1 and Section 7.2 Section 5.3
Signage	TRA03	Where changes to the traffic conditions are required, appropriate signage will be installed in accordance with the following: • Traffic Control Device for Works on Roads (AS1742.3; 2009); and • Traffic Control at Work Sites (Roads and Maritime Services; 2010).	Section 5.2
Time of travel	TRA04	Standard hours of operation of heavy vehicles on local roads will be 7 am to 6 pm during weekdays and 8am to 1pm on Saturday, excluding upper Lobs Hole Ravine Road where no heavy vehicle movements will occur outside of day time hours (except in emergencies). Daytime hours being defined as First Light to Last Light. Access to the Barge Access Facility via Miles Franklin (Murray Jackson) Drive, and Spillway Road will be permitted 24 hours a day and 7 days a week to all vehicles.	Section 4.1.2
Traffic control	TRA05	Where temporary occupation of lanes is required traffic control measures specified in AS1742-2002 will be implemented. Where works require lane occupancy on RMS or council classified roads, a Road Occupancy Licence will be obtained.	Section 2.4.1
Restricted access to Talbingo Reservoir for recreational users	SEC06	Access to Talbingo spillway and boat ramp will be closed to the public for the period of the Exploratory Works.	Section 5.5
Impact of increased traffic in KNP on recreational users	SEC07	Traffic management arrangements will be put in place to minimise the amenity and safety risks for recreational users during periods of high traffic flow.	Section 5.5
Smoky Mouse	M1.2	The existing Smoky Mouse monitoring program will be extended to include the Marica area.	Section 4.1.2

Impact	Reference	Revised Environmental Management Measures	Where addressed
Fauna strike	M1.3	Restrictions on vehicle movements in the Marica area limited to speeds of 20 km/h between dusk and dawn.	Section 4.1.2
Coppermine Trail intersection	M1.21	The construction traffic management plan and traffic control plan, including the road occupancy license for the Coppermine Trail/Snowy Mountains Highway intersection will be revised and updated to accommodate the latest proposed Modification 1 temporary construction access requirements.	Section 2.4.1 Section 5.2
OSOM vehicle movements	MOD2-003	For scheduled OSOM movements and associated road closures, Transport Management Plans (TMP) will be prepared. The TMP will detail the date, duration, load details, driver detail, proposed route, emergency contact details, communication protocols, route surveys that include road width dimensions (pinch points) and procedures to mitigate the pinch point locations. The TMPs will be prepared, submitted and approved by the RMS, prior to the commencement of any deliveries in accordance with RMS 'high risk' OSOM movements. In addition, the TMPs will be prepared in consultation with relevant councils and emergency providers and include emergency contingency plans. Where required a Traffic Control Plans (TCP) for OSOM movements will also be obtained.	Section 5.4.3

2.4. Licences and Permits

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

The project is required to establish an Agreement for Lease (AFL) with NPWS, with an accompanying Works Access Licence in order to carry out the relevant Stage 2 Exploratory Works in accordance with the Exploratory Works EIS, Infrastructure Approval and the approved management plans.

2.4.1. Road Occupancy Licence

In accordance with Section 138 of the *Roads Act 1993*, a road occupancy licence (ROL) will be obtained from the relevant road authority for construction activities that are likely to impact on the operational efficiency of the road network (classified and unclassified roads). This includes activities impacting a traffic lane or lanes or off-road activities which affect traffic flow.

Works requiring an ROL are likely to occur at the intersection of Link Road and Lobs Hole Ravine Road, along Spillway Road and the Coppermine Trail/Snowy Mountains Highway intersection. Any ROL required during construction will be obtained in consultation with the relevant road authority in advance of the traffic controls being implemented.

In conjunction with an ROL it may be necessary to reduce the speed limit of the roadway for the period of the occupancy for the safety of road users and workers. Roadwork speed zones will be established in accordance with AS1742.3-2009 Traffic control devices for works on roads in consultation with the road authority. The speed zone authorisations will form part of the ROL application process as required by the road authority.

2.5. Guidelines

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

- *Roads and Maritime Services (RMS) QA Specification G10 – Traffic Management* (as applied for the Exploratory Works project);
- *RMS Traffic Control at Worksites Manual* (Version 5, 2018);
- *Road Occupancy Manual* (Roads and Maritime Services (RMS)), 2015;
- Australian Standard 1742 Parts 1 to 14 *Manual of Uniform Traffic Control Devices*;
- Australian Standard 1742.3-2009 *Traffic control devices for works on roads*;
- AGTM 02-08 *Guide to Traffic Management Part 2: Traffic Theory,* 2015;
- AGTM 06-07 *Guide to Traffic Management Part 6: Intersections and Crossings – General,* 2013;
- AGRD 04-09 *Guide to Road Design Part 4: Intersections and Crossings – General,* 2009;
- AGPT05-11 *Guide to Pavement Technology Part 5: Pavement Evaluation and Treatment Design,* 2011.

Other reference documents:

- *Snowy 2.0 Environmental Impact Statement Volume 6 Appendix Q, SCT Consulting Traffic Assessment,* July 2018.

3. EXISTING ENVIRONMENT

3.1. Existing Road Network

The existing road network and primary transport routes for Exploratory Works are shown in Figure 3-1.

Roads outside the project area are referred to as the external road network while those within the disturbance footprint are referred to as the internal road network. External roads which will be used by traffic generated by Exploratory Works are:

- Snowy Mountains Highway;
- Link Road, between the Snowy Mountains Highway and the Goat Ridge intersection;
- Goat Ridge Road; and
- Miles Franklin (Murray Jackson) Drive.

The existing road conditions for the external roads are provided in the following sections.

The existing internal road network consists of a series of unsealed gravel roads which have historically been used by NPWS, KNP park users and Snowy Hydro (during operational activities) to access Talbingo Reservoir and the Yarrangobilly River. The roads are generally narrow, windy and of between approximately 4 to 6 metres wide. The internal road network includes:

- Lobs Hole Ravine Road;
- Mine Trail Road;
- Middle Bay Road; and
- Spillway Road.

The internal road network excluding Spillway Road will be closed to the public for the duration of Exploratory Works and upgraded to a standard suitable for the safe operation of construction traffic. The existing environment as it relates to internal roads has therefore not been presented for roads being closed and upgraded. Sections of the internal road network to be closed to the public are illustrated in Appendix C, Figure C-1.

Spillway Road, Talbingo Spillway and the boat ramp will be closed to the public at times as required to facilitate the works during Stage 2. Any closures will be publicly notified following the process outlined in the Community and Stakeholder Engagement Plan.

Internal road management will either:

- be undertaken as per the standard traffic arrangements considered normal use (i.e. established lines, signage and speed limit. UHF radios will be used to communicate between drivers and personnel stationed at entry gate(s); or
- where a traffic change or works near the roadway is required, Future Generation will have traffic management deployed in a suitable arrangement that meets road safety and Future Generation safety requirements.

Alternate routes may be utilised under the direction of an appropriate authority (e.g. NSW Police) during an emergency event (including, but not limited to site evacuations, severe weather events, fire and medical emergencies).

3.1.1. Snowy Mountains Highway

Snowy Mountains Highway (B72) is a 333 km state highway connection between Hume Highway at Mount Adrah and Princes Highway at Stony Creek. It is a two-lane two-way rural highway for the majority of its alignment, with sign posted speed limits ranging between 60 km/h to 100 km/h. The Snowy Mountains Highway passes through Tumut and Cooma and functions as a town centre main road in both locations. During snow season the Snowy Mountains Highway also provides access to Selwyn Snow Resort for vehicles travelling from either Tumut or Cooma.

In proximity to the project area, the Snowy Mountains Highway was determined to have a maximum of 140 vehicles per hour and an existing level of service 'A' as defined by the Austroads Guide to Traffic Management (Part 3, 2009). Peak traffic volumes were observed to occur during the middle of the day, generally between 12pm and 1pm.

The Transport for NSW, Centre for Road Safety data for the period between 2013 and 2017, on the Snowy Mountains Highway, showed 30 traffic crashes were reported between Tantangara Road and Link Road and 26 traffic crashes were reported between Link Road and Miles Franklin (Murray Jackson) Drive. These comprised 21 non-casualty accidents, 10 minor injury accidents, 15 moderate injury accidents, 9 serious injury accidents and 1 accident involving a fatality.

3.1.2. Link Road

Link Road is a two-lane road between Goat Ridge Road to the west and Snowy Mountains Highway (B72) to the east. Link Road also provides the connection between Cabramurra and the Snowy Mountains Highway with a speed limit ranging between 80 km/h to 45 km/h. During snow season, traffic volumes along the road increase due to the nearby Selwyn Snow Resort, which is accessible via the Link Road and Kings Cross Road intersection.

Link Road was determined to have a maximum of 70 vehicles per hour and an existing level of service 'C' as defined by the Austroads Guide to Traffic Management (Part 3, 2009). This level of service is based on a speed assessment on certain sections of this road rather than the traffic volumes relative to the road capacity. Peak traffic volumes were observed to occur during the middle of the day, generally between 12 pm and 1 pm during non-winter peak times. During peak winter tourist periods the peak traffic volumes occur between 7am – 10am and 3pm-5pm based on NPWS' data.

The Transport for NSW, Centre for Road Safety data for the period between 2013 and 2017, showed three traffic crashes were reported on Link Road. One involving minor injury accident and two non-casualty tow away accidents.

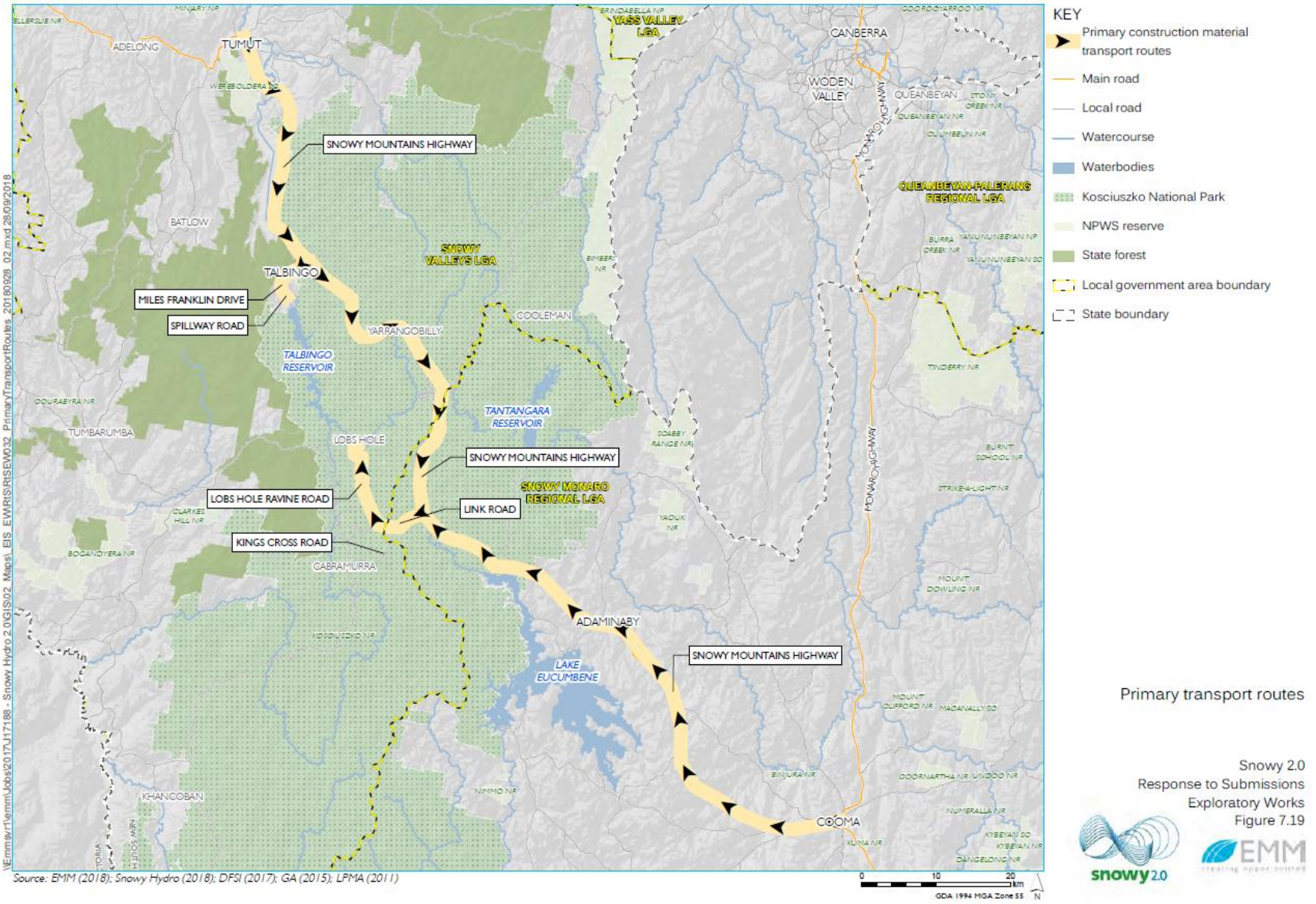

Figure 3-1: Construction material transport route (primary transport route)

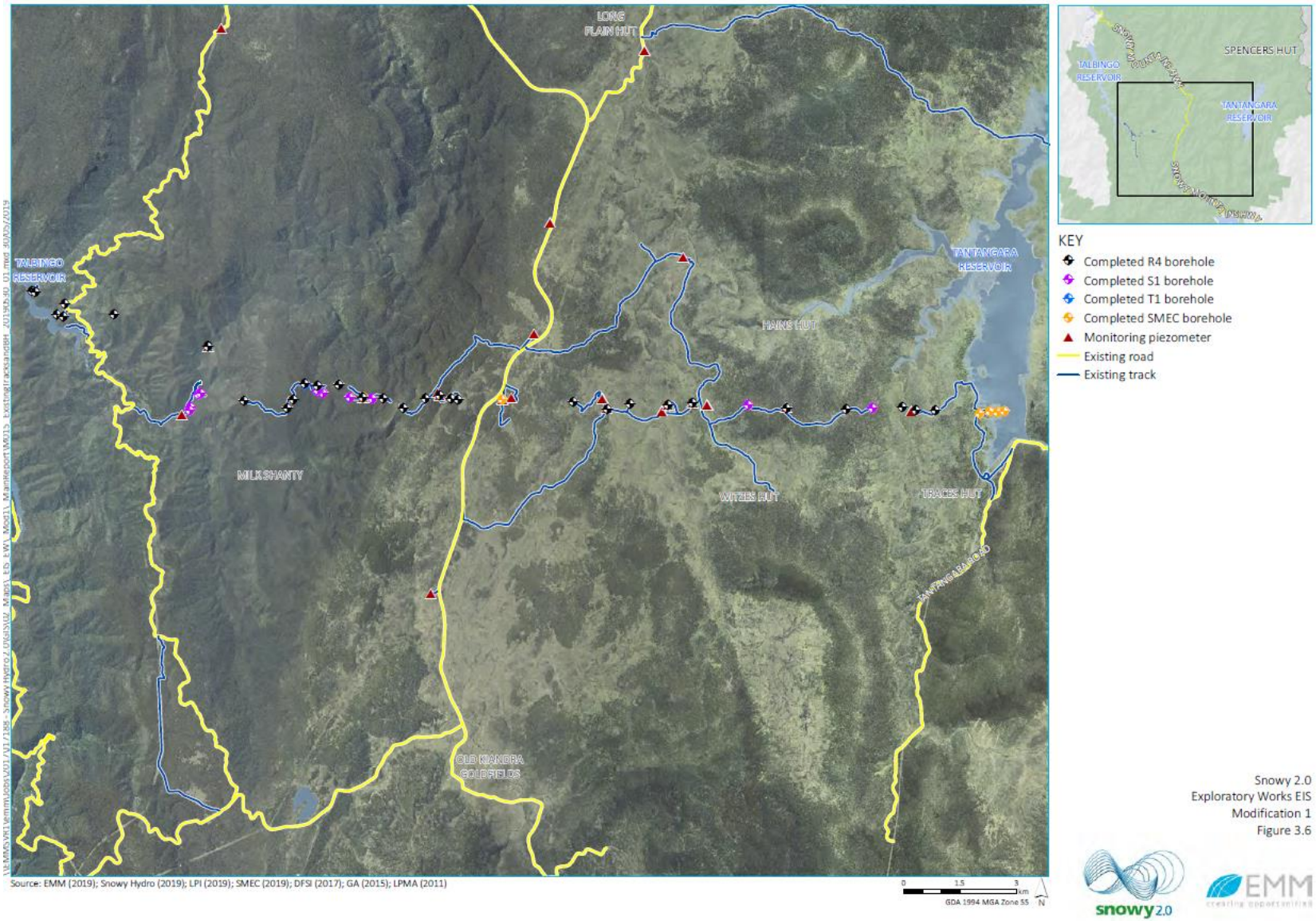

Figure 3-2: Existing access tracks to be utilised to undertake geotechnical investigation works (Modification 1)

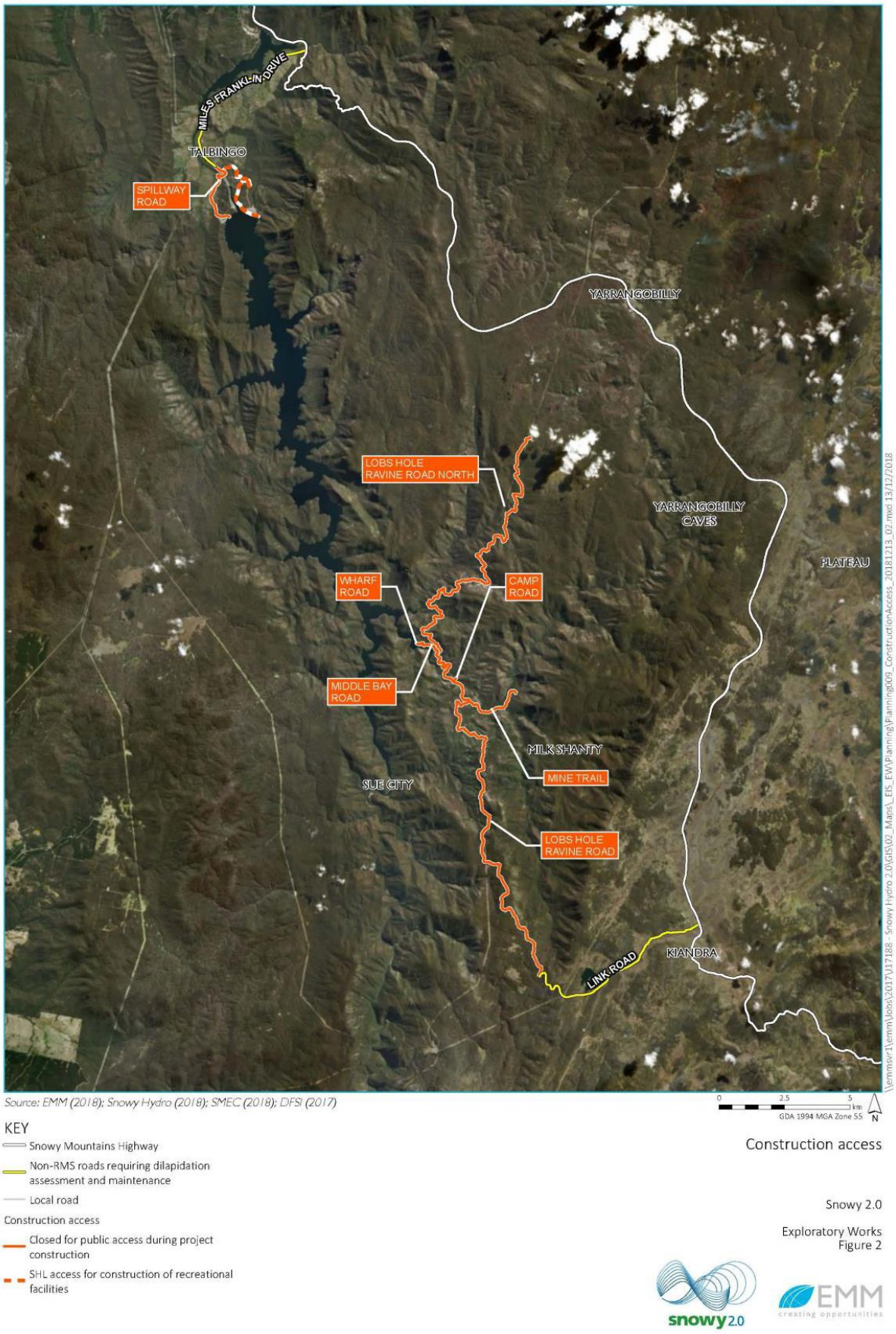

Figure 3-3: Public access closures

3.1.3. Miles Franklin (Murray Jackson) Drive

Miles Franklin (previously known as Murray Jackson) Drive is a two-lane road that provides the main connection to the town of Talbingo. The roadway also provides access to the Tumut 3 power station and Talbingo Spillway. Between Talbingo and the Snowy Mountains Highway, Miles Franklin (Murray Jackson) Drive is signposted with a speed limit of 80 km/hr, reducing to 60 km/hr on approach to the town of Talbingo. Between the Tumut 3 power station and Talbingo the speed limit increases to 100 km/hr.

