

Briefing Paper

for the

Dargues Gold Mine

Modification 5

MP10_0054

November 2021

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ABN: 72 138 992 999

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Ref No. 752/50

November 2021



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1. INTRODUCTION

This *Briefing Paper* has been prepared by R.W. Corkery & Co. Pty. Limited on behalf of Big Island Mining Pty Ltd (the Applicant) to provide relevant government agencies and other stakeholders with an understanding of the proposed modification (MOD 5) to the Dargues Gold Mine (the Mine) prior to the preparation of a more detailed *Modification Report*. It is anticipated that this *Briefing Paper* will support an application for the Department of Planning, Industry and Environment's and relevant agency environmental assessment requirements for MOD 5.

2. APPROVED PROJECT

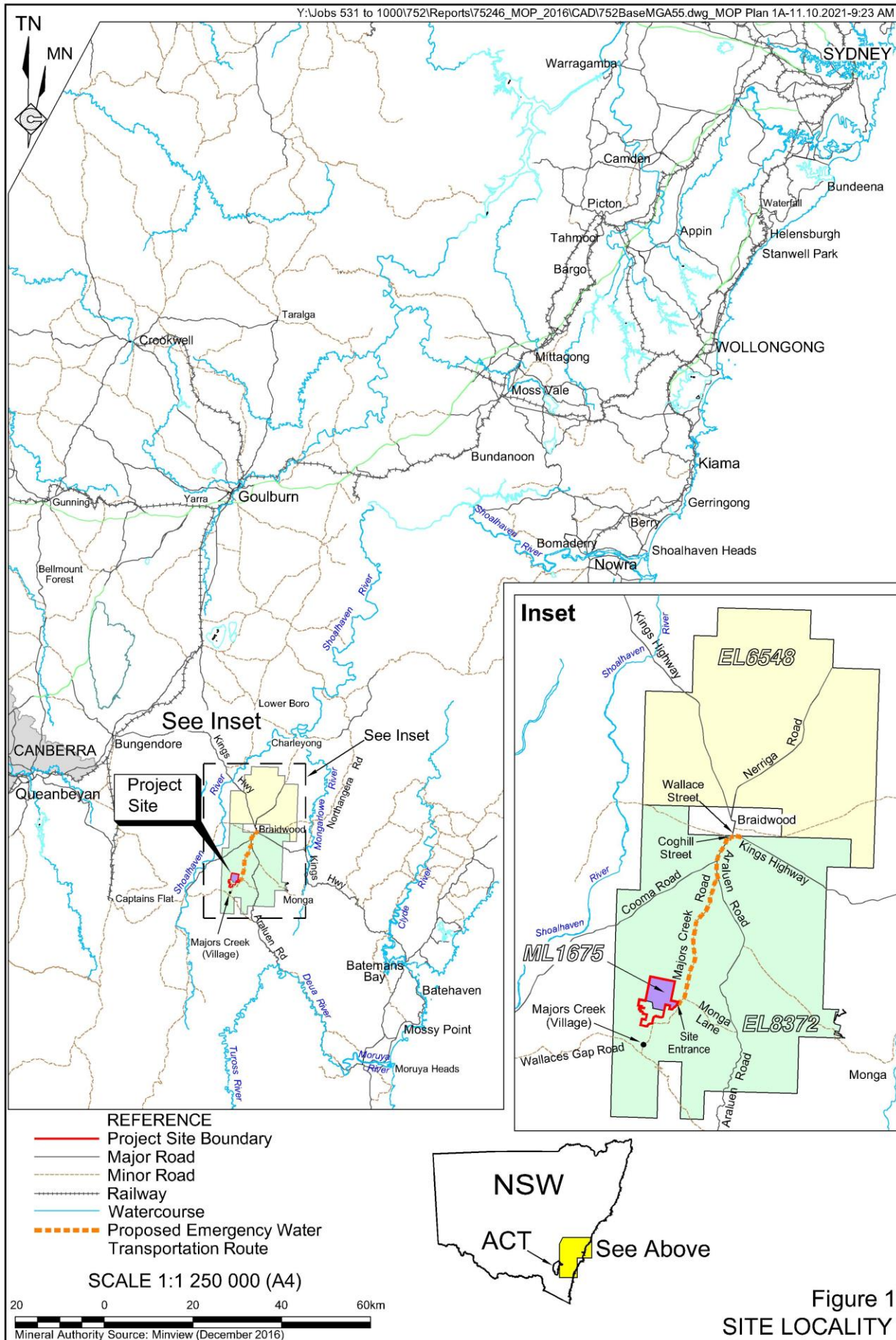
The Mine is located approximately 60km southeast of Canberra, approximately 13km south of Braidwood and immediately to the north of the village of Majors Creek (**Figure 1**). The Project Site comprises 18 land titles, of which 17 are owned by the Applicant and one (Lot 193, DP755934) is Crown Land and is leased by the Applicant under Special Lease 132905 (**Figure 2**). All mining-related activities are located within Mining Lease (ML) 1675 on land that is owned or controlled by the Applicant.

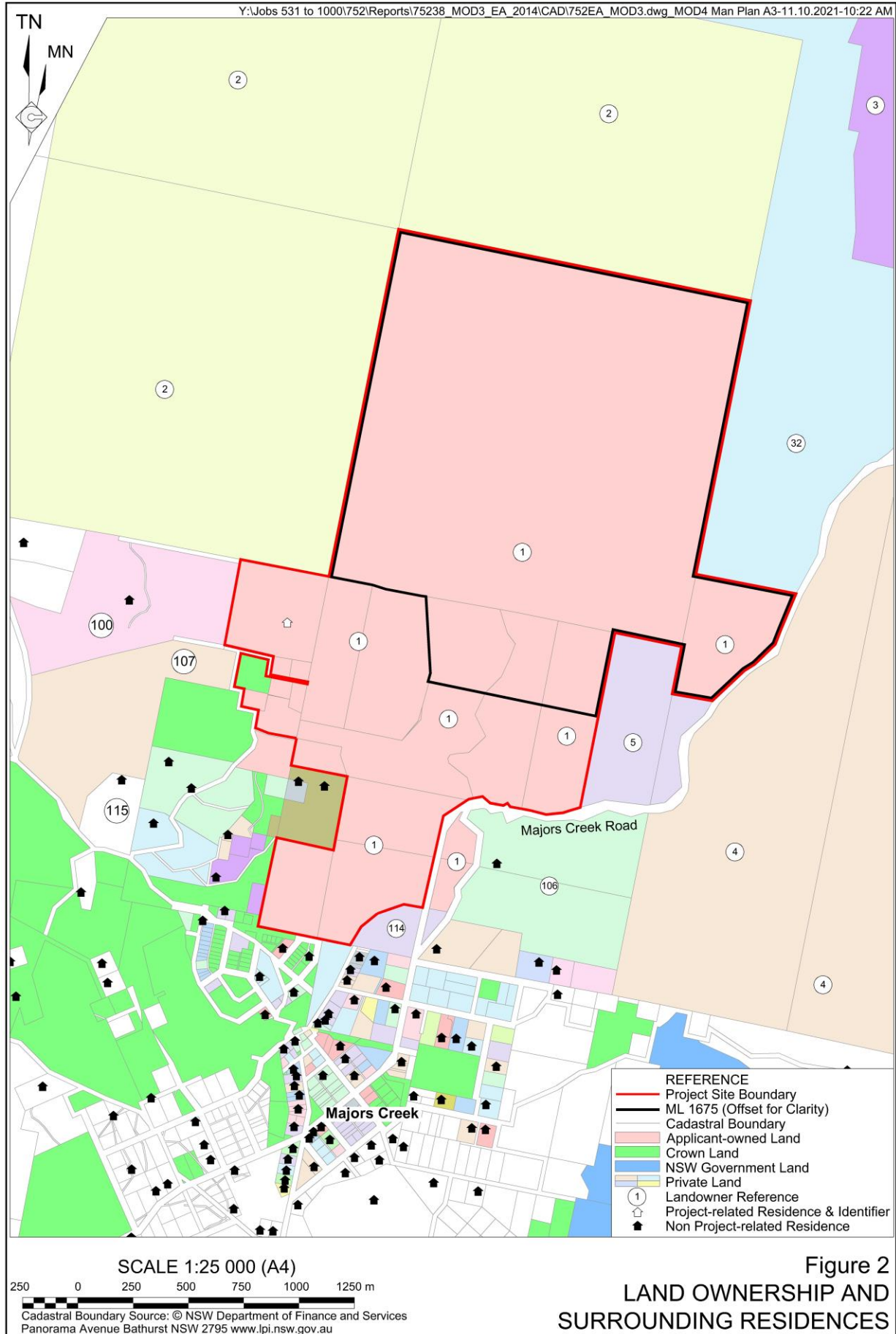
Modified Project Approval (MP) 10_0054 was granted by the Land and Environment Court on 7 February 2012, with subsequent modifications granted on:

- 12 July 2012 (MOD 1) – to permit the use of paste fill to back fill stopes and underground voids;
- 24 October 2013 (MOD 2) – to regularise the approved layout following minor changes during the detailed design phase of the Project;
- 10 August 2016 (MOD 3) – to allow the construction and use of the Eastern Waste Rock Emplacement, an enlarged Tailings Storage Facility and the Spring Creek crossing and to accommodate an extension to the mine life; and
- 23 May 2019 (MOD 4) – to permit relocation of the approved Spring Creek crossing, reinstatement of an alternate internal access road and administrative modifications to reflect changes in land ownership.