At Talbingo Mile Franklin (Murray Jackson) Drive is a residential street. It has a maximum of 60 vehicles per hour observed during the traffic surveys. Miles Franklin (Murray Jackson) Drive was determined to function within the relevant environmental capacity performance standards for residential streets at all times as defined by the Austroads Guide to Traffic Management (Part 3, 2009). Peak traffic volumes were observed to occur during the middle of the day, generally between 12 pm and 1 pm.

The Transport for NSW, Centre for Road Safety data for the period between 2013 and 2017, showed two traffic crashes were reported on Miles Franklin (Murray Jackson) Drive. One involving moderate injury and one non-casualty tow away accident.

3.1.4. Goat Ridge Road

Goat Ridge Road connects the township of Cabramurra to Link Road. It is sealed along the entire length with a speed limit of 60-80km/h. It does not have marked centreline and has estimated road width of less than 6m. Exit out of Cabramurra is via a basic T-form intersection. The connection to Link Road is a Y-form junction.

The Transport for NSW, Centre for Road Safety data for the period between 2013 and 2017, showed two traffic incidents, on serious and one minor injury.

3.2. Public Transport

As presented in the EIS there are no public transport systems currently in operation within the vicinity of the project area.

3.3. Walking and Cycling

There are no dedicated on-road or off-road walking and cycle facilities along the road network.

There are however, numerous bush walking and mountain biking tracks within Kosciusko National Park. Many of these trails lead to camp sites that are not accessible by motorised vehicles.

Recreational use of Ravine road (south of Blue Creek Trail) and access to Lobs Hole will not be available during construction of Stage 2. Restricted access is required to ensure the safety of the public and construction staff. It also reduces the potential conflict for turning vehicles to and from the Link Road and Ravine Road.

If cycling/motorsport recreational events are proposed in the area during the construction of the Exploratory Works, Future Generation and Snowy Hydro will coordinate early consultation with the relevant event organisers to avoid areas of traffic by the project and will advise project drivers internally through toolbox sessions and prestart meetings of any pending additional traffic changes.

3.4. Talbingo Reservoir Recreational Facilities

Talbingo Reservoir is approximately 5km south of the township of Talbingo. It is used for water skiing, paddle boarding, canoeing and swimming.

Public access to the reservoir for boats is from either a concrete boat ramp on the western side of the dam wall or a slipway on the eastern side. The reservoir is also accessible from points within KNP including Lobs Hole Ravine campground and O'Hares Camping and Rest Area. Picnic tables and toilets are provided at both the boat ramp and the spillway.

Vessel counts undertaken between March and April 2018 as part of the Subaqueous excavated rock placement assessment (RHDHV 2018) indicate a peak daily demand of 75 vessels per day using the boat ramp and a typical daily demand of less than 10 vessels.

4. TRAFFIC AND TRANSPORT ASPECTS AND IMPACTS

4.1. Construction Activities

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

Key aspects of the project that may result in impacts to traffic, transport and access include:

- the transport of equipment and materials to site;
- transport of workers to and from the site; and
- transport of goods for the operation of compounds and facilities.

The EIS determined in Section 5.6.4 that the primary traffic impact would be from the delivery of materials to site. Negative impacts on the internal and external road network, public transport, traffic crashes or emergency vehicles were predicted to be negligible as a result of construction.

The aspects and impacts relevant to traffic, transport and access for Stage 2 are summarised in Table 4-1. Traffic movement routes will be as per the EIS, as 'Approved Traffic Routes' shown in Figure A-1 in Appendix A.

Table 4-1: Project aspects and impacts relevant to Stage 2 traffic, transport and access

Environmental Aspects (Construction activities that may impact traffic, transport and access)	**Environmental Impacts**	**Environmental Factors** (Conditions)
• The transport of plant, equipment and materials to site required for the construction of the Works. • The transport of TBM OSOM components to site for the exploratory tunnel construction. • Operation of compounds and facilities • Increased light vehicles movements from Cooma and Cabramurra.	• Traffic queuing and increased travel times • Noise and vibration • Reduced access to public facilities – Campgrounds and other KNP facilities, tracks and trails • Damage to the road surface by construction heavy vehicles	• Road standard • Intersection type and number • Existing traffic volumes • Time of day dependency • Weather related issues (e.g. snow and ice)

4.1.1. Construction Traffic Volumes

Construction traffic generated by Exploratory Works, as predicted in the EIS, has the potential to impact the external road network and will be made up of a combination of the following:

- heavy vehicles transporting materials to and from the works site from outside the project area;
- vehicle transport of oversize and/or overmass loads; and
- light vehicles transporting workers to and from site from Cabramurra and from outside the project area.

The EIS forecast that the peak heavy vehicle volume to occur mid-2019 would be 423 heavy vehicles to access the project site based on the following assumptions:

- 19 working days per month;
- all deliveries to /from site during AM period;
- two light vehicles egress the construction site during peak hours; and
- heavy vehicles would consist of a mixture of rigid and articulated multi-axle types.

Based on this forecast, the 423 heavy vehicles were distributed in the hourly profile in the EIS. The worst case maximum hourly volume, presented in Table 4-2 as reproduced from the EIS, was predicted to be 44 total vehicle movements per hour (20 heavy vehicles and 2 light vehicles travelling to and from site during the period 9am to 10am) from the external road network. This does not include internal KNP road movements.

Table 4-2: Construction traffic peak hour volume

Movement Type	Number of Movements
	9AM – 10AM
Number of movement to site (Mobilisation)	0
Number of movement from site (Mobilisation)	2
Number of movement to site (Deliveries)	20
Number of movement from site (Deliveries)	20
Number of light vehicle movements (to site)	0
Number of light vehicle movements (from site)	2
Total vehicle (two-way) movements	44

Modification 1 included a reassessment of traffic volumes based on the construction of Lobs Hole substation and additional traffic volumes identified during the detailed design process.

The revised assumptions from Modification 1 are detailed in Table 5-3. The revised data suggested there could be between 126 to 150 heavy vehicle movements during a morning peak hour at the peak month. In terms of light vehicle movements, there could be between 80 to 132 light vehicle movements during a morning peak hour at the peak month.

These revised traffic movements will occur along Link Road and Snowy Mountains Highway. There will be no additional movements on Miles Franklin Drive.

Table 4-3: Modification 1 peak hour traffic movements

	EIS Traffic Assessment (2018)	Modification 1 revised assumptions
Peak hour HV movements	44	126-150
Peak hour LV movements	73	80-132

The project works will see peak demand during the initial mobilisation, then taper off as the tunnelling work continues through to the end. In the early months, workers are likely to be based in Cabramurra or Adaminaby and travel to and from site via light vehicle or shuttle-bus. As soon as possible, a temporary fly camp will be established in Lobs Hole to house critical-activity workers on site and reduce the need to travel daily on external roads to accommodation locations. Once the Exploratory Camp has been built, the majority of workers will be housed at this location, further minimising travel on the external roads to just the start and end roster cycles.

All light vehicles accessing the site will be required to travel on approved routes including, Coppermine Trail, Wallaces Creek Trail, Tantangara Road, Quarry Trail, Miles Franklin (Murray Jackson) Drive, Spillway Road, Link Road and Lobs Hole Ravine Road. This will be communicated to site personnel during inductions outlined in Section 7.1.

The bulk of the heavy vehicle movements will be the mobilisation of the plant, equipment and site facilities at the start of the works, and then the ongoing deliveries of concrete aggregate and cement, road base material, and the necessary servicing of the camp and facilities such as food and supplies, fuel delivery, and waste removal.

Details of the anticipated vehicle types and movements are given in Table 4-4. The cumulative volume of movements shown in Table 4-4 is compliant with and less than the cumulative monthly traffic volumes.

Table 4-4: Anticipated vehicle types for the duration of Stage 2 works

Description	Vehicle Type	Weight (max)	Length (max)	Estimated Movements	Expected Origin
Mobilisation of Plant and Buildings	Semi-trailer or flat bed	42.5T	19m	250	Predominantly Sydney
Concrete Aggregate Supply Trucks	Truck and Dog	42.5T	19m	5,500	Cooma Region or Wagga Region
Road base	Truck and Dog	42.5T	19m	2,000	Cooma Region
Line pipe	Flat Bed	42.5T	19m	100	Sydney
Servicing of accommodation camps and facilities (e.g. waste collection, food delivery and laundry)	Rigid truck, tanker truck	42.5T	19m	2,500	Various – expect 80% through Cooma, 20% through Tumut
External Coach	Coach	16T	13m	100	Cooma or Canberra

It will be attempted to spread deliveries evenly throughout the day and spread as evenly as possible throughout the month to minimise the impacts on the external road network, with consideration to avoid the peak traffic period of 12-1pm identified in the EIS on Snowy Mountain Highway.

The Modification 2 Assessment Report determined that traffic flows along Link Road, between Lobs Hole Ravine Road and Snowy Mountains Highway would change, with the volume of light vehicles reduced during periods of peak heavy vehicles movements. Efficiencies within the worksite would also be improved by allowing light vehicles to exit Lobs Hole via Lobs Hole Ravine Road (North). Construction traffic volumes would also reduce on Miles Franklin Drive and through Talbingo township due to the reduced use of barges.

Modification 2 included an assessment of the Lobs Hole Ravine Road (North) intersection with Snowy Mountains Highway.

In order to assess the northern access of Lobs Hole Ravine Road, a peak hour light vehicle movement of 33 vehicles was assumed, with a once off event of 66 vehicles accessing the location during a peak, as per Link Road and Lobs Hole Ravine Road south access.

Surveys identified that along Snowy Mountains Highway there were 19 light vehicles and two heavy vehicles travelling towards Talbingo and 29 light and two heavy vehicles travelling towards Cooma during a weekday peak hour. Based on these volumes, the SIDRA intersection assessment for the Lobs Hole Ravine Road (North) and Snowy Mountains Highway intersection is summarised in Table 4-5.

Table 4-5: Lobs Hole Ravine Road (North) / Snowy Mountains Highway intersection assessment

Movement Performance	Volume	Degree of Saturation	Average Delay	Level of Service	95th Percentile Queue (vehicles)	95th Percentile Queue (metres)
South East: Lobs Hole Ravine North	69	0.046	5.0	A	0.1	0.7
North East: Snowy Mountains Highway	22	0.012	0.0	A	0.0	0.0
South West: Snowy Mountains Highway	33	0.017	0.0	A	0.0	0.0
All vehicles	124	0.046	2.8	A	0.1	0.7

The Modification 2 Assessment Report determined that the intersection of Lobs Hole Ravine (North) and Snowy Mountains Highway will operate well with minimal delays and queuing.

4.1.2. Hours of Operation

The majority of heavy vehicle operations on local roads will occur during standard working hours except for cases where there are oversized deliveries. These will occur outside of the hours stated and as requested by the NSW Police.

A locked gate with signage listing contact numbers and hours of operation will be erected at the entrance to Ravine Road from the Link Road during Stage 1. This gated access will prevent access (except in the case of emergency) along Lobs Hole Ravine Road to all vehicles outside of approved hours (sunrise to sunset)* to minimise potential impacts to the Smoky Mouse. Other measures to control traffic on site will include:

- staff inductions/toolbox talks will note the restrictions on vehicle access outside the approved hours on upper Lobs Hole Ravine Road;
- no vehicle movements will occur at night on Ravine Road between chainage 0 and at chainage 7750 outside sunrise to sunset unless in the event of an emergency (including, but not limited to site evacuations, severe weather events, fire and medical emergencies) as determined by the Safety Manager, Environment Manager or above;
- a speed limit of 40km/hr will apply along this section between sunrise and sunset*;
- vehicle movements along Wallaces Creek Trail and access tracks in the Marica area will be limited to 20 km/h between sunrise and sunset*;
- a second signed and locked gate on Lobs Hole Road south of Blue Creek Trail will prevent site access from the north from the Snowy Mountains Highway;
- In Vehicle Monitoring Systems (IVMS) data will be used to monitor behaviour.

** Note: Sunrise and sunset times are to be taken from the Cabramurra Bureau of Meteorology centre*

4.2. Traffic and Transport Impacts

The potential for impacts on traffic and transport will depend on a number of factors. Primarily impacts will depend on the nature, extent and magnitude of construction activities and their interaction with the natural environment. Potential impacts attributable to Stage 2 work activities may include:

- short term road closures and/or traffic restrictions during the transport of oversize loads, refer Section 5.4;
- short term road or lane closures and/or traffic restrictions during road upgrades, maintenance repairs and minor road improvements, refer Section 5.3;
- increased traffic turning movements into and out of the site at the intersection of the Link Road with Lobs Hole Ravine Road and the intersection of the Link Road and the Snowy Mountain Highway, refer Section 4.2 and Section 4.2.3;
- increased heavy vehicle volumes and associated impacts including noise and road deterioration, refer to Section 4.2 and Section 4.2.3; and
- the closure of access roads to recreational facilities within KNP, refer Section 5.5.

4.2.1. Road Network Performance

Future Generation's planned construction traffic and predicted volumes as per the EIS indicate no significant impacts on network performance or level of service from construction, including during peak holiday periods. The EIS predicted impacts on the level of service for the affected external road network was negligible.

4.2.2. Impacts to Kosciusko National Park Facilities

The project will require the closure of access roads and facilities within the KNP, for the safety of park users and to allow access road improvements to be undertaken. The internal roads within the Park that will be closed during the Exploratory Works include:

- Lobs Hole Ravine Road from the Blue Creek Trail (in the north) to the Link Road (in the south);
- Mine Trail Road; and

- Middle Bay Road.

Spillway Road is located outside of KNP however it is used by park users to access boating and swimming facilities at the Talbingo spillway. During Stage 2 works Spillway Road, Talbingo Spillway and the existing boat ramp will be closed when required to allow for construction activities.

Other traffic and transport related impacts to KNP during Stage 2 of the Exploratory Works include:

- the closure of Lobs Hole Ravine campground;
- the Middle Bay boat ramp accessible by 4WD via Lobs Hole Ravine Road will closed during Exploratory Works;
- traffic queuing may be experienced at the national park vehicle entry station on Link Road at the intersection of Kings Cross Road during periods of high recreational use – particularly weekends during school holidays after snowfall. Where possible, project deliveries will be planned to avoid these peak periods.

4.2.3. Cooma Roundabouts Upgrades

Upgrade works are required to two roundabouts on Sharp Street, Cooma (Snowy Mountains Highway) in order to enable the passage of oversize vehicles to the project area. Concept designs for the proposed roundabouts were provide in Appendix B of the Exploratory Works Modification 2 Assessment. Further detail is provided in Section 5.4.4.

4.3. Environmental Risk Assessment

The environmental aspects and impacts for traffic and transport 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. These risks as well as any regulatory requirement form the basis for the mitigation measures committed to in this plan, Section 6. The mitigation measures are inclusive of requirements in the monitoring program, OSOM strategy and Driver Code of Conduct measures detail in this plan.

5. TRAFFIC, TRANSPORT AND ACCESS MANAGEMENT MEASURES

Traffic and transport impacts during Stage 2 of the Exploratory Works will be managed through the development and implementation of specific traffic management plans, traffic controls plans, the approval and regulation of heavy vehicle movements and haulage routes and clear, regular communication to the community about traffic impacts. Snowy Hydro and Future Generation aim to minimise adverse traffic impacts during construction including changes to access arrangements and other transport services. Management measures to be implemented during construction are described in the following sections.

The main impact from construction is expected to be the increase in traffic volumes from the delivery of materials and transport of workers to site. As mentioned in Section 4.2.1 this is not likely to affect road network performance given the remote nature of the project. To minimise impacts the following management measure will be applied:

- construction materials will be delivered in full loads where practicable;
- delivery driver inductions will discuss convoying and techniques to avoid this behaviour;
- the delivery of materials will be planned and scheduled to minimise the impact during peak traffic periods;
- the site access gate to Link Road will be manned by traffic control during work hours. The traffic control will record any instances observed of convoying and site staff will discuss this behaviour with suppliers. Another traffic controller will be stationed at the northern end of Ravine Rd to control and monitor egress from the site;
- access gate positioning on Ravine Road for the purpose of creating suitable off-road (Link Road) vehicle storage will be undertaken by Stage 1. Stage 2 will utilise the established arrangement;
    - Stage 1 have developed a parking and lay up area within the Exploratory Work EIS boundary at the intersection of Link Road and Ravine Road shown in Figure 5-1;
- traffic control plans will be developed for site access routes and key intersections (e.g. Link Road and Ravine Road) and signage installed in accordance with the Roads and Maritime publication Traffic Control at Works Sites Manual (Section 5.2). Traffic routes will be in accordance with the Infrastructure Approval;
- delivery drivers will be required to adhere to the Drivers Code of Conduct provided in Appendix B which requires drivers to be considerate of motorists and residents at all times;
- materials procurement contracts will require delivery drivers to adhere to the Drivers Code of Conduct;
- delivery drivers will have access to site amenities and will be encouraged to take meals on site;
- workers staying at Cabramurra or Adaminaby will be primarily bussed using a shuttle bus or similar to site and use site vehicles as pool vehicles to minimise light vehicles accessing the site;
- both the exploratory camp and the Exploratory Works access tunnel portal will have dedicated parking areas for light and heavy vehicles;
- a review of traffic impacts during peak periods will occur to investigate the level of service. Where impacts are beyond that predicted by the EIS management measures will be reviewed, and further measures considered to minimise impacts where practicable.

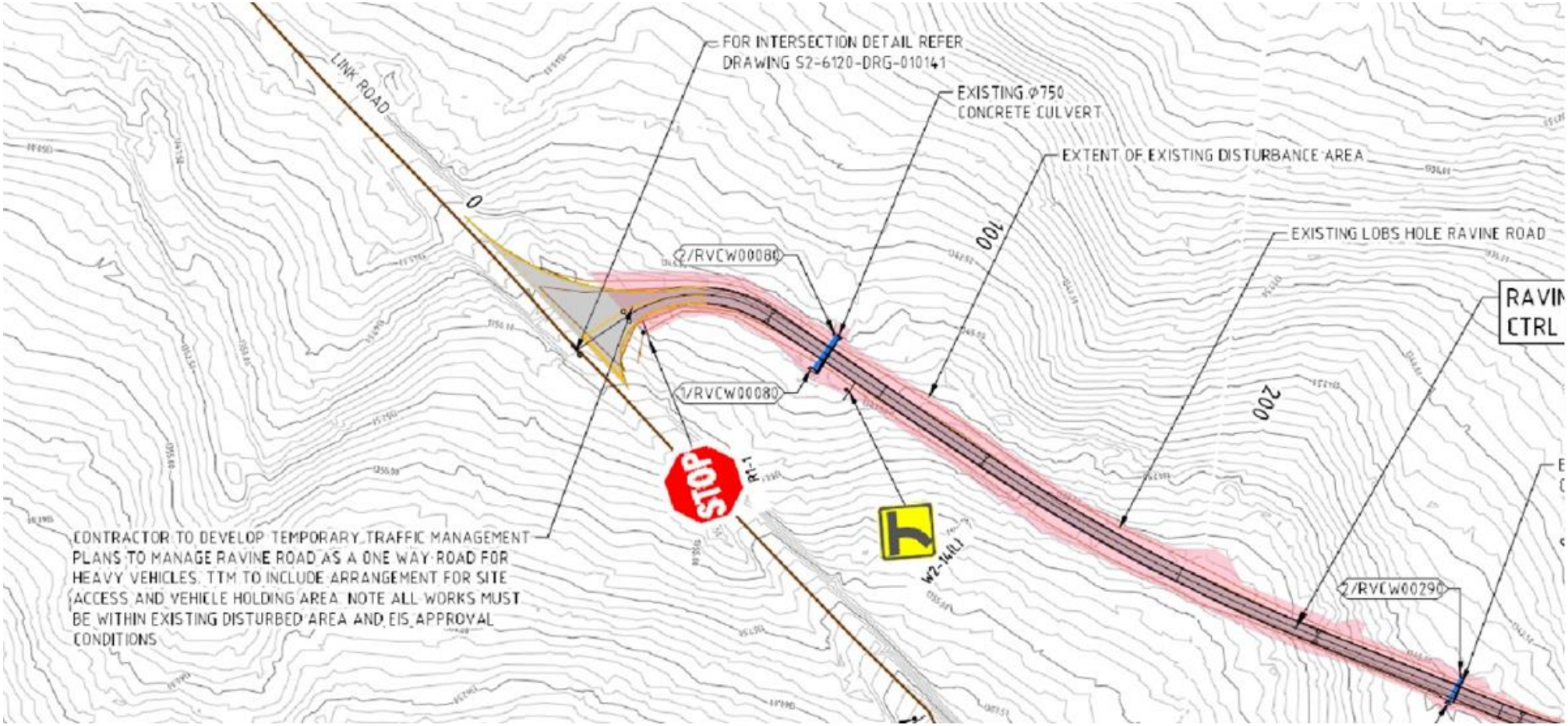

Figure 5-1: Indicative layout of lay-up area at the intersection of Link Road and Ravine Road

5.1. Fog, Ice and Snow

Local climate and weather conditions in the project area such as fog, storms, and snow present potential safety concerns to road users during construction. All employees will be inducted and made aware of potential weather impacts on road use. Risks will be assessed daily by monitoring weather forecasts. The impacts will be managed by including weather forecasts and relevant management strategies in daily planning.

Management measures will include speed reductions, use of fog lights during periods of low visibility, cessation of works, grading and salting (by others) for snow removal and advising suppliers of potential adverse weather and likely site shutdowns. These will also be included in the Drivers' Code of Conduct for the project. Future Generation would ensure there is appropriate training for such conditions.

5.2. Traffic Control Plans

Specific Traffic Control Plans (TCPs) will be developed as part of the construction planning process for all construction activities that affect traffic conditions and the safety of road users on the external or internal road network. They will be developed progressively during construction in accordance with the Roads and Maritime publication Traffic Control at Works Sites Manual and the Australian Standard AS1742-2002 Manual of Uniform Traffic Control Devices.

For external roads the TCPs will be developed in consultation with the relevant road authority which includes TfNSW, NPWS, SVC and SMRC. The emergency services will be notified prior to the implementation of traffic changes to ensure that they are aware of the potential impacts that may affect emergency responses.

TCPs will be prepared and implemented to minimise impacts on road users at key intersections impacted during borehole investigations.

The TCPs will establish the specific management measures to be implemented to ensure the safety of road users and to maintain efficient road network operations. They will include:

- the traffic control devices to be installed in advance of the works which may include cones, barriers, signs, traffic controllers and temporary traffic signals etc and how these are to be established;
- additional advisory signs or speed restrictions to be installed during construction e.g. truck turning and trucks symbol signage at key intersections and along Link Road and Miles Franklin (Murray Jackson) Drive;
- road occupancy requirements and approvals;
- road speed reductions required for the safety of the public and workers; and
- traffic management inspection and maintenance requirements.

5.3. Road Designs and Access Improvements

As part of Exploratory Works Stage 1, several internal roads will have been upgraded to suit the Stage 2 Exploratory Works. The design and construction standard of these roads and other temporary roads constructed will be to a suitable standard to accommodate the predicted traffic loadings from heavy vehicles used during construction. They will be designed to meet relevant design, engineering and safety guidelines, including the Austroads Guide to Traffic Management.

5.3.1. Road Improvements – External Road Network

An assessment of access routes to and from site occurred during the Exploratory Works EIS to determine the suitability of the roadway to cater for the predicted heavy vehicles during construction.

Street sweepers / road brushes will be used in order to remove dirt tracked onto the public road network. Road sweepers/road brushes will be used to remove tracked dirt on the Link Road within 2 days of identification or sooner if rain is imminent.

Oversize vehicle deliveries may require the removal of signs and overhead cables to safely accommodate the vehicle dimension. The delivery of oversized loads will be contracted to reputable transport companies with experience in over-size deliveries. Oversize deliveries will be required to travel under permit. Application for these permits includes a review of the route and consultation with relevant authorities regarding the suitability of the route and modifications during travel required. The delivery of oversize loads will be strictly in accordance with the approved permit. Section 5.4 provides further information in relation to oversize and over-mass deliveries.

Any other improvements required to be made to external roads during construction will be undertaken in consultation with the relevant road authority.

5.3.2. Lobs Hole Ravine Road – Upgrades

Prior to the use of Lobs Hole Ravine Road – North for Exploratory Works activities, the design of upgrades will be undertaken in accordance with Appendix 2 of the Approval to the satisfaction of NPWS. Prior to and following works on the passing bays site inspections will be carried out with NPWS and outcomes of these will be documented to confirm meeting to confirm their satisfaction.

In order to avoid mud tracking and to improve road safety, the last 30 metres of Lobs Hole Road – North before its intersection with the Snowy Mountains Highway will be sealed. Design of these road upgrades will be undertaken to the satisfaction of TfNSW. Prior to and following works, site inspections will be carried out with TfNSW and outcomes of these will be documented to confirm meeting their satisfaction.

Following upgrade, throughout Exploratory Works, use of Lobs Hole Ravine Road – North will be restricted to:

- access to and egress from the site during emergencies (including, but not limited to site evacuations, severe weather events, fire and medical emergencies); and
- light vehicles at all other times with:
    - a maximum of 120 vehicle movements allowed a day (60 each way); and
    - an annual average maximum of 60 vehicle movements allowed a day (30 each way).

Site security will control access and egress and monitor daily vehicle movements at the Lobs Hole Ravine Road - North entry and exit point.

5.3.3. Dilapidation Report

Prior to commencement of Stage 2 works, a qualified expert will visually survey road surfaces intended to be trafficked by project vehicles. A road dilapidation report will then be prepared in accordance with Austroads guidelines and a completed report provided to the relevant road authority(s) for information. The survey will exclude the Snowy Mountains Highway. The road dilapidation report will be submitted to the relevant road authority for review prior to commencing construction and/or decommissioning works.

The report will capture the current condition of the road surface on the external road network. Roads to be inspected will include the relevant section of:

- Link Road;
- Kings Cross Road;
- Spillway Road;
- Miles Franklin (Murray Jackson) Drive;
- local roads within Talbingo potentially used for heavy vehicle movements;
- all roads within KNP that are not upgraded as part of Exploratory Works scope but may be used for heavy vehicles during construction.

Throughout construction, routine defect identification will be undertaken monthly and following significant weather events. Rectification of roads will be coordinated in consultation with the relevant road authorities and managed through the existing Snowy 2.0 Traffic and Transport Liaison Group (TTLG)

Within two months of completion of any construction and/or decommissioning works, a visual survey will be made of the same roads and a report will be prepared to assess the damage caused by construction heavy vehicles. The report will give consideration to any damage as a result of general road usage (under equivalent pre-development conditions and heavy vehicle volumes).

Should assessed damage be deemed to have been caused by Stage 2 construction works during the Exploratory Works such damage will be assessed against the initial dilapidation report and where agreed, repairs will be completed by Future Generation in consultation with the relevant road authority. Repairs that do not endanger road safety will be undertaken within two months of completion of the survey unless the relevant authority agrees otherwise. Repairs that do endanger road safety, then the repair will be undertaken as soon as possible after the damage is identified, but within 7 days at the latest. Defects will be identified and rectified in accordance with Section 6 and 7 of this plan.

5.4. Heavy Vehicle and OSOM Vehicle Management

5.4.1. Vehicle Movement Plans and Heavy Vehicle Haulage Routes

Vehicle Movement Plans (VMPs) will be developed for both external and internal roads, prior to vehicle movements and issued as part of the project procurement process. The plans will be used to communicate approved heavy haulage routes, travel directions, permitted intersection turning movements and approved parking and layup areas (areas used to queue trucks prior to entry to site). The VMPs are to be presented diagrammatically to allow for clear communication with the workforce. The VMPs will be progressively developed during construction and updated as conditions change. All relevant VMPs must be adhered to by all drivers.

The designated heavy vehicle and over-dimension vehicle haulage routes to be used during the Exploratory Works are included in Appendix A. Heavy vehicle routes to and from construction sites have been prepared with the objectives being to minimise impacts to local roads and maximise the utilisation of State and regional roads where feasible and reasonable.

- identified impacts of the EIS;
- conditions of approval;
- using Higher Mass Limit (HML) routes as outlined by TfNSW as part of their Intelligent Access Program (IAP) and Restricted Access Vehicle (RAV) routes; and
- consultation with Traffic Management Centre (TMC), TfNSW and other authorities or emergency services (as required).

Should the use of any local roads be required for heavy vehicles during construction that are not identified in this TMP, approval from Snowy Hydro must be obtained and consultation with the road authority must be undertaken. Justification must be provided as to why the use is necessary and they are to be included in the VMP once approval is granted for their use.

Lay-up areas for heavy vehicles, if needed during construction, will be suitably positioned to ensure safe exit and entry to the roadway and vehicles will be restricted to short-term temporary use. If lay-up areas are determined to be required, Future Generation will comply with all requirements in planning and constructing the lay-up and the TMP will be reviewed to determine if an update is required.

Figure 5-1 above, and Figure 2-2 of the Approval indicate the current lay-up areas at Lobs Hole Ravine Road and the Link Road turn around bay. Heavy vehicle parking, idling and queuing on public roads will be minimised where practicable particularly within the regional towns of Tumut, Talbingo, Adaminaby and Cooma. Use of chain bays by project heavy vehicles will only be for the fitting or snow chains Heavy vehicle parking will be provided within the site at Lobs Hole Pads 1 and 2.

The impact of heavy vehicles from convoys and congestion through local townships during peak traffic periods are to be mitigated through the following initiatives:

- standard hours of operation of heavy vehicles on local roads will be 7 am to 6 pm during weekdays and 8am to 1pm on Saturday, excluding upper Lobs Hole Ravine Road where no heavy vehicle movements will occur outside of sunrise to sunset (except in emergencies);
- deliveries will be scheduled the day prior and staggered to prevent vehicles queuing on the Link Road. Deliveries will be arranged so they travel at an ordered distance allowing for a steady entry into the Link Road without the need to queue;
- deliveries will be scheduled to occur such that heavy vehicle travel during peak periods through Cooma and Tumut, defined as between 8:00am and 9:30am and between 4:00pm and 5:30pm, will be avoided where practicable;
- particular care will be given to avoid the need for heavy vehicle travel through school zones such as that adjacent the Snowy Hydro office in Cooma during school zone operating hours;
- the Drivers Code of Conduct requires drivers to pull over when safe to do so should excessive queuing occur on single lane roads; and
- heavy vehicles will aim to travel staggered from one another when in transit in order to minimise delays to non-construction vehicle movements. This will be managed by:
    - drivers will communicate via radio to aim to maintain distance between each heavy vehicle;
    - any OSOM escort vehicles will be used to coordinate staggered movements.

At all times heavy vehicle drivers will be required to obey the road rules which includes covering of loads when in transit to and exit from the project site.

5.4.2. Drivers Code of Conduct and Fatigue Management

The safety of workers and road users is of paramount importance to Snowy Hydro and Future Generation, and the fit and proper behaviour of drivers is directly related to establishing and maintaining a high safety standard during Exploratory Works. Further, all drivers involved in the project must comply with the legal obligations whilst operating vehicles.

To assist in achieving safe outcomes during construction, a Driver Code of Conduct (DCC) has been developed and is included in Appendix B of the TMP. The purpose of DCC is to minimise the impact of individual behaviours of drivers related to the project on all users of the public roads that

Future Generation will be utilising as including user safety. The DCC outlines acceptable behaviour for all vehicle drivers in connection with the project.

Prior to involvement in the project all vehicle drivers will be required to have read the code and acknowledge their compliance with it throughout their involvement in the project. The expectations DCC will be established in the project induction and will be reiterated through pre-starts. Future Generation will retain copies of the signed DCCs.

Heavy vehicle haulage routes will be communicated to haulage contractors during the procurement stage and requirements of the Drivers Code of Conduct, route use and compliance included in their contracts.

The DCC includes an element of fatigue management. This includes the requirements for drivers on the project to manage their fatigue, be suitably rested and for operators of heavy vehicles to comply with the Chain of Responsibility (CoR) legal requirements under the *National Heavy Vehicle Law (Heavy Vehicle (Adoption of National Law) Act 2013)*. The fatigue management standards including those outlined in the Chain of Responsibility will be consistent with the standards outlined in the Fatigue Management Plan.

The DCC will be monitored and reviewed as detailed in Section 6.1 and 7.3.

5.4.3. OSOM Vehicles

The designated haulage routes to be used during the Exploratory Works by OSOM vehicles are included in Appendix A. All over-dimensional and heavy vehicles associated with the development must travel to and from the site via:

(a) Snowy Mountains Highway, Miles Franklin Drive and Spillway Road;

(b) Snowy Mountains Highway, Link Road and Lobs Hole Ravine Road;

(c) Snowy Mountains Highway, Coppermine Trail and Wallaces Creek Trail; or

(d) Snowy Mountains Highway, Tantangara Road and Quarry Trail.

The Snowy Mountains Highway will serve as the main transport route to and from the project during Stage 1 construction and provide access for OSOM vehicles required to deliver large indivisible objects. The Snowy Mountains Highway is classed as a Limited Access Location for the purpose of OSOM transport and requires a specific permit to be obtained in advance of travel for vehicles exceeding 2.5m in width and/or 19m in length.

In advance of OSOM deliveries, Future Generation or sub-contractor will apply for an OSOM permit and if required will develop an OSOM Transport Management Plan in consultation with Roads and Maritime Services, relevant road authorities (Council or NPWS for Link Road) and the police.

The purpose of the OSOM permit will be to check and approve that the vehicle type, load limit and haul route (consistent with the routes detailed above) are suitable under OSOM requirements. Notice of the OSOM deliveries will be provided to the community and relevant stakeholders as required on a case-by-case basis based on the potential impact. This will be reviewed and undertaken by the Community team. OSOM travel will occur under the conditions of permit once granted. Generally, the following process should be undertaken when applying for OSOM movements with TfNSW:

- a route study map is undertaken by Future Generation's Transport subcontractor and submitted with the OSOM permit application;
- TfNSW reviews OSOM application and identify any requirements to conduct the movement, which are detailed in the approved permit;

- the OSOM movement is to be undertaken in accordance with the OSOM permit. Either the Transport subcontractor and/or Future Generation will have a copy of the permit. A copy of the permit is to be accompanied with each OSOM movement.

Record of OSOM permits will be maintained through the National Heavy Vehicle Regulator and TfNSW systems. Additionally, the Future Generation traffic and logistics team will maintain a register of all OSOM movements and relevant permits and OSOM TMPs.

5.4.3.1. OSOM movements

As part of Modification 2, the TBM and associated infrastructure will require importation and transport to site. Transportation will occur during overnight off-peak periods via the surrounding road network where practical.

The TBM will be delivered to the site in various components and assembled on site, with a significant portion of the parts being oversized and exceeding the 2.55 m width of a vehicle as specified in the NSW *Roads Act 1993*. In total there will be approximately 140 OSOM movements required as part of the Modification 2 scope, with a typical OSOM vehicle configuration as shown in Figure 5-2.

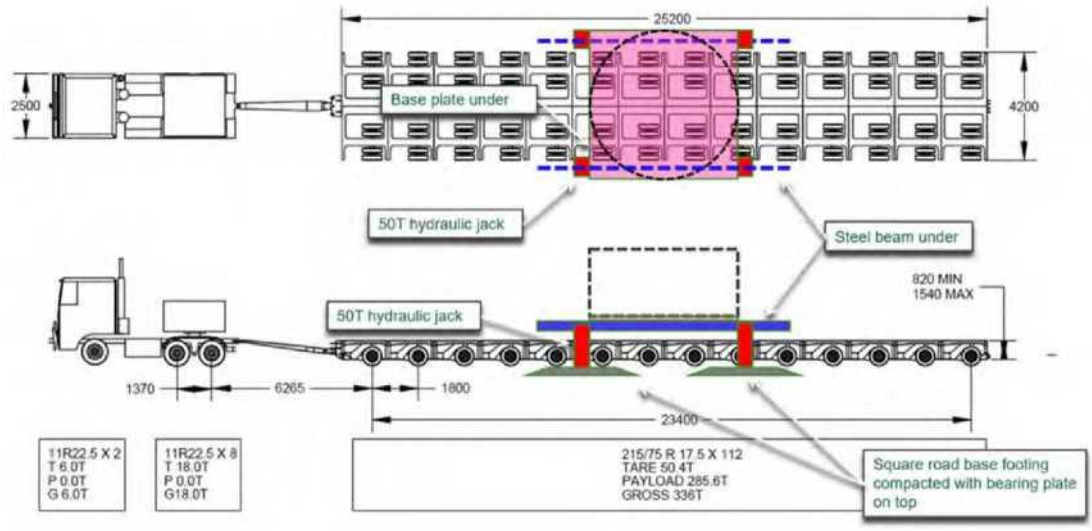

Figure 5-2: Typical OSOM configuration

Link Road turnaround

To facilitate set down and turn-back of OSOM deliveries, with the typical OSOM configuration as shown in Figure 5-2, a laydown / turnback will be established along Link Road to the west of Lobs Hole Ravine Road, of approximately 750 m. This will minimise the OSOM delivery duration along Link Road and Snowy Mountains Highway.