Mining activities at the Project Site are approved under MP_0054 until 30 June 2025. **Figure 3** shows the approved layout for the Project Site. Key activities approved under MP_0054 include the following.

- Extraction of waste rock and ore from the Dargues Gold Deposit using underground sublevel open stope mining methods.
- Processing of up to 355 000t of ore per year and up to 1.6Mt of ore over the life of the Mine.
- Filling of voids created during underground mining using a combination of hydraulic fill and waste rock.
- Construction and use of surface infrastructure required for the underground mine, including a box cut, portal and decline, magazines, fuel store, ventilation rises, back fill hole(s) and power and water supply.





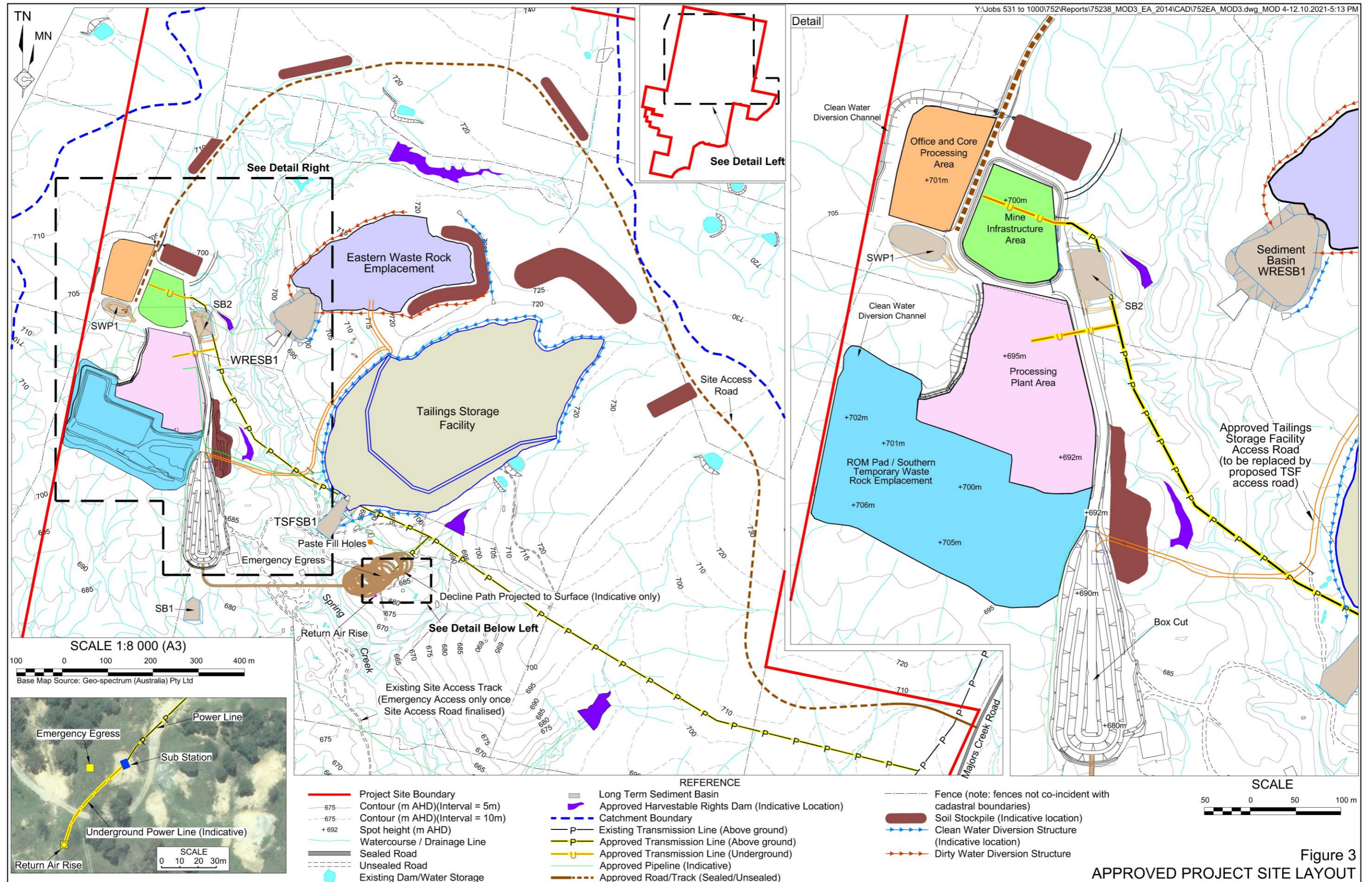
- Construction and use of a processing plant and office area, including an integrated run-of-mine (ROM) pad/temporary waste rock emplacement, crushing and grinding, gravity separation and flotation circuits, Applicant and mining contractor site offices, workshop, laydown area, ablution facilities, stores, car parking, and associated infrastructure.
- Construction and use of a Tailings Storage Facility.
- Construction and use of a water management system, including eight harvestable rights dams and an associated water reticulation system, to enable the harvesting and supply of water for environmental flows.
- Construction and use of a site access road and intersection to allow site access from Majors Creek Road.
- Transportation of gold concentrate from the Project Site through Braidwood via public roads surrounding the Project Site using covered semi-trailers.
- Construction of the Spring Creek heavy vehicle crossing to permit direct access between the processing plant and the Tailings Storage Facility.
- Construction and use of the Eastern Waste Rock Emplacement for the storage of waste rock.