Prior to commencement of works at Link Road turnaround, all works will be set out by surveyors to ensure compliance with the approved project boundaries and clearing works will be undertaken in accordance with the Biodiversity Management Plan.

5.4.4. OSOM Road Upgrades

Prior to the use of OSOM vehicles for the delivery of TBMs or tunnel segments, Future Generation will provide detailed designs for the upgrade of the following intersections, to the satisfaction of TfNSW and SMRC:

- Snowy Mountains Highway/Sharp Street and Bombala Street intersection; and
- Snowy Mountains Highway/Sharp Street and Vale Street intersection;

Future Generation will ensure designs comply with the relevant requirements in the Austroads Guide to Road Design (as amended by TfNSW supplements), and include works to the existing kerbs, signage and internal roundabout pavement to accommodate OSOM vehicle movements. Designs will be submitted to appointed contacts in TfNSW and SMRC who will undertake appropriate internal reviews and provide confirmation to Future Generation prior to the commencement of works. Appropriate documentation and communications will be maintained in the Future Generation document control system.

Prior to undertaking OSOM road upgrades, the community and local businesses will be notified by doorknock, advertising in local papers and media. Notification flyers will be distributed via email 2 weeks prior to works, to local businesses, councils, stakeholders, and individuals. VMS boards will also be used prior to and during the roundabout works upgrades.

5.4.5. Dangerous Goods

Transport of chemicals, hazardous materials and other dangerous goods will comply with the following principles:

- dangerous goods are assigned UN numbers and proper shipping names;
- dangerous goods are transported in accordance with their hazard classification and their composition;
- reactive materials will not be transported in the same consignment;
- dangerous goods will be packaged in accordance with their classification criteria and the packaging will be intact prior to acceptance for transport or delivery at the project site;
- dangerous Goods will be properly labelled as per the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) or the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) National Codes of Practice (GHS Code) prior to acceptance for delivery to the project Site;
- chain of custody and consignment documentation, including SDS, will be available for the duration of the transport and presented prior to acceptance of the dangerous goods at site;
- emergency response plans for the containment and clean-up of hazardous substances will be in place prior to shipment of the material.

Refer to the Australian Code for the Transport of Dangerous Goods by Road and Rail, Edition 7.5. August 2017 for further information.

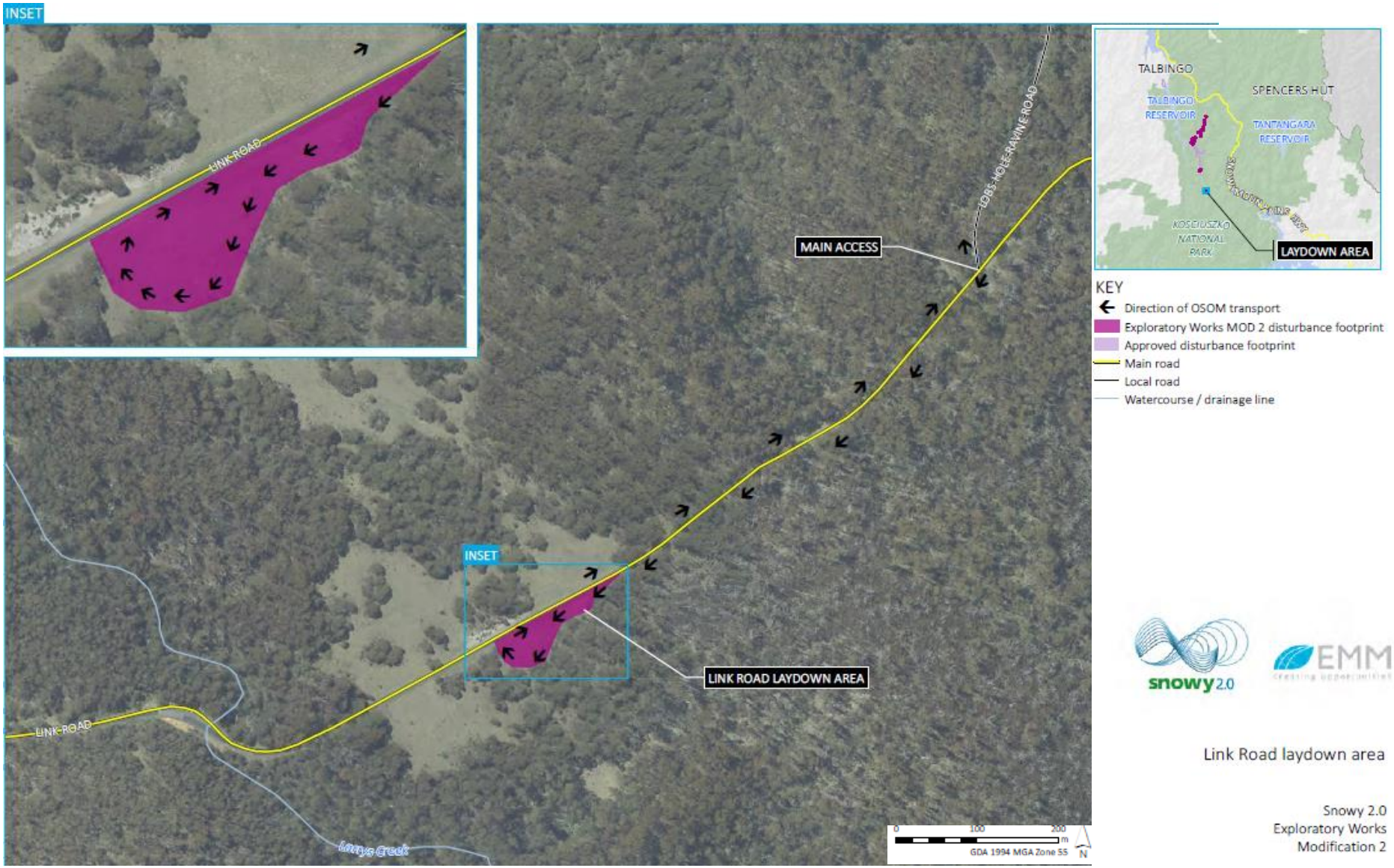

Figure 5-3 Link Road laydown / turnback

5.4.6. Heavy Vehicle Recovery or Salvage

In the event of an unexpected accident of a project related vehicle on a public road, requiring recovery or salvage, the Police and Road Authority would be notified, and Police control the accident scene for first response and or investigation. Any ultimate salvage operation would need to be coordinated through these agencies as Future Generation are not authorised to immediately commence a salvage or tow operation which would likely involve emergency TCPs for road closures, use of cranes and or other equipment.

In the event of a simple breakdown without incident/accident Future Generation would have access to both an on-call workshop service truck (best case – repair and recommence journey) or on-call HV tow service (worst case – tow back to base) for any project owned heavy vehicles. Future Generation subcontractors would be required to have a plan for the same (on road emergency plan).

Where vehicle recovery is required on site the Construction Manager will prepare a recovery plan with relevant project disciplines where required.

Where a Future Generation project vehicle is broken down or involved in an accident, Future Generation will notify the Police and relevant road authority so that Police and TfNSW can notify other road users and undertake appropriate measures to mitigate the situation. Project driver training will involve the appropriate notification of traffic incidents (project and otherwise) to relevant authorities and project personnel.

5.4.7. Heavy Vehicle National Law

Persons involved in the loading of vehicles for road transport must ensure that the vehicle is not overloaded. It is noted that the recent changes to Chain of Responsibility provisions within the Heavy Vehicle National Law (HVNL) make all persons who may influence the mass of a vehicle or its load responsible for compliance with the HVNL.

5.5. Access Management

5.5.1. National Park Public Access

Recreational activities currently undertaken in the northern area of KNP include drive touring, picnicking, camping, walking, horse riding, cross country skiing, downhill skiing, snowboarding and snow play, cycling, climbing, caving, canoeing and rafting, boating and fishing. This plan details the measures that will be implemented to minimise the impact of traffic, transport and access to ensure the safety of the public and an ongoing positive experience for park users during construction.

Notifications of National Park access restrictions and closures will be provided and updated on the NPWS (Kosciusko National Park) and Future Generation websites. Additionally, notifications will be regularly distributed via email to local businesses, councils, stakeholders, and individuals. Social media is not being used at this stage.

During construction, the following will be implemented to manage access and park user impacts within KNP:

- providing advance notification of any changes to park facilities including access roads, Lobs Hole campground, Talbingo spillway and works on Tantangara Reservoir through advance signage, flyers, community announcements and the project and national park websites;
- providing updates as works progress and notification of any ongoing changes that impact park users undertaken any time a change occurs that modifies the previous access arrangement;
- providing clear directional signage to alternative facilities within KNP;

- providing clear detour signage to alternative access routes where available;
- providing park users, the opportunity to give feedback during construction to enable ongoing improvements to be made; and
- informing the workforce of the likely presence of park users and actions to be taken in the event that they enter the project area.

KNP Road closures

Internal roads within KNP which will be closed to public during construction include:

- Lobs Hole Ravine Road from the Blue Creek Trail (in the north) to the Link Road (in the south);
- Mines Trail Road; and
- Middle Bay Road and Boar Ramp.

The Ravine campground will also be closed to the public for the duration of Exploratory Works.

The indicative points at which advance closure signage will be installed is shown in Appendix C. Prior to the road closure advance information signage will be installed at the start of the roadway and at key decision points which will include the KNP gate houses. Road closure signage including advance warning signs will be installed in accordance with the RMS Traffic Control at Worksites Manual to enforce the closure of these roads. In some cases, gates or fencing may be warranted to deter entry. Gates and fencing would be installed in consultation with NPWS.

Snowy Hydro will coordinate the road closures with NPWS.

Horse riding, walking and cycling tracks

There are no designated horse riding, walking or cycling tracks within the project area however there may be informal tracks used by the public. The public may also use management trails for recreational activities. Trails that have been identified that will be affected by the closure of internal roads or interface with the project areas include:

- Tolbar trail;
- Blue Creek Trail;
- Middle Creek Trail;
- Unnamed trail traversing Upper Lobs Hole Ravine Road;
- O'Hares trail; and
- Yans crossing trail.

Advance warning signs will be installed at key points along informal tracks and trails in consultation with NPWS. The location of designated tracks and management trails are provided in Appendix D which includes the indicative locations of advance warning signs. In some cases, gates or fencing may be warranted to deter entry. Gates and fencing would be installed in consultation with NPWS.

It may not be possible to prevent members of the public from bushwalking into the project area, or operating boats near the end of Middle Bay Road. Future Generation will ensure that all site persons are briefed to be alert of unauthorised persons, and to stop works in the event that such a person enters the work area.

Peak holiday season

During peak holiday season, defined as the period from July to September, there is potential for greater impacts to road traffic and park users due to the increase in tourism related traffic volumes.

During these periods additional traffic inspections in the form of daily visual inspections will be undertaken to confirm that these impacts do not warrant further mitigation and traffic management. Traffic management measures will be implemented where required or changes made to construction delivery routines during these periods to minimise peak traffic impacts.

5.5.2. Waterway Access

Maritime traffic impacts will be managed during Stage 2 of the Exploratory Works through the development and implementation of specific maritime traffic management plans and clear and up to date communication of maritime traffic impacts to the community. Maritime traffic impacts will be managed through the internal Maritime Traffic Management Plan.

The main impact from construction is expected to be the increase in vessel traffic volumes on Talbingo Reservoir. To minimise impacts the following management measures will be applied:

- marine activities to be scheduled for daylight hours, particularly in the vicinity of the Talbingo Boat Ramp to avoid any potential noise impacts on the community, however optic fibre laying operations and borehole drilling will be a 24-hour operation;
- the project shall establish 'Exclusion Zones' around marine construction works as declared by NSW Maritime to ensure the safety of vessel traffic and to establish safe working zone/s;
- community shall be made aware of the marine construction works and any potential effects to recreation vessels including public notices and signage at boat ramps and potential launch sites around Talbingo Reservoir (limited to Talbingo Boat Ramp, Sue City Boat Ramp and Middle Bay Barge Ramp);
- any vessel or structure occupying waters must display appropriate shapes and lights in accordance with the Marine Safety (Domestic Commercial Vessel) National Law Act 2012;
- all vessel will be required to display an all-round white whilst at anchor between the hours of sunset and sunrise;
- all mooring and anchor buoys will be lit in accordance with the Marine Safety (Domestic Commercial Vessel) National Law Act 2012;
- all operators and vessels used in this operation must comply with the Marine Safety (Domestic Commercial Vessel) National Law Act 2012, and that no agent shall be exempted from the provisions of the Marine Safety Act 1998 and relevant subordinate legislation;
- vessel crew inductions will discuss specific project requirements; and
- the marine activities will be planned and scheduled to minimise the impact during peak marine traffic periods such as weekends.

Specific Maritime Traffic Control Plans will be developed as part of the construction planning process for all construction activities that affect maritime traffic conditions and the safety of waterway users on the Talbingo Reservoir.

5.5.3. Access for NPWS, Emergency Services and Other Utility Service Providers

Ongoing access to the site is required for the following parties;

- Snowy Hydro (the Client);
- the Client's contractors including the E&M Works D&C contractors;
- National Parks and Wildlife Services (NPWS); and
- TransGrid.

During the construction works there will be several periods where access into the site will be restricted for lengths of time due to the nature of the works. Future Generation will make every effort to provide safe access when requested, however in the event that safe access through the works is not available, alternative access to the site via the Snowy Mountain Highway and Lobs Hole Ravine Road shall be used.

Access is required to these utilities at all times in case of emergency repairs. Prior to the closure of the internal access roads the utility asset owners will be consulted, and a means of access determined. The agreed access provisions will be provided throughout construction. Should further access changes eventuate during construction access restrictions will not be implemented without first consulting with the affected asset owners.

There is the potential for the works to impact emergency services access into the KNP. Future Generation will liaise with Emergency Services which may require access into the park for the purposes of emergency search and rescue. Future Generation will provide regular updates shall be provided on progress and access availability throughout the project. The emergency access and evacuation processes are detailed in the Emergency Response Management Plan.

5.6. Helicopter / Aircraft Operations within KNP

Future Generation will provide notification to NPWS if operating helicopters or other aircraft above the project area and within the KNP. This will be provided prior to the flight occurring through an agreed format between both parties.

Future Generation will provide notification to NPWS when operating Unmanned Aircraft Vehicles (UAV) /drones above 50m in height or outside of the approved work areas. These notifications will ensure that NPWS are aware of any potential conflicts between their operations or emergency situations.

6. TRANSPORT AND TRAFFIC MONITORING PROGRAM

6.1. Monitoring and Reporting

Monitoring will be undertaken to confirm the satisfactory traffic, transport and access outcomes are achieved during construction. The parameters and frequency of monitoring is provided in Table 6-1.

All monitoring will be internally recorded and the findings will be discussed with the Traffic Control Group (TCG) and a TTLG detailed in Section 7.3.

Table 6-1: Construction monitoring locations parameters and frequency

Road	Site Location	Parameters	Type	Frequency
Internal/External	All	Congestion impacts to level of service, convoys and driver conduct	Inspection	Refer to Section 7.2
Internal/External	All	Road conditions, safety and traffic signage	Inspection	Refer to Section 7.2
Driver Code of Conduct Measures Monitoring Program				
Internal/ External	All	Any breach of obligations by law including speeding.	Observations and reports from transporter or law enforcement.	Quarterly for the previous quarter.
	N/A	Licensed to operate the vehicle.	Desktop review of driver qualifications.	
	All	Any breach of the project's Vehicle Movement Plans (VMP) including adhering to the 40km speed limit for upper Ravine Road in Lobs Hole.	Observations and safety incident reports.	
	All	Any breach of Chain of Responsibility requirements including fatigue management requirements.	Desktop review of CoR records.	
	All	Operating the vehicle in a suitable manner to the road, fauna and weather conditions.	Observations and safety incident reports.	
	External KNP roads	Any use, unless in an emergency and/or authorised by NSW Police or a road authority, of operating heavy vehicles on a local road outside the Kosciusko National Park outside the hours of 7am and 6pm on weekdays and 8am to 1pm on Sundays.	Observations, safety incident reports and reports from transporter or law enforcement.	
	Internal KNP roads	Operation of vehicles on the upper section of Lobs Hole Ravine Road between sunrise and sunset unless in an emergency.	Observations and safety incident reports.	
	All	Inappropriate reporting and safety precautions are undertaken in the event of a fauna strike.	Observations and environment incident reports.	
	N/A	Failure to notify Future Generation personnel that the status of an individual's ability to legally drive changes.	Safety reports.	
	All	Failure to operate a vehicle in a manner that is inconsiderate or dangerous to the public without justifiable reason.	Observations, safety incident reports and reports from transporter or law enforcement.	
	All	Failure to comply with the requirements of an OSOM permit.	Observations, safety incident reports and reports from transporter or law enforcement.	

6.2. Traffic Incidents

Traffic incidents will be managed in accordance with Section 7 of the EMS and the Environmental Incident Procedure included within Appendix A4 of the EMS.

The Department and other relevant agencies will be notified of incidents in accordance with Section 8.2 of the EMS and in accordance with Schedule 4 Conditions 5 and 6 of the Infrastructure Approval. Depending on the type and severity of the incident this may include notification to the Department in writing for incidents defined under the conditions of approval, notification to the NPWS where required under the Deed of Agreement of Lease and notification to the EPA for pollution related incidents. Snowy Hydro would notify the Department in writing immediately after they become aware of the incident on site.

Safety and environment related traffic incidents within the bounds of the project area will be managed in accordance with the Health and Safety Management Plan and the associated incident and emergency reporting procedures.

7. COMPLIANCE MANAGEMENT

7.1. Training

All site personnel will undergo site induction training relating to traffic, transport and access management issues. The induction training will address elements related to traffic management including:

- existence and requirements of this TMP;
- relevant legislation;
- roles and responsibilities for traffic management;
- light vehicle routes to and from site;
- arrangements for transport of workers to site;
- traffic, transport and access mitigation and management measures; and
- procedures to be implemented in the event of an incident (e.g. traffic accidents).

Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in traffic, transport and access management. Examples of training topics include:

- vehicle movement plans – approved heavy vehicle haulage routes, safe entry and exit and other access restrictions;
- driver behaviour and the drivers code of conduct for heavy vehicles including permitted parking and layup areas (Appendix B);
- delivery driver's induction which will include safe protocols to be followed whilst travelling on internal and external roads. The briefing will reinforce posted speed limits, advisory speeds and historic high accident points on winding sections of road;
- driving in snow and during icy conditions; and
- driver fatigue awareness training.

Targeted training in the form of toolbox talks or pre-start briefs will also be provided to personnel with a key role in traffic, transport and access management. Further details regarding the staff induction and training are outlined in Section 5 of the EMS.

7.2. Inspections

Inspection of traffic, transport and access management measures will be undertaken regularly during construction with attention being made to those areas that interface with the public and affecting public safety. For example, external roads, where lane closure may be required for maintenance purposes, and internal roads where road closures are installed. Additional inspections may be undertaken in accordance with the Future Generation Traffic Control Plans. Table 7-1 details the inspection and monitoring regime. All inspections will be internally recorded and the findings will be discussed with the TCG and a TTLG detailed in Section 7.3.