Table 1 presents the approved operating hours for the Mine.

Table 1
Approved Operating Hours

Activity	Operating Hours¹
Vegetation clearing, topsoil stripping, construction of the box cut and rehabilitation	Day
Remainder of construction operations	Day / evening / night
Mining, paste filling, maintenance and processing operations	Day / evening / night
Crushing operations (including operation of front-end-loader) ²	7am – 7pm, 7 days per week
Transportation ³	Day / evening
Surface blasting	9am – 5pm Monday – Friday, excluding public holidays
Underground blasting	Anytime
<p>Note 1: Day: period from 7:00am to 6:00pm on Monday to Saturday, and 8:00am to 6:00pm on Sundays and Public Holidays. Night: period from 10:00pm to 7:00am on Monday to Saturday, and 10:00pm to 8:00am on Sundays and Public Holidays.</p> <p>Note 2: Crushing operations may be undertaken outside of these hours on a maximum of 20 days per year.</p> <p>Note 3: Condition 3(41) of MP10_0054 MOD 4 stipulates the following:</p> <p>i) The dispatch of concentrate from the site is limited to between the hours of 7am to 10pm Monday to Saturday and 8am – 10pm Sundays and Public Holidays; and</p> <p>ii) All heavy vehicle movements to or from the site are prohibited between the hours of 7am – 8.30am and 3pm – 5pm on school days.</p>	
Source: Conditions 3(3), 3(7) and 3(41) of MP10_0054 MOD 4	

The Applicant also holds two approvals under the *Environmental Protection and Biodiversity Conservation Act 1999*, EPBC 2015/7538 and EPBC 2010/5770, for the Mine.



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3. PROPOSED MODIFICATION

Following the granting of MP10_0054 (MOD 4) on 23 May 2019 and the commencement of ore processing operations at the Mine in May 2020, the Applicant has continued to review and refine site practices, management strategies and production targets based on experience with on-site ore processing and tailings management activities. Additionally, experiences during extended drought conditions at the Project Site in 2019 and 2020 have informed the need to clarify the permissibility of emergency transportation of water to site to support the continuation of operations.

Consequently, the Applicant has identified a number of adjustments to the approved Project Site Layout and conditions of MP10_0054 which are required to maximise the efficiency of mining activities and tailings residue management, clarify permissible transportation operations and regularise the development consent to account for minor changes to the Project Site. In summary, the Applicant anticipates that MOD 5 would include the following.