Table 7-1: Traffic management inspections

Inspection	Frequency	Action	Reporting	Responsibility
Road closures	Weekly	Inspection of signage and road closure delineation	Traffic inspection report	Future Generation
Spillway Road Link Road Miles Franklin (Murray Jackson) Drive	Monthly during heavy vehicle or over-dimension vehicle use	Inspection of the road surfaces for signs of deterioration and maintenance requirements	Maintenance inspection report	Future Generation
Internal Roads	Monthly once operational	Inspection of the road surfaces for signs of deterioration and maintenance requirements	Maintenance inspection report	Future Generation
Cooma/Tumut	Monthly during heavy vehicle or over-dimension vehicle use	Inspection of heavy vehicle and over dimension vehicle routes for construction related convoys, congestion or level of service impacts during peak traffic periods	Traffic inspection report	Future Generation
KNP Access including Link Road	Peak holiday season (July to September) - General weekly and in addition daily during heavy vehicle or over-dimension vehicle movements on Link Road	Inspection of construction affected queuing/congestion during peak holiday periods	Traffic inspection report	Future Generation

Traffic inspections will be coordinated by Future Generation and will occur on a monthly or weekly basis as described in Table 7-1. Written inspection reports will be provided by Future Generation to Snowy Hydro generally on a monthly basis, and weekly for Link Road during peak holiday season (July to September).

Where the inspections identify defects, which could endanger the safety of road users as a result of the construction work, Future Generation will notify asset owners if planned works and rectify the damage as soon as possible and no later than 7 days after identification.

In addition, effectiveness of the implemented management measures will be monitored in accordance with the EMS Section 8. This includes monitoring through the implementation of a regular program of environmental inspections. Weekly environmental inspections are intended to:

- provide for surveillance to ensure that safeguards are being implemented;
- identify where problems might be occurring;
- identify where sound environmental practices are not being implemented; and

- facilitate the identification and early resolution of problems.

Any non-conformances identified through the inspection process will be recorded in an inspection report (minor issues) in accordance with Section 9 of the EMS or an incident report completed in accordance with Section 8 of the EMS. Findings from inspection and incident reports will be reported to relevant agencies including TfNSW and the Department where required. Findings will also be discussed in the Traffic Control Group and the Transport Liaison Group as described in Section 7.3.

7.3. Review and Auditing

Review of the TMP will be undertaken through a \TCG and a TTLG. These review groups will be coordinated by the Future Generation Logistics and Traffic Manager.

The TCG will provide an opportunity to discuss upcoming activities and receive early feedback from agencies prior to submission of site-specific TCPs whereas the TTLG will enable high-level notification to all stakeholders of project traffic management including but not limited to logistics planning for upcoming changes and revision of existing traffic arrangements. The TTLG will be held on a monthly basis. The stakeholders involved include Emergency Services, Police, Shire Councils, NPWS, TfNSW and any other appropriate agency.

Audits, inspections, and monitoring will be internally recorded, and the findings and outcomes will be reported to the TCG, TTLG and any other relevant agencies.

Audits will be undertaken to assess the effectiveness of traffic, transport and access management measures, compliance with this TMP, the Driver Code of Conduct, the conditions of approval, EIS, Submissions Reports and other relevant approvals, licences and guidelines. Specific traffic related auditing is identified in Table 7-2. Auditing includes audits of driver fatigue management and over-size or over-mass permits.

All other audit requirements, including independent audits, are detailed in Section 8 of the EMS.

Table 7-2: Traffic management audits

Road	Site location	Parameters	Type	Frequency
Internal/External	All	Driver fatigue	Audit	3 Monthly audit of work rosters and delivery schedules
External	All	OSOM Permits	Audit	3 Monthly audit of deliveries under OSOM permit
External	All	Driver conduct and transport route use	Review	Monthly review of traffic related complaints

7.4. Reporting

Future Generation will report to Snowy Hydro and other agencies as required on traffic management issues related to the project. This includes notification in relation to traffic incidents which adversely impact on traffic flow associated with the project.

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. Reporting is to be in accordance with Schedule 4 Conditions 7 and 8 of the Infrastructure Approval.

Reporting requirements and responsibilities are documented in Section 9 of the EMS.

APPENDIX A – APPROVED HAULAGE ROUTES

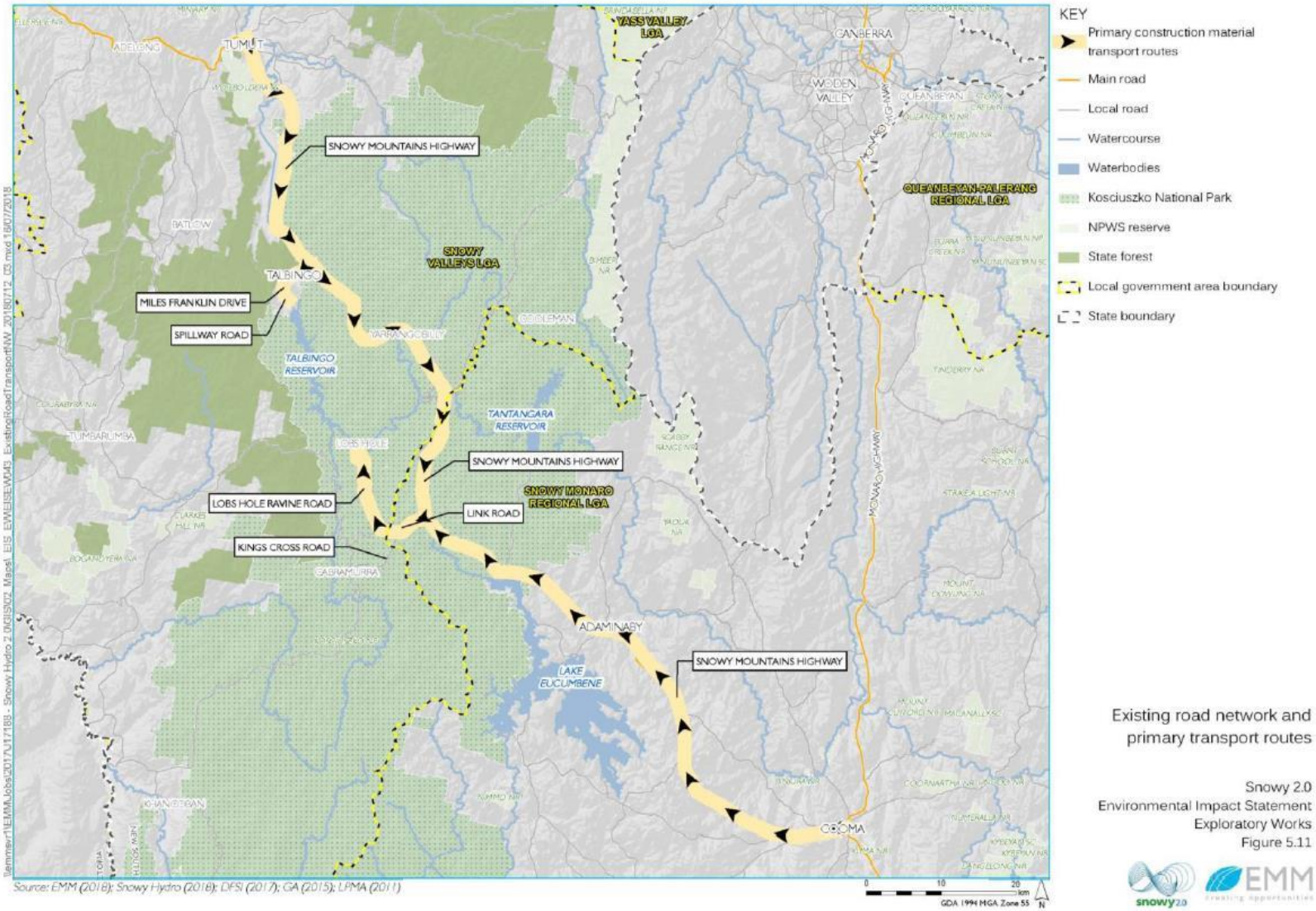

Figure A 1: Construction material transport route (Infrastructure Approval) (this may be subject to change based on the determination)

APPENDIX B – DRIVERS CODE OF CONDUCT

DRIVERS CODE OF CONDUCT – GENERAL

All drivers involved in the Exploratory Works are to comply with this Drivers Code of Conduct. By reading the attached you acknowledge your obligations and accept your responsibility with regards to the safe and legal operation of vehicles at all times whilst working on this project.

Drivers obligations

1) Drivers MUST at all times:
   - adhere to all of the obligations required by law;
   - be licensed to operate the vehicle;
   - drive at no more than the legal speed limit including those imposed by the project;
   - comply with all construction and roadwork signs and Vehicle Movement Plans (VMPs);
   - take the necessary and/or prescribed rest breaks so that operation of the vehicle is not affected by fatigue;
   - enter and leave the site with loads covered or contained and enter and leave the site in a forward direction;
   - operate the vehicle free from the effects of drugs and alcohol; and
   - ensure that vehicles are operated safely and with a high degree of care and attention.
2) Vehicles will be operated in a manner that is suitable to the road and weather conditions including consideration for the potential for encountering wildlife.

   In the event of any potential fauna strike, drivers are to:
   - ensure their personal safety;
   - notify their supervisor who MUST in turn notify the Future Generation environmental staff or Site Foreman / Superintendent.
3) Standard hours of operation of heavy vehicles on local roads outside of Kosciusko National Park will be between the hours of 7am to 6pm during weekdays and 8am to 1pm on Saturdays except as required by NSW Police for the delivery or materials under permit or emergencies to avoid loss of life, property and/or material harm to the environment.
4) Vehicles are permitted to operate between sunrise and sunset* in the sign posted location on the upper section of Lobs Hole Ravine Road. Exceptions may be made in the case of emergencies to avoid loss of life, property and/or material harm to the environment. Individuals must remain in-camp for the duration of the roster period as per Future Generation's safety requirements. A maximum speed of 40 km/hr applies on the upper section of Lobs Hole Ravine Road. Vehicles will be restricted to 20km/h along Coppermine Trail, Wallaces Creek Trail and access tracks in the Marica area between sunrise and sunset*.

   ** Note: Sunrise and sunset times are to be taken from the nearest Bureau of Meteorology centre*
5) There shall be no littering either onsite or whilst operating on the roads. Rubbish is to be disposed of in appropriate bins.
6) Drivers are to notify their employer or operator immediately should the status or conditions of their driver's licence change in any way.

7) Drivers are to give due consideration to the public at all times. This includes:

- behaving and driving professionally at all times;
- limiting the use of truck engine braking on all local roads and the Snowy Mountains Highway;
- laying up in approved locations only. Stopping on unformed road shoulders is not permitted;
- not queuing or idling on local roads. Deliveries are to be staggered to allow steady entry into site and to avoid queuing on public roads
- adhering to the approved heavy vehicle routes and approved turn movements;
- covering loads on transit to and from the project site;
- responding courteously if approached by members of the public and directing them to the community contact number (1800 766 992).

Additional requirements for heavy vehicles or over-dimension vehicles.

In addition to the general driver requirements all heavy or over-dimension vehicle drivers involved in the Exploratory Works are to comply with the additional requirements related to heavy vehicles.

Additional Heavy or over-dimension vehicle drivers' obligations

8) Drivers MUST at all times:

- adhere to their Chain of Responsibility requirements;
- ensure the heavy vehicle is operated within its legal mass and dimension limits;
- adhere to any permit to travel requirements;

9) Drivers are to take regular rest breaks to manage fatigue and breaks of no less than the minimum periods prescribed by the National Heavy Vehicle Regulator. For solo drivers with no Basic Fatigue Management accreditation this means:

- For the first 11 hours a maximum of 10 hours work time with 60 minutes rest in blocks of 15 continuous minutes
- A maximum work time of 12 hours in 24 hours with 7 continuous hours of stationary rest

10) Convoys and congestion can have a large impact on the local community and motorists and are of particular concern to Snowy Hydro. Drivers are to avoid forming convoys where other road users are limited in vehicle movements by no-break in heavy vehicles. Convoys will be limited during travel and avoid travel during peak periods through Cooma and Tumut:

- deliveries are to be scheduled to occur such that heavy vehicle travel through Cooma or Tumut is avoided where practicable during the peak traffic periods;
- drivers are required to pull over and allow traffic to pass when safe to do so should excessive queuing occur on single lane roads; and
- heavy vehicles will aim to travel staggered from one another when in transit in order to minimise delays to non-construction vehicle movements.