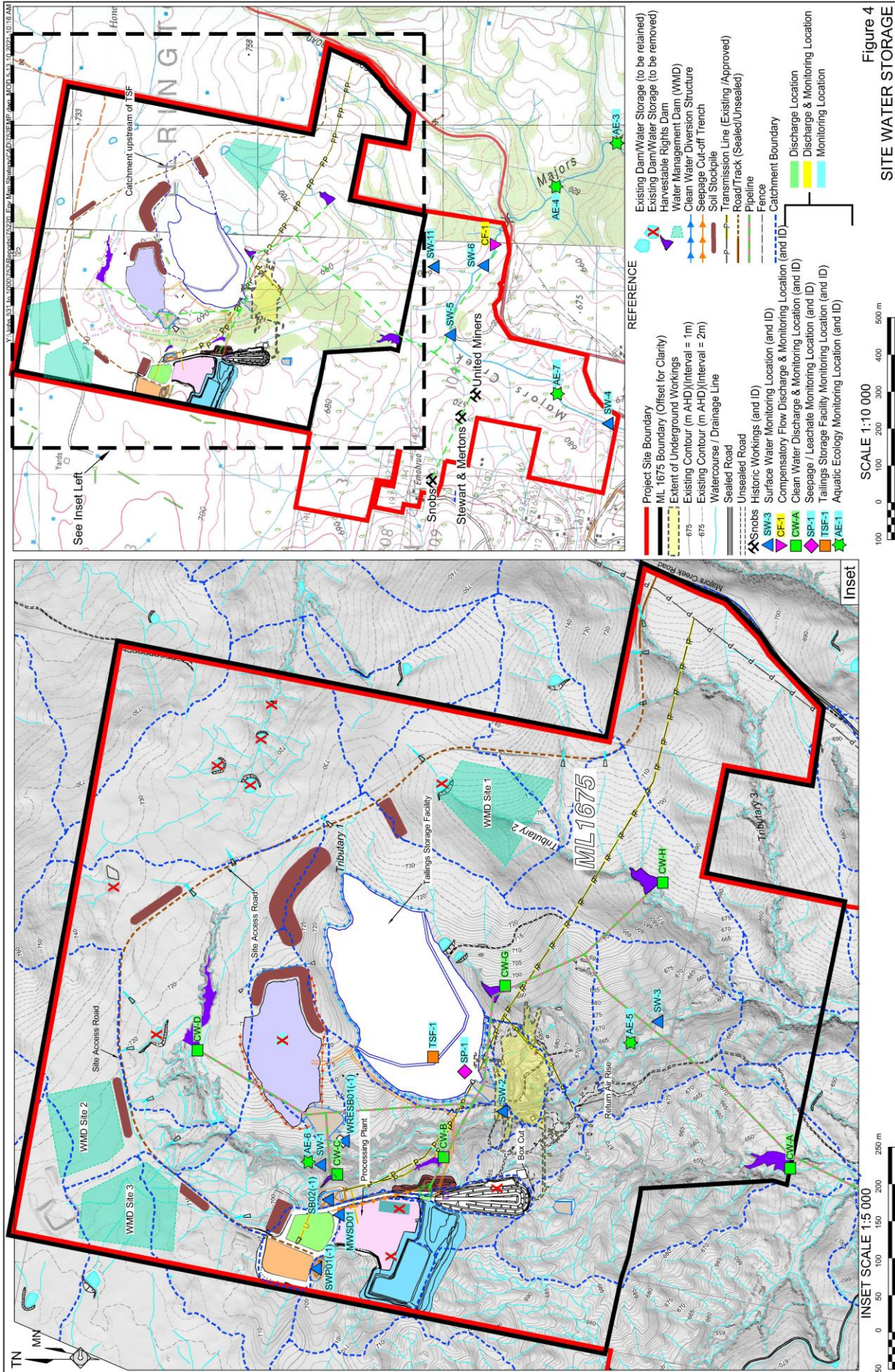
Water Management Dam

Construction and use of a turkey nest-style Water Management Dam (WMD) with no natural catchment and a capacity of approximately 180ML for the receipt and storage of supernatant water from the Tailings Storage Facility (TSF), water pumped from underground workings and raw water from other on-site sources. Additional on-site water storage, and the capacity to store supernatant water from the TSF in particular, is required to ensure that excess water generated at the Mine can be safely and effectively managed and to maximise the efficient use of TSF for tailings residue storage. The WMD is also required to enable storage of water for use during periods of reduced rainfall or drought.

The proposed WMD would be constructed using cut and fill methods, with embankment construction materials sourced from the WMD footprint. As the WMD is expected to receive and store supernatant water from the TSF, the dam would be constructed in accordance with the NSW Environment Protection Authority's *Tailings Dam Policy* and would therefore achieve a maximum liner permeability of 1×10^{-9} m/s over 1m or equivalent. The WMD may also be a declared dam under the *Dams Safety Act 2015*. Ancillary infrastructure including an access road, pump stand / laydown area and surface water diversion bunds would also be constructed adjacent to the proposed WMD.

A preliminary options analysis undertaken by GHD has identified three potential locations for the position of the WMD within the Project Site (see options WMD1, WMD2 and WMD3 on **Figure 4**). The final proposed location of the WMD has yet to be determined, however, it is expected that specialist assessments and consultation with government agencies and the community undertaken as part of MOD 5 will inform the final decision. As all three potential locations would be within the Mine's on-site Biodiversity Offset Area (**Figure 5**), the Applicant proposes to offset this disturbance through one or more of the following three mechanisms for offsetting as outlined in the Biodiversity Offsets Scheme established under the *Biodiversity Conservation Act 2016*.

- Establishing a Stewardship Site with suitable credits, preparing the requisite Plan of Management and establishing the required pool of funds to manage the Site in perpetuity.



- Purchasing the required credits on the market from others who have established suitable Stewardship Sites.
- Paying into the Biodiversity Conservation Trust.