APPENDIX C – INTERNAL ROAD CLOSURES AND INDICATIVE ADVANCE SIGNAGE LOCATIONS

Figure C 1: Internal road closure advance signage locations

APPENDIX D – INDICATIVE TRACK TRAIL CLOSURES AND ADVANCE SIGNAGE LOCATIONS

Figure D 1: Indicative track and trail signage location

APPENDIX E – EXPLORATORY WORKS – PROJECT BOUNDARY FIGURES

APPENDIX 2 – SITE LAYOUT

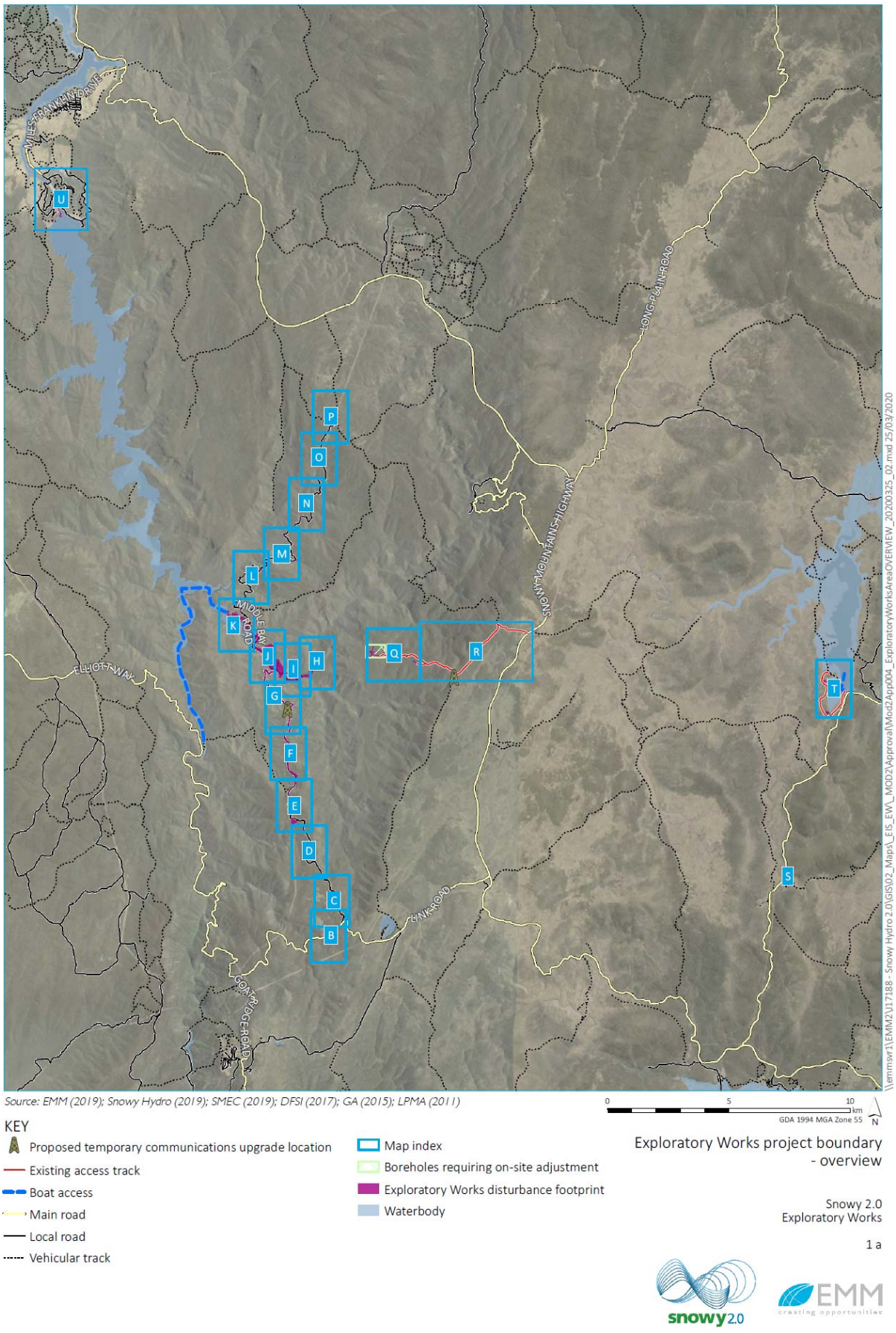

Figure 2-1: Project *Boundary – Overview*

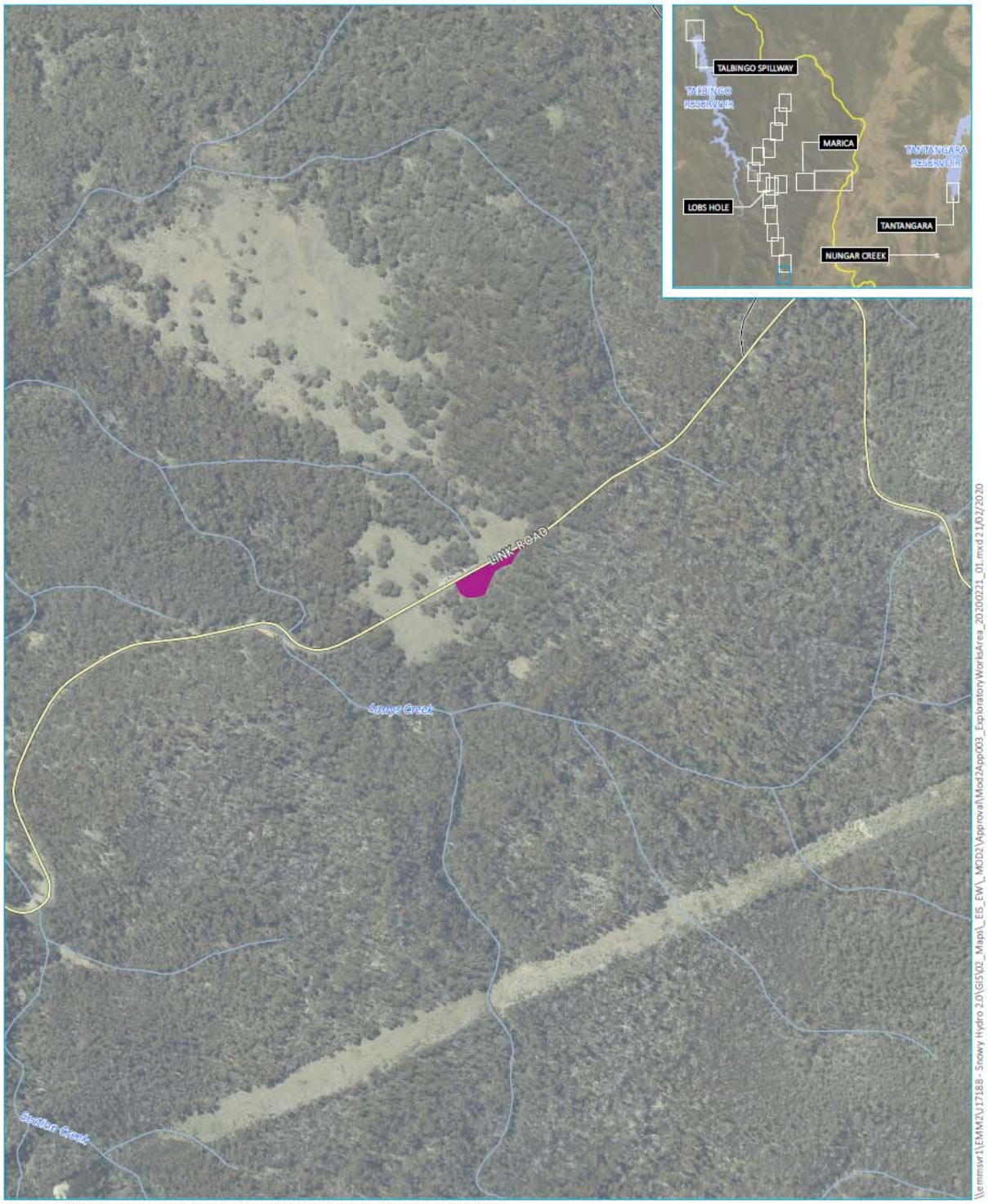

Figure 2-2: *Project Boundary – Link Road turnaround area*

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

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

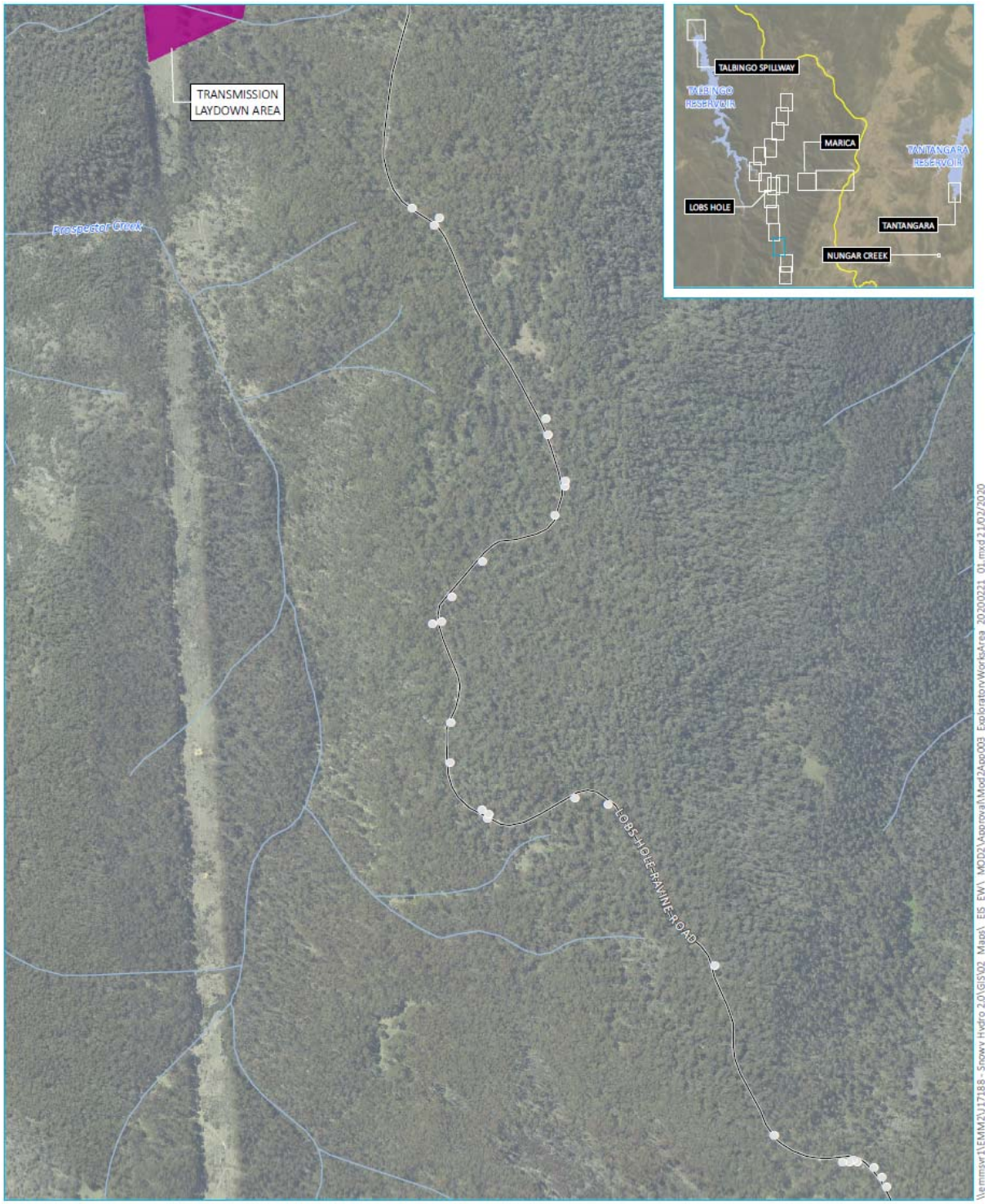

Figure 2-5: *Project Boundary – Lobs Hole Ravine Road (Upper) 3*

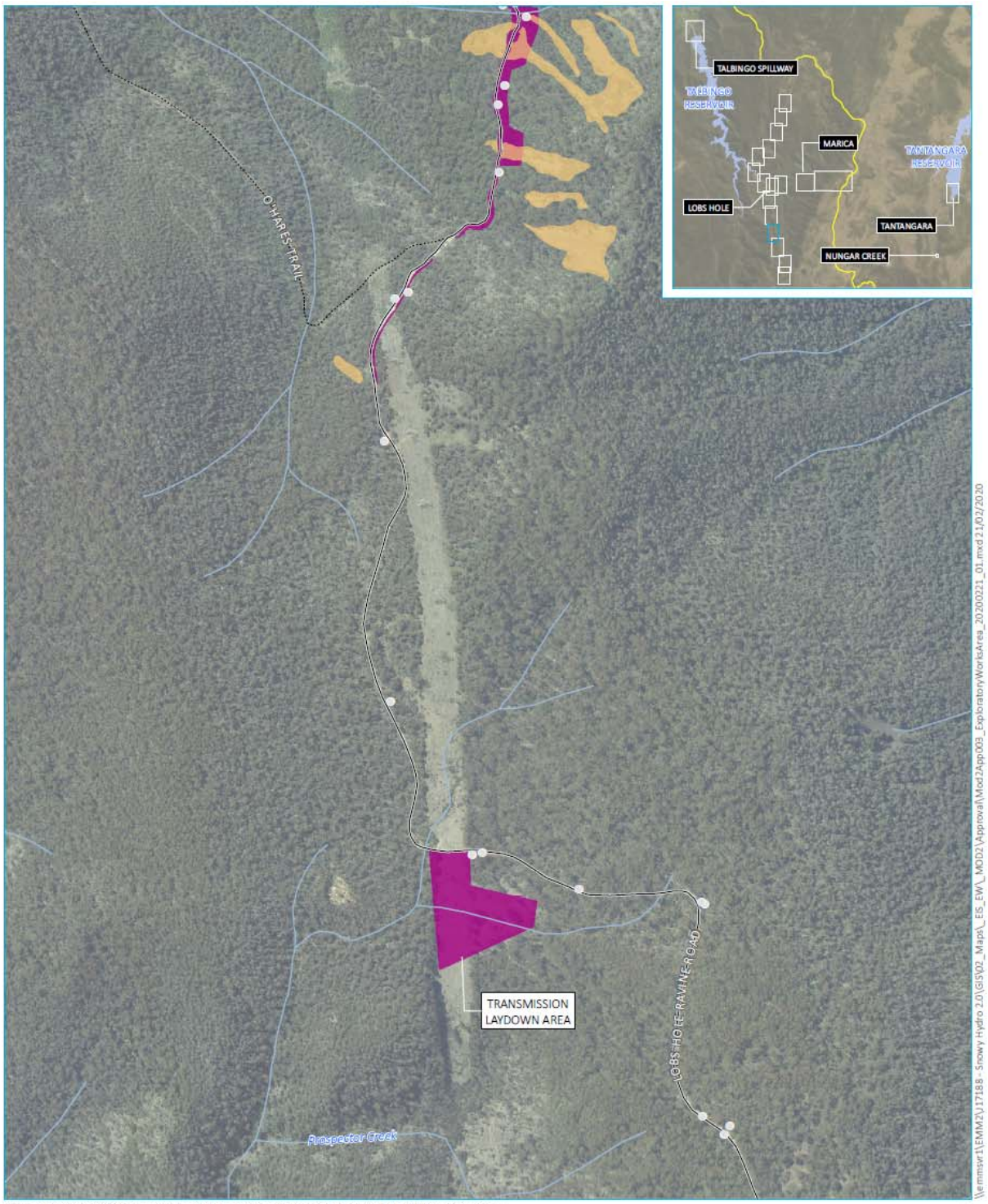