Increased Processing Rate

The Applicant proposes to increase the approved processing rate under Condition 6(a) of MP10_0054 from 355 000tpa to 415 000tpa (i.e. an increase of approximately 17%). This increase would allow for the more efficient use of existing processing plant and would reflect increased efficiencies in ore processing as a result of ongoing refinements and improvements to the Mine's mining and processing operations.

Mining operations at the Mine are approved until 30 June 2025 and up to 1.6Mt of ore may be processed at the Mine under Conditions 5 and 6 of MP10_0054 respectively. The proposed processing rate increase would not require any changes to the existing processing plant or the approved TSF and would not increase the total amount of ore processed over the life of the Mine (1.6Mt). Based on forecast production rates, it is not anticipated that the proposed processing rate increase would reduce the life of the Mine. Additionally, it is anticipated that transportation of gold concentrate generated as a result of the proposed processing rate increase would be accommodated within existing transportation limits for the Mine.

Emergency Transportation of Water

The Applicant is seeking development consent for emergency trucking of water to the Project Site from off-site sources via the Kings Highway, Wallace Street and Coghill Street, Araluen Road and Majors Creek Road (**Figure 1**). Approval is sought for up to 10 laden truck movements per day to facilitate the provision of emergency water. Emergency trucking of water would only be undertaken where operational water requirements cannot be met by on-site water storages. Water would be sourced from an appropriately licenced source under a commercial arrangement.

Condition 41(a) of MP10_0054 specifies that a maximum of four concentrate trucks may be despatched from the Mine per hour. The Applicant proposes to modify this condition to require that no more than four laden trucks (i.e. concentrate trucks and water trucks) are despatched from or received at the Project Site per hour, thereby clarifying the inclusion of water trucks without increasing the approved laden truck movement rate. Additionally, water trucks movements would be limited to those times specified under Condition 41(b) and would not occur during the periods outlined under Condition 41(c) of MP10_0054.

Additional Amendments

Various administrative amendments are proposed to MP10_0054 to reflect minor changes in the Mine layout since the commencement of mining operations, including updates to figures included in Appendix 2 of MP10_0054 to reflect the enlarged TSF footprint as approved under MOD 3. Additionally, the Applicant proposes to modify MP10_0054 to permit the implementation of biodiversity offsetting mechanisms outlined in the Biodiversity Offsets Scheme (as described above) to fulfill outstanding off-site biodiversity offsetting requirements. This modification would be consistent with Commitment 5.9(a) in Appendix 5 of MP10_0054 which requires the implementation of an off-site biodiversity offset strategy or the provision of funding to provide for equivalent biodiversity offsetting.

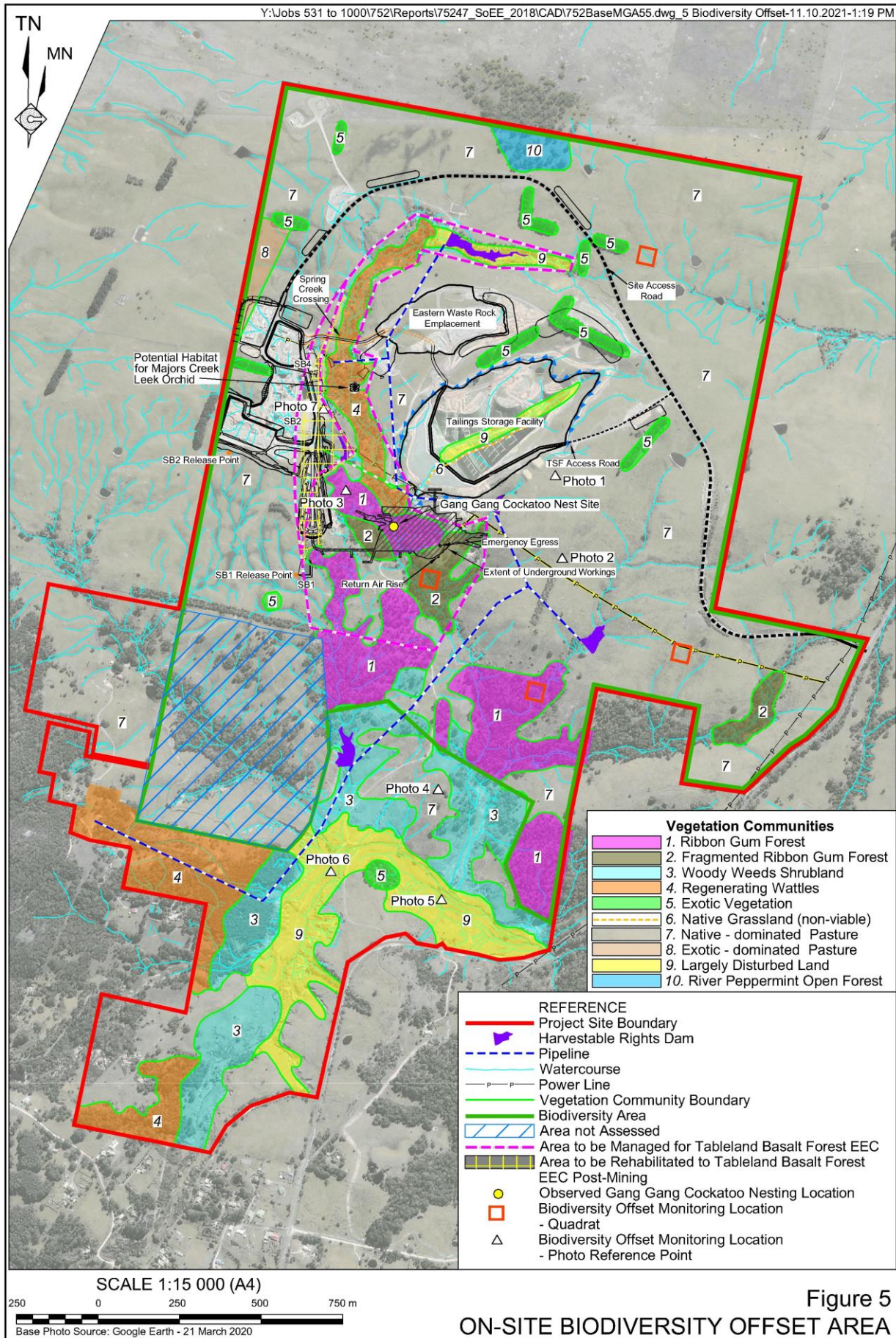


Figure 5
ON-SITE BIODIVERSITY OFFSET AREA

Anticipated Future Modification

The Applicant currently anticipates that a further modification to MP10_0054 (i.e. MOD 6) will be requested at a later date to seek approval to extend the life of the Mine beyond 30 June 2025 and to extract more than the approved 1.6Mt of ore over this extended period. This modification is subject to further drilling to identify additional economic resource areas and future mine planning and design. Further modifications to the approved Project Site layout, including expanding the TSF if requires to accommodate any increase in tailings production, are also under consideration. These activities would be the subject of a future modification application and do not form a component of this current application.

4. APPROVALS REQUIRED

The application to modify MP10_0054 would be made under Section 4.56 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and would be assessed by the Department of Planning, Industry and Environment (DPIE).

The Mine was transitioned from a Part 3A Project to a State Significant Development by an order published in the NSW Government Gazette on 23 November 2018. In accordance with Clause 3BA(6) of Schedule 2 of the *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*, the relevant reference point for comparison is the last modification granted under Section 75W of Part 3A of the *Environmental Planning and Assessment Act 1979*. In this case, MOD 3 granted on 10 August 2016 is the development to which the test for ‘substantially the same’ will be applied.

The Harvestable Right associated with land owned by the Applicant is approximately 41ML. As the proposed WMD (180ML) would exceed that capacity, the WMD would not be a Harvestable Right Dam under Section 53 of the *Water Management Act 2000* and the stored water volume would not be included under Harvestable Right calculations for the Mine.

As a State Significant Development, under Section 4.41 of the EP&A Act, a water use approval under Section 89, a water management work under Section 90 or an activity approval under Section 91 of the *Water Management Act 2000* would not be required for construction and use of the proposed Dam.

The Applicant also holds EPBC 2015/7538 and EPBC 2010/5770 for the Mine. If necessary, a separate application to vary these approvals for the activities proposed under MOD 5 would be made to the Commonwealth Department of Agriculture, Water and the Environment to ensure that all approvals remain consistent.

5. PROPOSED CONSULTATION

5.1 PROPOSED GOVERNMENT AGENCY CONSULTATION

Consultation with the following government agencies will be undertaken throughout preparation of the MOD 5 *Modification Report*.

- Department of Planning, Industry and Environment (DPIE)
- Environmental Protection Agency (EPA)

- WaterNSW
- Dams Safety NSW
- Biodiversity Conservation Division (within DPIE)
- Heritage NSW
- Transport for NSW (TfNSW)
- Resources Regulator
- Mining, Exploration and Geoscience (MEG)
- Queanbeyan-Palerang Regional Council (QPRC)
- Eurobodalla Shire Council (ESC)

5.2 PROPOSED COMMUNITY CONSULTATION

The Applicant has a well-developed understanding of the local community and has successfully engaged with the community on an ongoing basis since well before the commencement of mining operations at the Mine. **Table 2** lists the various community stakeholders and groups that would be consulted with during the preparation of the MOD 5 *Modification Report* and identifies the engagement methodologies that would be implemented for each. The anticipated engagement methodologies would be adjusted to reflect individual circumstances or preferences. Specifically, teleconferences, video conferences or pre-recorded videos may be substituted for face to face or in person meetings as a consequence of restrictions associated with the COVID-19 situation.