Figure 2-6: *Project Boundary – Lobs Hole Ravine Road (Upper) 3*

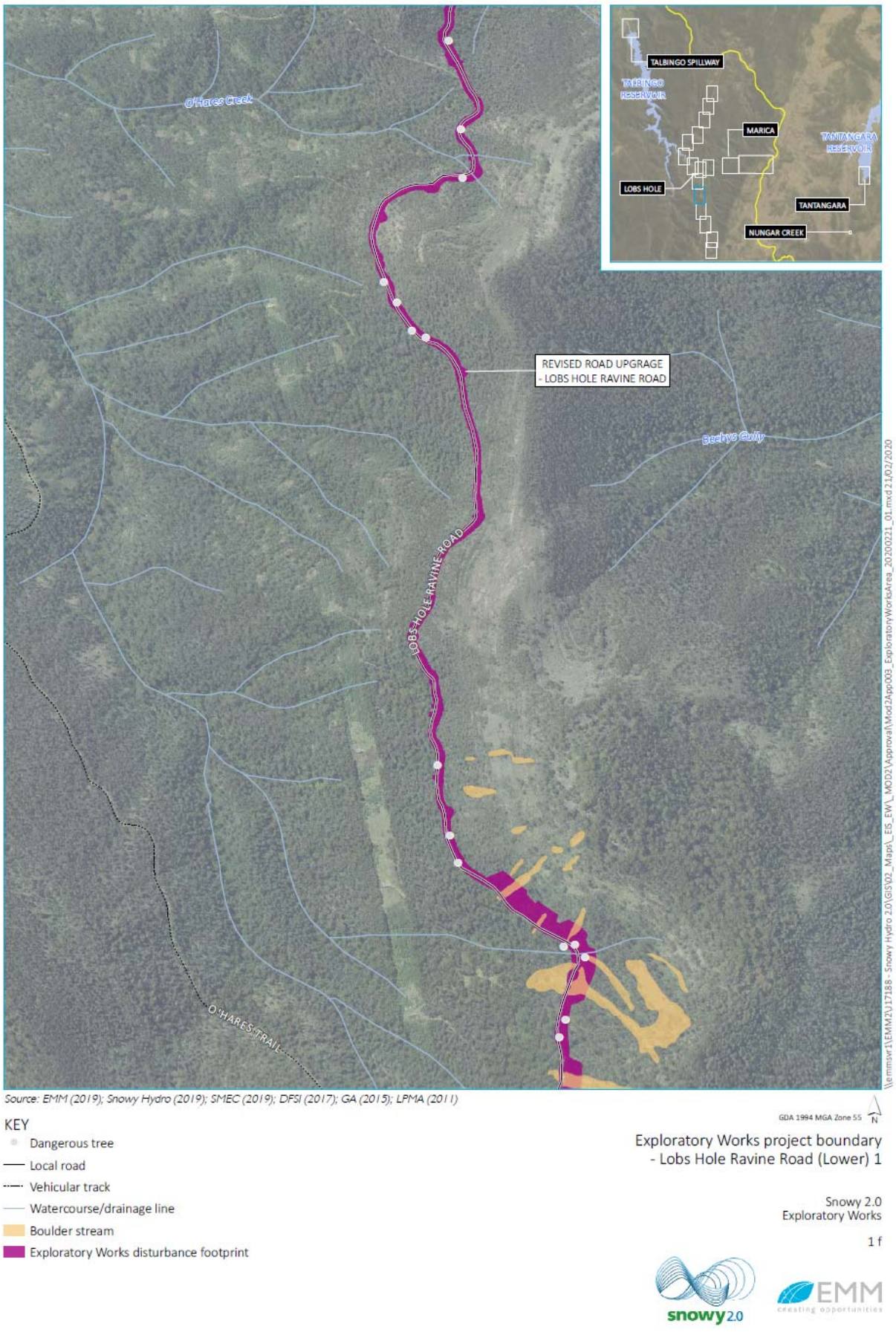

Figure 2-7: *Project Boundary – Lobs Hole Ravine Road (Lower) 1*

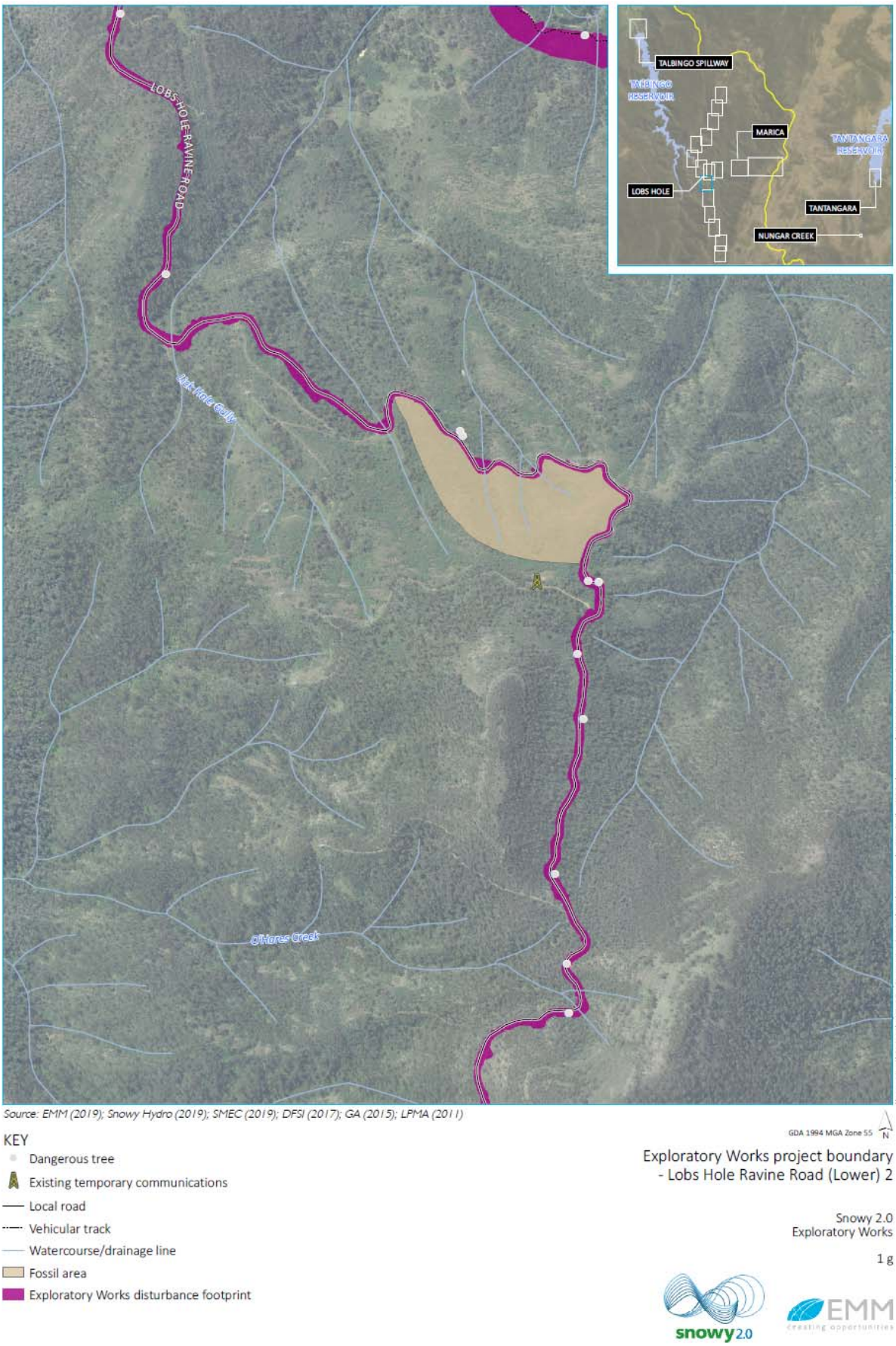

Figure 2-8: *Project Boundary – Lobs Hole Ravine Road (Lower) 2*

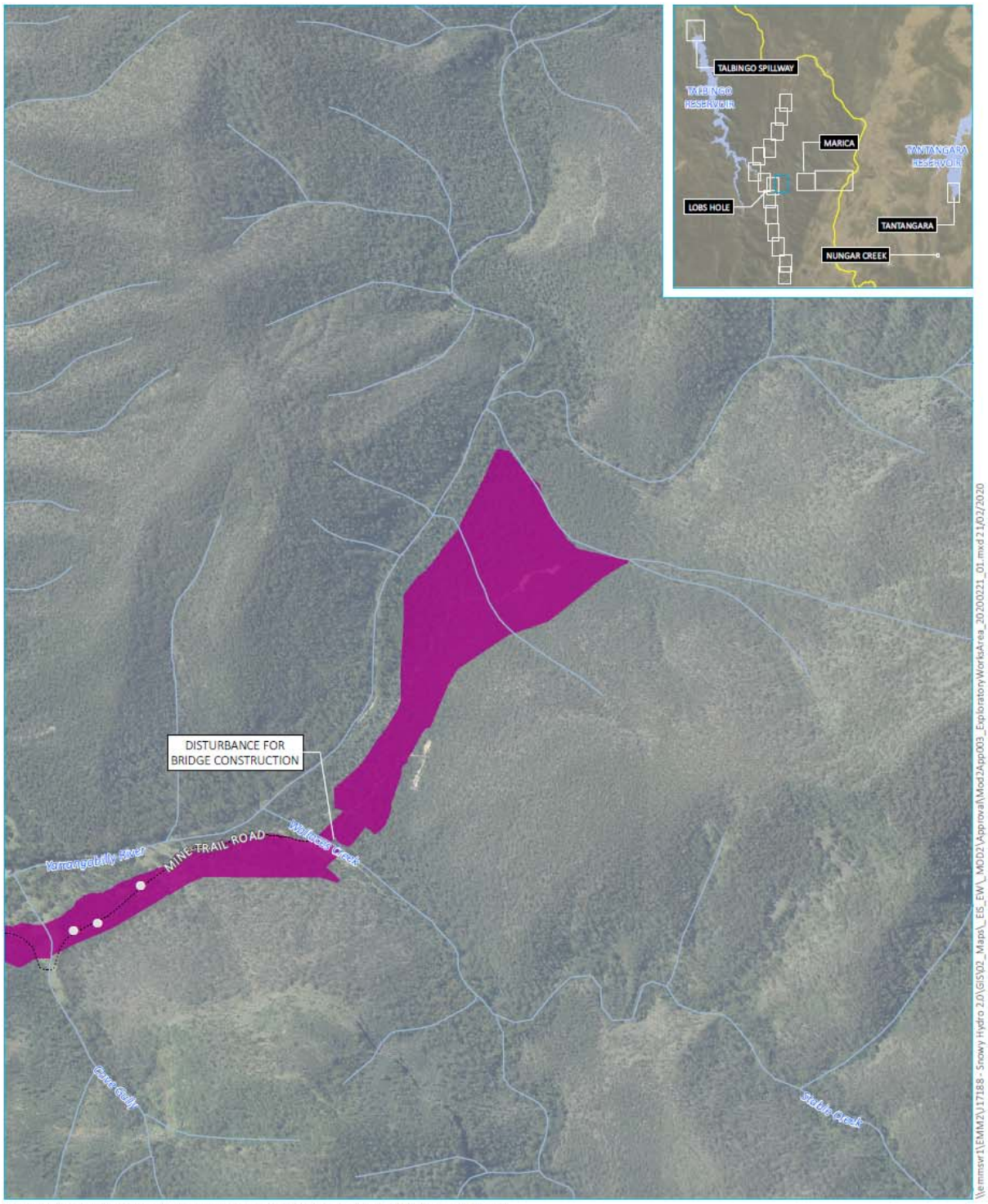

Figure 2-9: *Project Boundary – Mine Trail Road 1*

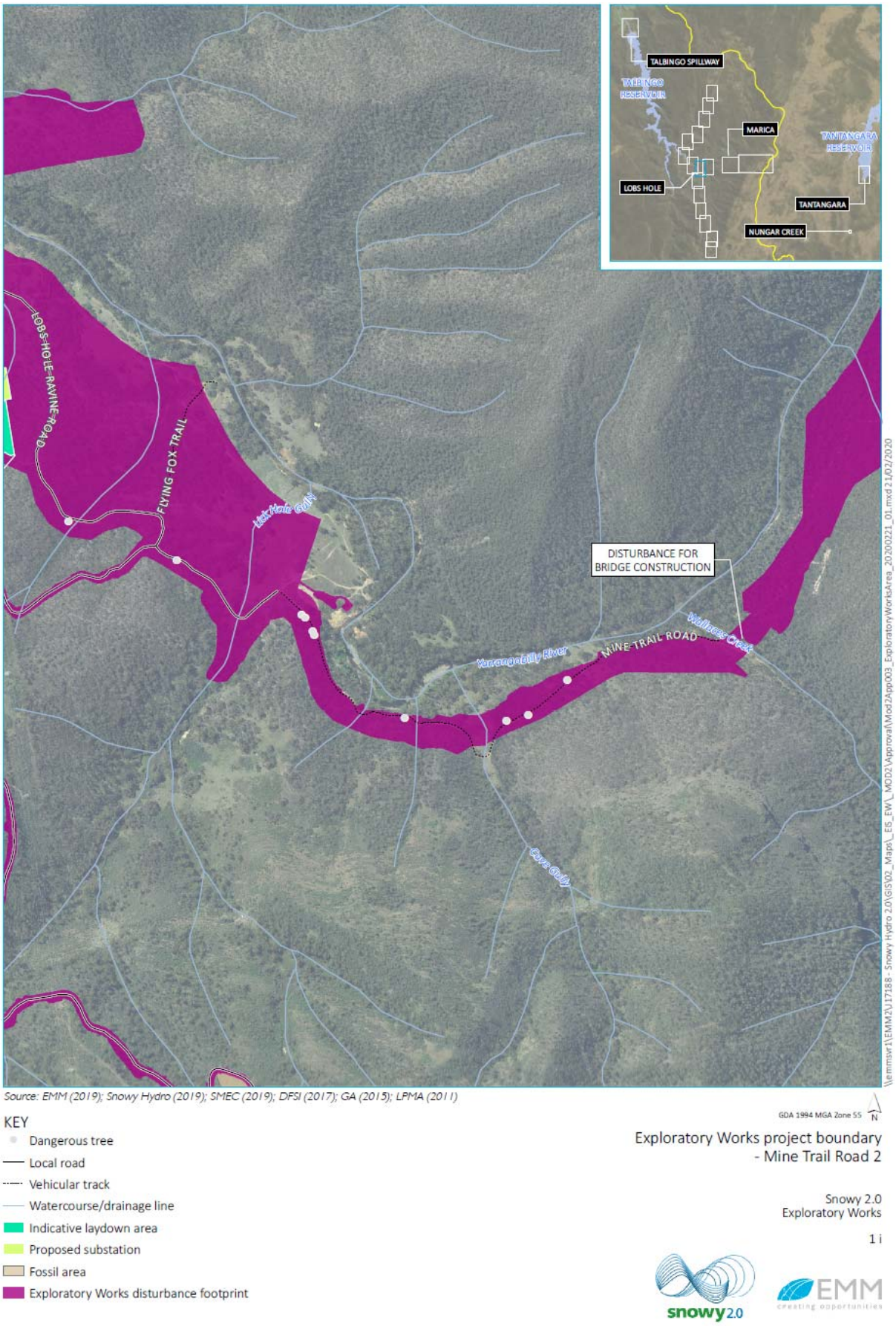

Figure 2-10: *Project Boundary – Mine Trail Road 2*

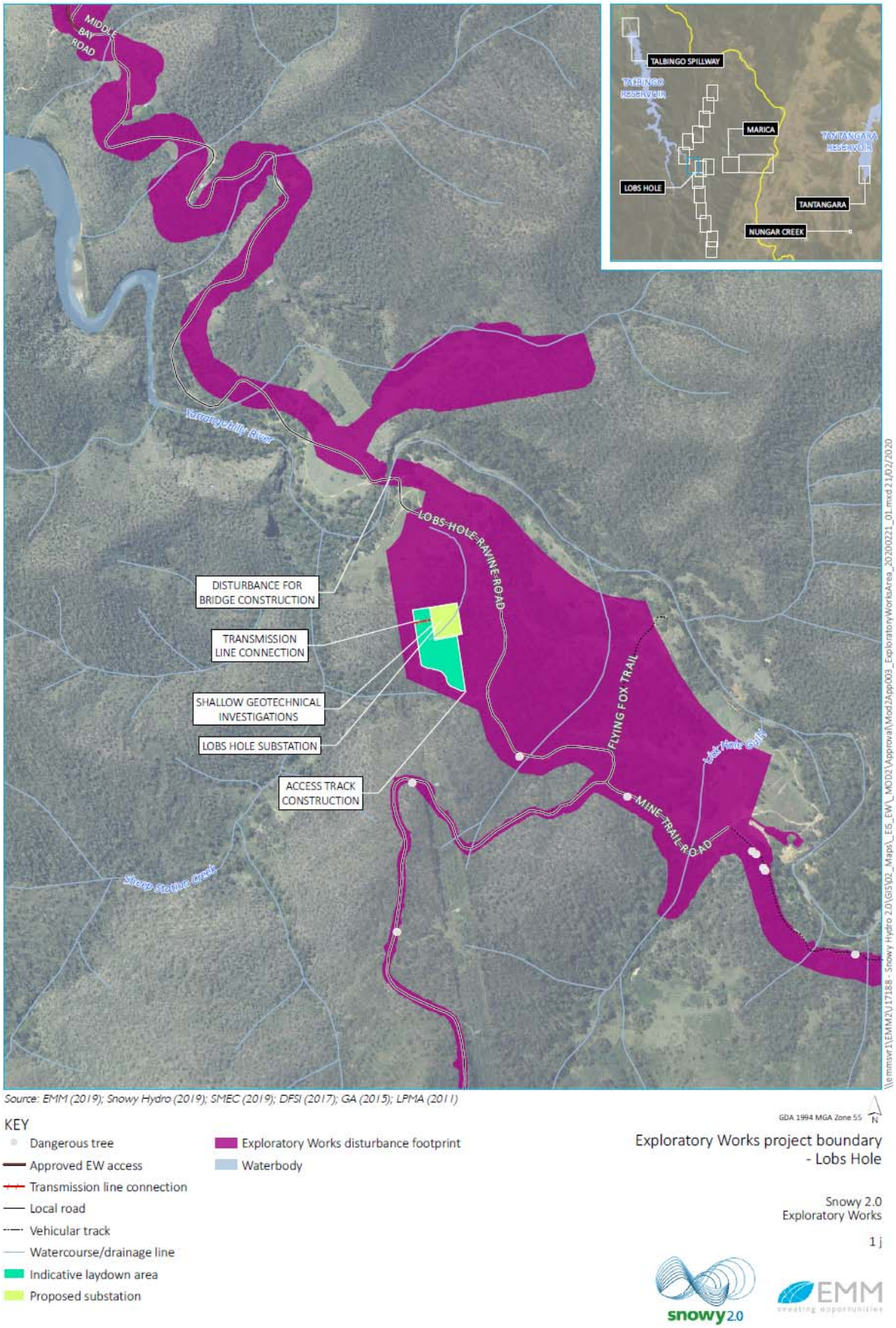

Figure 2-11: *Project Boundary – Lobs Hole*

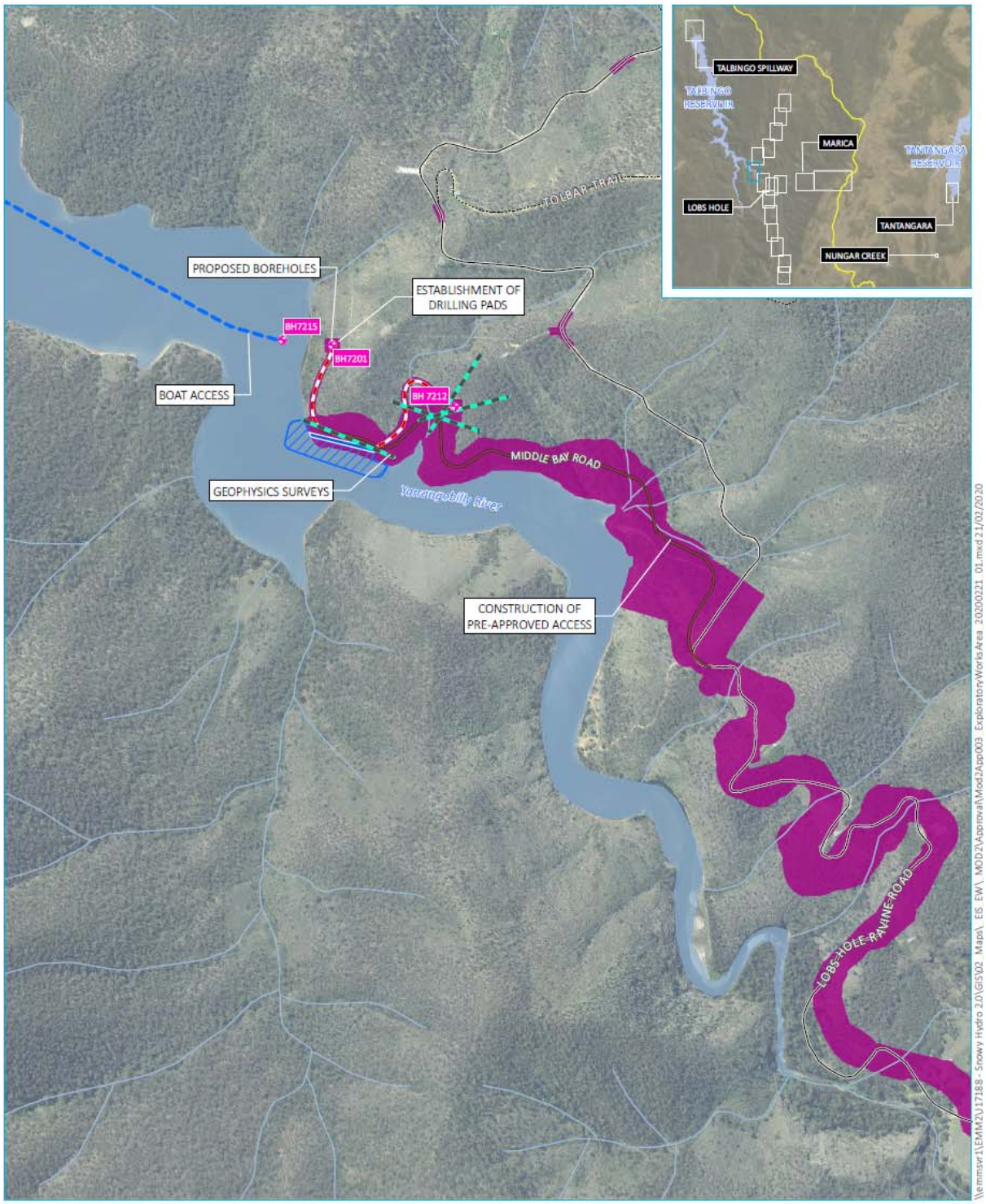

Figure 2-12: *Project boundary – Lobs Hole Ravine Road*

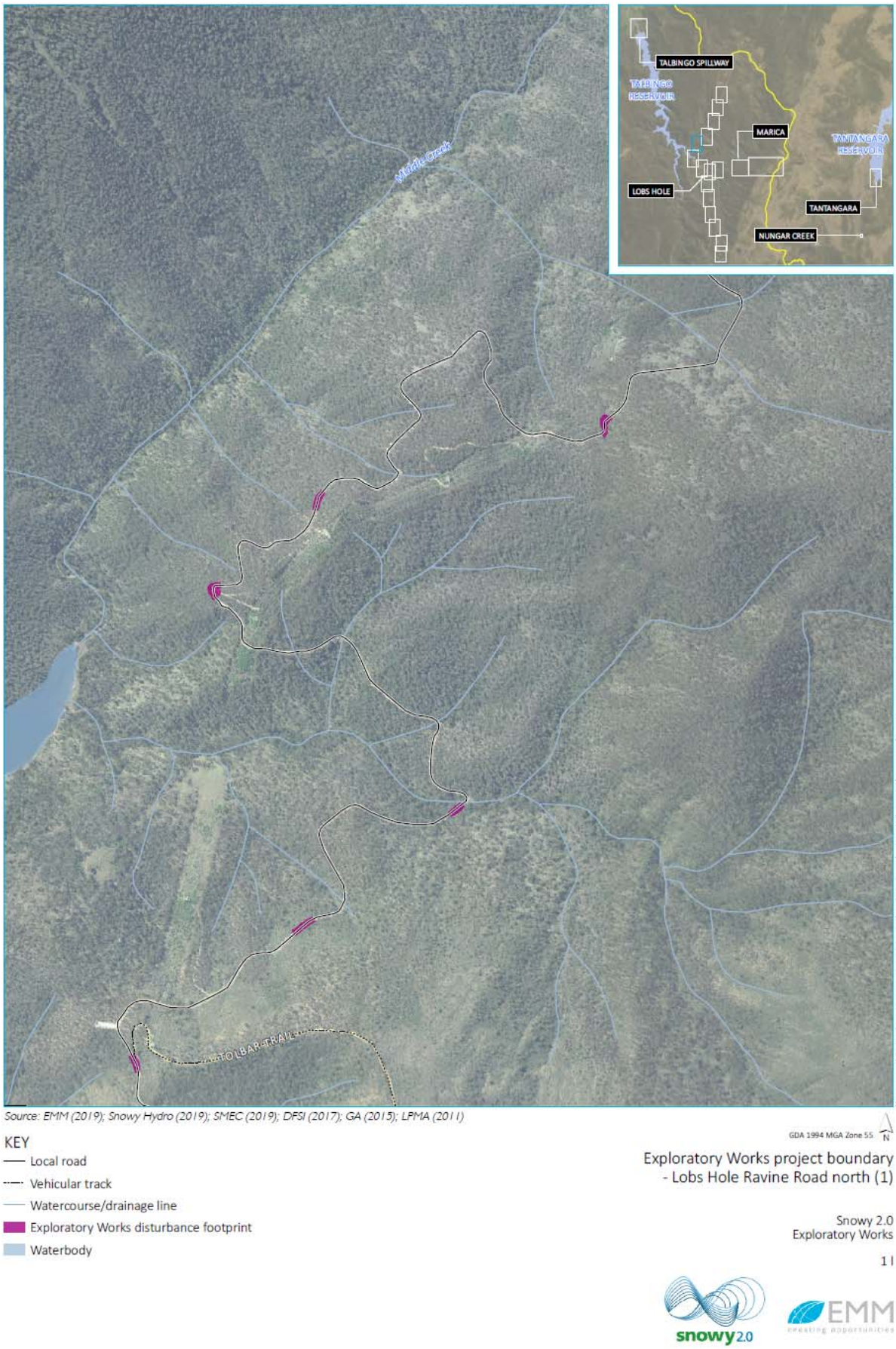

Figure 2-13: *Project boundary – Lobs Hole Ravine Road north (1)*