Table 2
Proposed Community Engagement

Community Group/Classification	Engagement Methodology
Community Consultative Committee (CCC)	<ul style="list-style-type: none"> • Scheduled and special meetings • Briefing paper • Site tours
Local Residents (i.e. near neighbours and Majors Creek residents)	<ul style="list-style-type: none"> • Individual meetings/discussions • Small group meetings/discussions • Letterbox drop

Community engagement would commence immediately following the Scoping Meeting with DPIE and would continue throughout the MOD 5 *Modification Report* preparation, exhibition, submissions, assessment, determination and post-determination phases.

6. PROPOSED ENVIRONMENTAL ASSESSMENT

The assessment of potential environmental impacts associated with MOD 5 will be detailed in a *Modification Report*. As required under Section 115AA of the *Environmental Planning and Assessment Regulation 2000*, the *Modification Report* will be prepared in accordance with the

State Significant Development Guidelines (version dated July 2021) (SSD Guidelines) and specifically in accordance with Appendix E to the SSD Guidelines: *State Significant Development – Preparing a Modification Report*.

Table 3 presents an overview of the anticipated environmental impacts and the proposed level of assessment for these impacts.

Table 3
Anticipated Environmental Issues and Assessment

Anticipated Impacts / Issues to be Addressed	Proposed Assessment
<p>Dam Design, Risk Assessment, Erosion and Sediment Control Plan and Water Balance</p> <ul style="list-style-type: none"> • Construction, operation, and management of the proposed WMD. 	<ul style="list-style-type: none"> • Dam Design and Risk Assessment currently being completed by GHD. • Updated water balance and associated Erosion and Sediment Control Plan to commence in October 2021.
<p>Biodiversity</p> <ul style="list-style-type: none"> • Additional disturbance outside of approved disturbance footprint. • Removal of the footprint of the proposed WMD and ancillary infrastructure from the on-site Biodiversity Offset Area. 	<ul style="list-style-type: none"> • Biodiversity assessment, including survey of additional disturbance areas and calculation of BAM credits, to commence in October 2021.
<p>Traffic and Transportation</p> <ul style="list-style-type: none"> • While there would be no increase in the approved hourly number of laden truck movements, there would be an increase in the total number of trucks travelling on the transportation route. 	<ul style="list-style-type: none"> • Consultation with QQPRC and TfNSW to confirm assessment requirements to occur in October 2021.
<p>Heritage</p> <ul style="list-style-type: none"> • Additional disturbance outside of approved disturbance footprint. 	<ul style="list-style-type: none"> • Heritage assessment of additional disturbance areas to commence in October 2021.
<p>Noise</p> <ul style="list-style-type: none"> • Increased in traffic noise. • Noise emissions from the construction of the proposed WMD. 	<ul style="list-style-type: none"> • Detailed noise impact assessment to commence in October 2021.
<p>Air Quality</p> <ul style="list-style-type: none"> • Increased dust emissions associated with the increased processing rate and increased transportation of ore from underground to the ROM Pad. • Dust emissions associated with the construction of the proposed WMD. 	<ul style="list-style-type: none"> • Detailed air quality impact assessment to commence in October 2021.
<p>Visual</p> <ul style="list-style-type: none"> • The proposed WMD may be visible by Local Residents. 	<ul style="list-style-type: none"> • Visual amenity impact assessment to commence in October 2021.
<p>Socio-economic</p> <ul style="list-style-type: none"> • Potential increased community concern or social impacts related to; <ul style="list-style-type: none"> – changes to the Project Site layout; or – increased ore processing rate. 	<ul style="list-style-type: none"> • Consultation with local residents, community stakeholders and groups to commence in October 2021.

7. PROPOSED TIMELINE

Table 4 presents the proposed timeline for preparation of the *Modification Report*. The Applicant anticipates that it will be in a position to rapidly commence construction and operation of the proposed activities following determination of the MOD 5 application and any other required approvals.

Table 4
Proposed Timeline for *Modification Report* Preparation

Component	Proposed Timing
Briefing Paper and request for Scoping Meeting	19 October 2021
Environmental assessments complete	17 December 2021
<i>Modification Report</i> finalised for submission	17 January 2022
Exhibition Complete	21 February 2022
Submissions Report finalised for submission	11 March 2022
Determination	April 2022