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

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

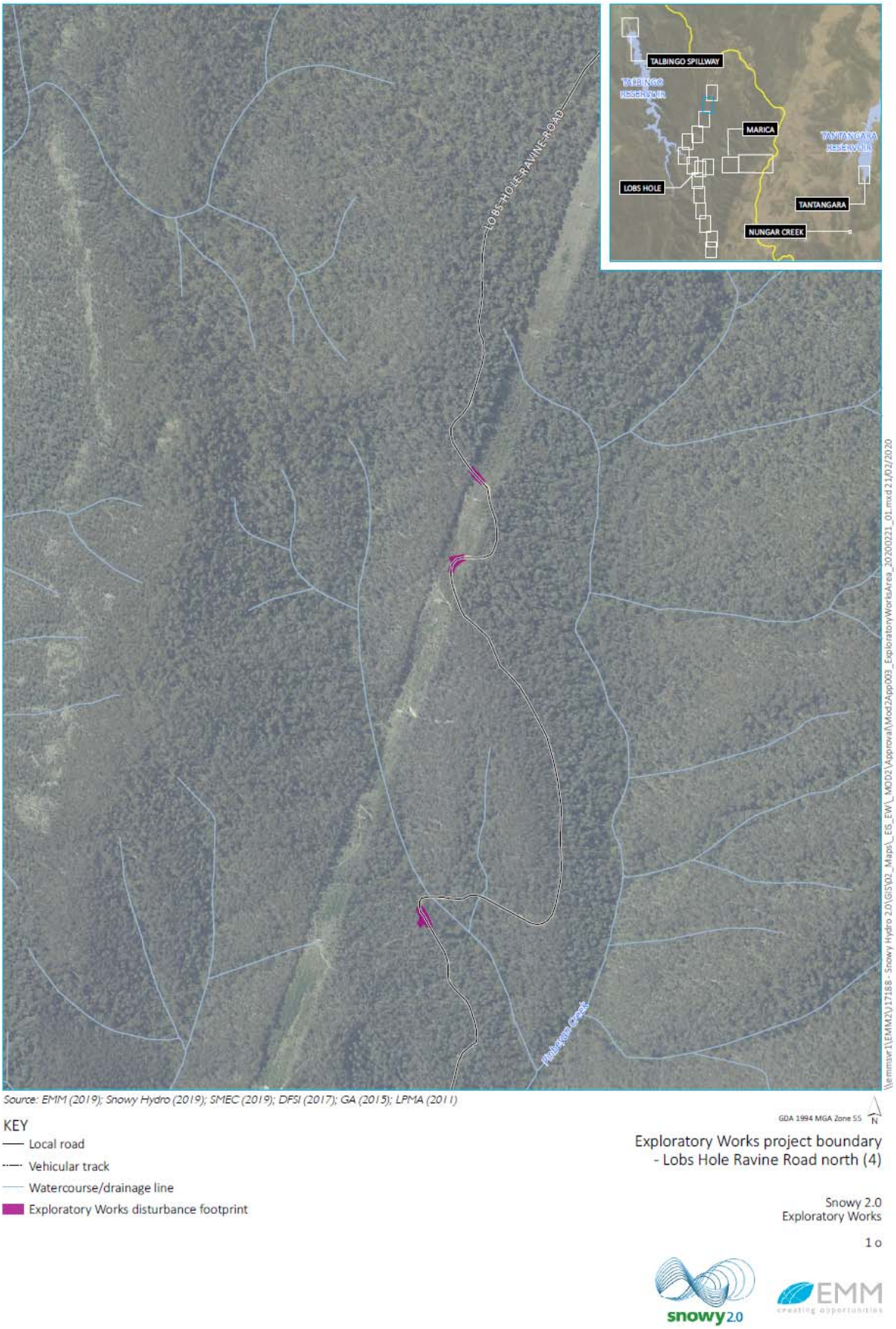

Figure 2-16: *Project boundary – Lobs Hole Ravine Road north (4)*

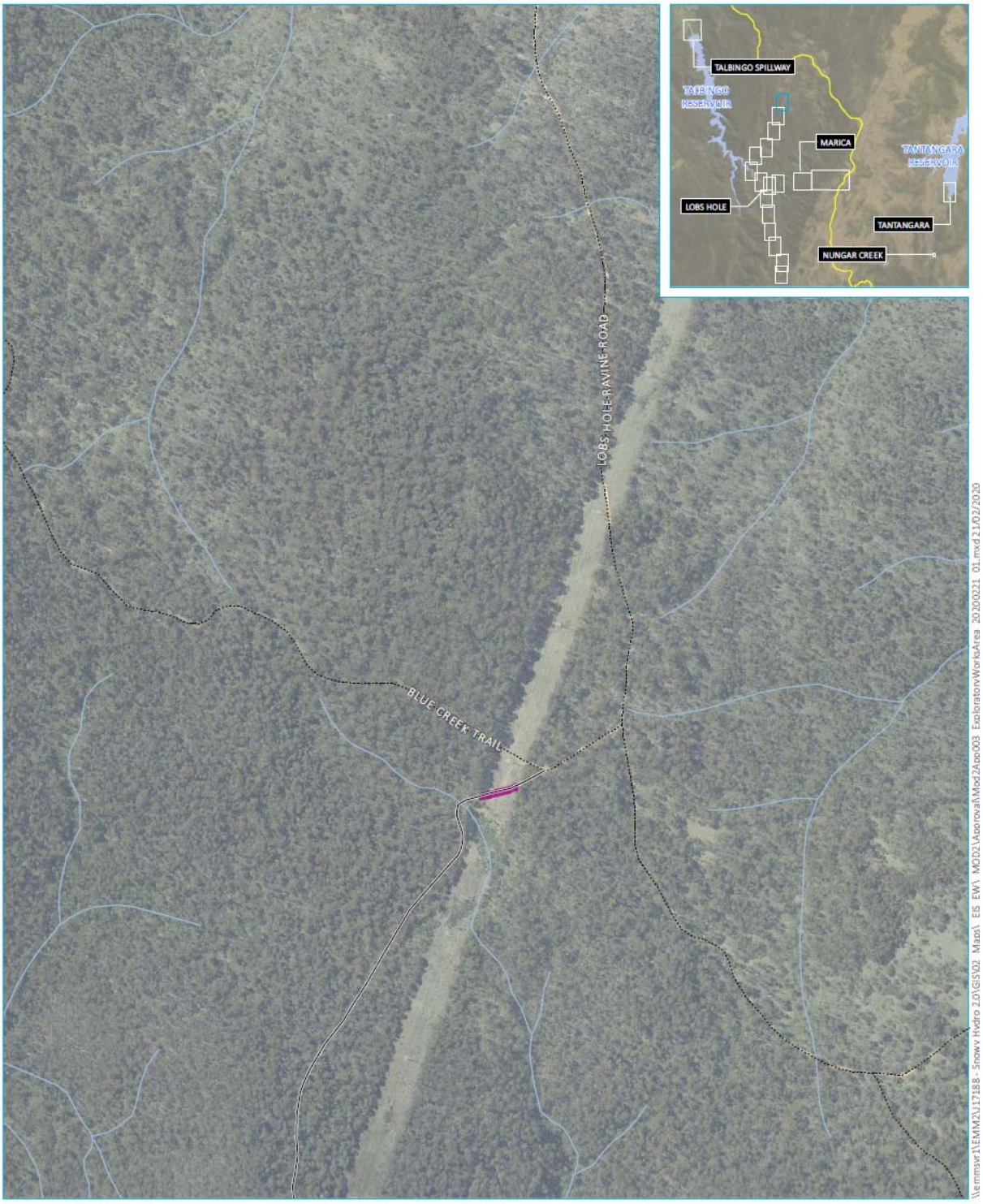

Figure 2-17: *Project boundary – Lobs Hole Ravine Road north (5)*

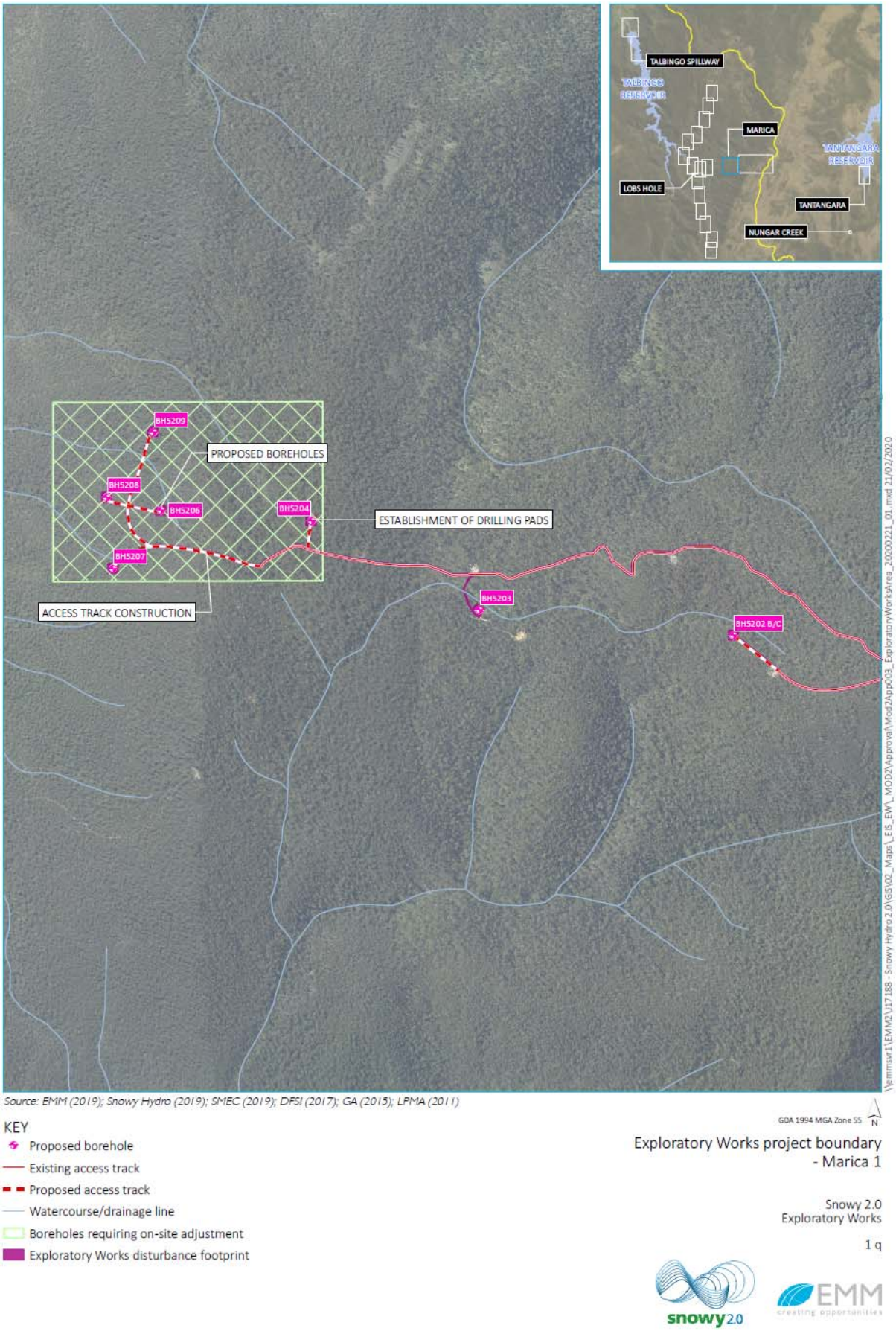

Figure 2-18: *Project boundary – Marica 1*

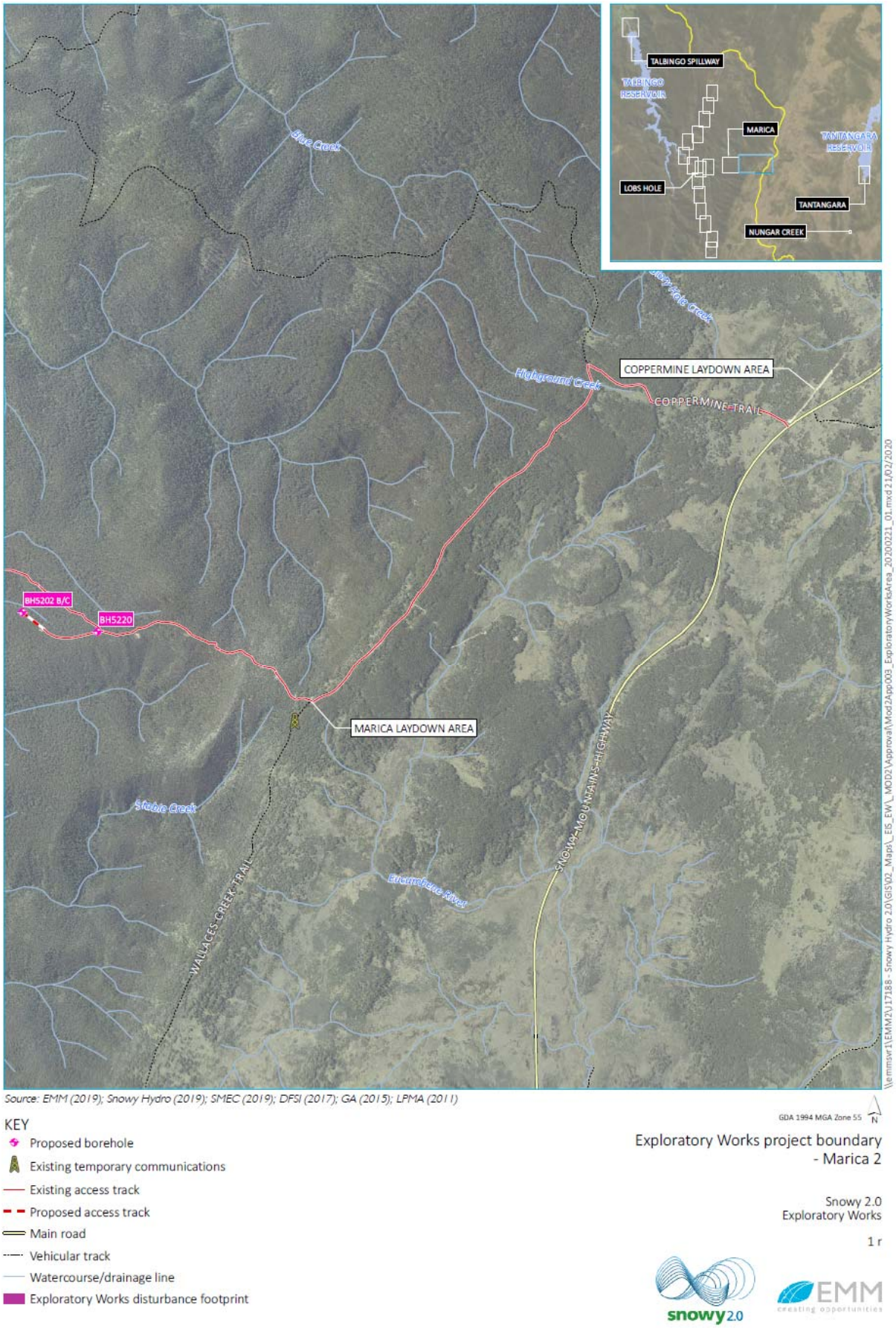

Figure 2-19: *Project boundary – Marica 2*

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

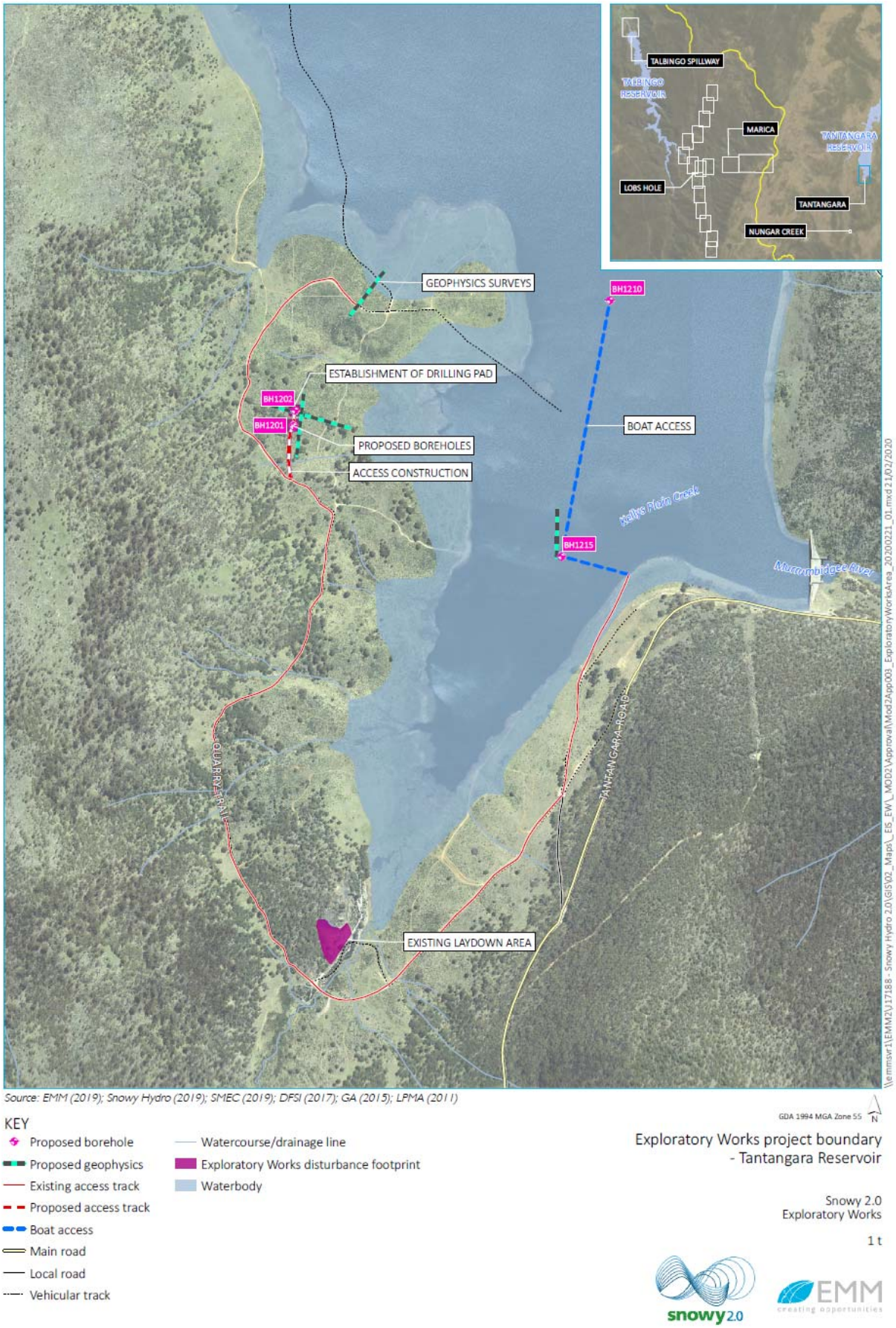

Figure 2-21: *Project boundary – Tantangara Reservoir*

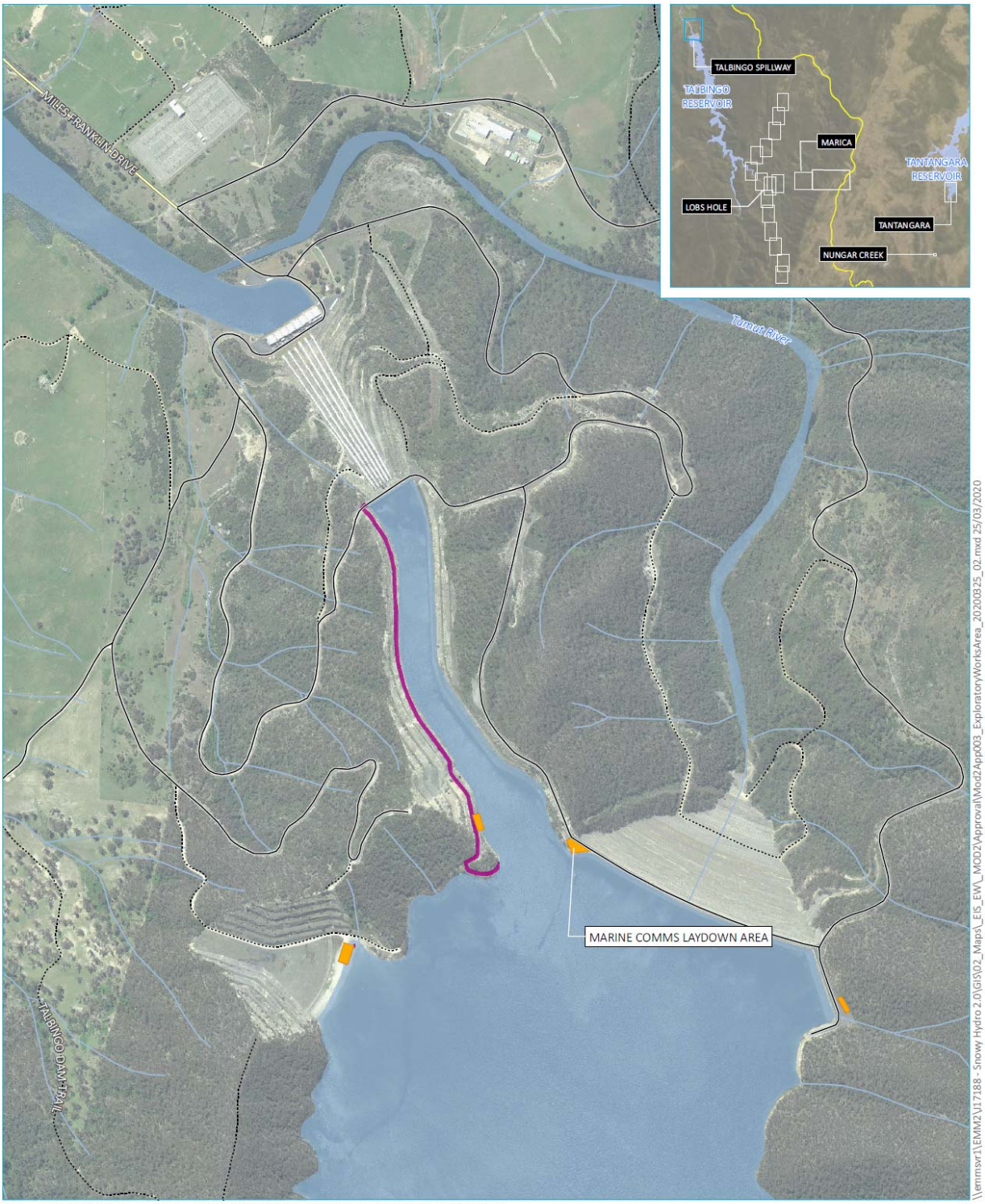

Figure 2-22: *Project boundary – Talbingo spillway*

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